



Saskatchewan Rate Review Panel

Report to the Minister Responsible for Crown Investments Corporation of Saskatchewan

Regarding the SaskPower 2017 Rate Application
Effective date March 1, 2018

Report submitted January 10, 2018



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Executive Summary

SaskPower submitted an application on August 15, 2017 to apply for a rate increase of 5.0% effective March 1, 2018. The average residential customer, using 625 kWh/month, would see an increase of approximately \$6/month. The increase is largely being driven by SaskPower's need to fund capital investments in the province's electrical system to renew aging infrastructure and meet the growth in demand, and continue to provide a safe, reliable, sustainable and cost-effective service for its customers, while achieving a return on equity (ROE) of 8.5% and maintaining a debt equity ratio of approximately 75%.

Mandate

The Saskatchewan Rate Review Panel has been appointed as a Ministerial Advisory Committee to conduct a review and provide an opinion of the fairness and reasonableness of the proposed rate changes to the Minister of the Crown Investments Corporation by January 11, 2018.

As part of the review process, the Panel contracted an independent technical consultant to review the application and the mid-application update, and to provide recommendations that would be consistent with the Panel's Terms of Reference. The Panel encouraged public and industry input into the review and held public meetings to facilitate discussion. There were significantly more comments and submissions from the public than previous rate applications and we have quoted some of these concerns throughout the report. The overall messages were clear and have been considered in our recommendations. The Panel, with the assistance of the consultant, asked two rounds of information requests and supplementary questions, and had individual discussions with SaskPower staff to clarify specific answers received. All of this information is available on the Panel's website at www.saskratereview.ca.

Recommendations to the Minister:

Following this review and analysis, the Panel makes the following recommendation to the Minister:

1. That the proposed system-wide 5% average rate increase be reduced to 3.5%.

Panel's Recommendations to SaskPower:

The Panel offers the following recommendations to SaskPower arising from its deliberations during this review:

1. That SaskPower have an external review of its depreciation expense, including average service life estimates and the resulting rates, prior to the next general rate application filing, and that the Panel be included in the process so that concerns regarding impact on rates is fully considered.
2. That SaskPower undertake as requested by the stakeholders a comprehensive public engagement process for its integrated resource plan, including implications for future rate increases, as soon as reasonably possible.
3. That SaskPower address rate rebalancing between customer classes using the most recent cost of service study review and recommendations, particularly where a class is outside of the revenue-to-revenue requirement target range of 0.95 to 1.05.
4. That the recommendations included in our consultant's report be reviewed and considered by SaskPower prior to the next application.

Risks and Considerations

In conducting this review, the Panel has identified several risk factors that may impact future rate applications including: domestic electricity sales, natural gas prices, hydro levels, carbon tax, the provincial economic outlook, weather, future rate changes and collective agreements.

Bill Impacts

Since there are equal percentage increases for each component of SaskPower's existing rate structure, ratepayers will see approximately the same percentage increases in their bills. SaskPower's proposed bill impacts based on their rate application are estimated to be as follows:

- A SaskPower urban residential customer using 625 kWh in a month will see a monthly bill increase of \$5.48 (before taxes and municipal surcharge) at March 1, 2018.
- A SaskPower urban commercial customer using 14 kW & 2,000 kWh in a month will see a monthly bill increase of \$14.93 (before taxes and municipal surcharge) at March 1, 2018.
- A SaskPower urban standard commercial customer using 100 kW & 25,000 kWh per month will see a monthly bill increase of \$179.02 (before taxes and municipal surcharge) at March 1, 2018.
- A SaskPower large industrial customer using 10,000 kW & 5,760,000 kWh per month will see a monthly bill increase of \$21,927.14 (before taxes and municipal surcharge) at March 1, 2018.

Should the Panel's recommendations be accepted, these proposed rates would be reduced from a system wide average increase of 5% to 3.5% or approximately 30% less than the monthly increases noted above.

Competitiveness

SaskPower's rates are now among the highest rates in Western Canada and are expected to continue to increase. The Panel heard from several industry associations and businesses that increased power rates were a disincentive to investing in the province and could place some existing businesses in financial jeopardy. For example, ERCO Worldwide, an electro-chemical company with operations in Saskatoon, indicated that if rates continue to increase at current levels, then the company would not invest in its current facility and would consider closing it.¹

The Panel is concerned that the current increase and projected future increases due to the 10-year, \$10 billion capital plan will place Saskatchewan in an increasingly non-competitive position relative to its neighbouring jurisdictions. Many individuals also expressed their concerns about the difficulty in living with rates that are increasing at a rate higher than the rate of inflation. The average annual increase in the Saskatchewan consumer price index from 2006 to 2016 was 1.95%, while the yearly average SaskPower rate increase for the same period was 3.74%.²

¹ InterGroup Consultants Report, page B-121

² InterGroup Consultants Report, page 13-1

SaskPower's Rationale for the Application

SaskPower's application to the Panel presented the following rationale to support its request for rate increases.

Although SaskPower has made substantial investments in both its generation fleet and grid in recent years, more work is still required. SaskPower has invested almost \$ 8.7 billion in Saskatchewan electricity infrastructure over this past decade, compared to \$ 2.8 billion the decade before. Significant portions of the corporation's generation, transmission and distribution infrastructure are near the end of their economic lives.

In 2007, SaskPower's total growth and sustainment spending on the transmission and distribution grid was \$54 million. Sustainment spending on the grid alone is forecast to be \$174 million in 2017-18 and \$172 million in 2018-19. Generation sustainment spending is forecast to be \$132 million in 2017-18 and \$139 million in 2018-19.³ SaskPower's total capital expenditure is forecasted to be \$ 1.26 billion in 2018-19 fiscal year. Demand for power in the province continues to grow with record-setting consumption highlighting the need for more generation capacity.

In January 2017, SaskPower reached a new peak load record of 3,747 megawatts (MW). During 2016-17, it also marked a record for electricity generated, with 24,374 gigawatt hours (GWh) produced. In July 2017, SaskPower reached a new summer peak load record of 3,419 MW.⁴ Although the rate of electricity growth is expected to decrease relative to the growth rate experienced in Saskatchewan over the last five years, SaskPower's generation system will still require significant investment and major capacity upgrades to its transmission and distribution system.

To mitigate rate increases, SaskPower has implemented a multi-year strategy to maintain an ongoing reduction of its operating, maintenance and administration (OM&A) and capital budgets. In 2015, SaskPower reduced its budgeted OM&A spending by \$38 million and made reductions of \$8 million in the first three months of 2016, and another \$27 million in fiscal 2016-17. In this application SaskPower plans to reduce its budgeted OM&A spending by an additional \$142 million over the next three years, which represents a total savings of \$215 million from 2015 to 2019-20.⁵

SaskPower reduced its budgeted capital spending in 2015 by \$210 million, and saved another \$69 million over the first three months of 2016. In fiscal 2016-17, SaskPower reduced its capital spending by an additional \$205 million. In this application SaskPower plans to reduce its budgeted capital spending, including power purchase agreements, by an additional \$1.9 billion over the next three years. This will lead to a total reduction or deferral of \$2.4 billion from 2015 to 2019-20.⁶ Notwithstanding however, SaskPower's 10-year capital plan includes approximately \$10.1 billion of capital spending for the period from 2017-18 through 2026-27. Approximately 54% of the forecast capital spending in this period relates to growth and compliance spending, a substantial portion of which relates to implementing SaskPower's preferred integrated resource plan.

The corporation has also not achieved its targeted return on equity (ROE) of 8.5% since 2011. This places additional upward pressure on its debt ratio, which has now reached the top of its long-term target range of 60-75%. This application is designed for SaskPower to meet its targeted return on equity (ROE) and stabilize its long-term debt.

³ SaskPower 2018 Rate Application, page 1

⁴ Ibid, page 2

⁵ Ibid

⁶ Ibid

Revenue and Revenue Requirement Comparison (\$ millions)⁷

	2016/17				2017/18				2018/19			
	Actuals	Forecast	actuals change over forecast		Forecast	change over 2016/17 actuals		Forecast	change over 2017/18 forecast			
			\$	%		\$	%		\$	%		
Revenues												
Domestic Electricity Sales	2,276.7	2,326.0	(49.3)	(2.1%)	2,428.7	152.0	6.7%	2,566.6	137.9	5.7%		
Export Sales	5.4	8.8	(3.4)	(38.6%)	9.2	3.8	70.4%	14.3	5.1	55.4%		
Net sales from trading	(2.8)	1.2	(4.0)	(333.3%)	0.5	3.3	(117.9%)	0.5	0.0	0.0%		
Other	123.2	113.5	9.7	8.5%	117.7	(5.5)	(4.5%)	116.2	(1.5)	(1.3%)		
Sub-total Revenues	\$ 2,402.5	\$ 2,449.5	(\$ 47.0)	(1.9%)	\$ 2,556.1	\$ 153.6	6.4%	\$ 2,697.6	\$ 141.5	5.5%		
Expenses												
Fuel and purchased power	661.4	675.9	(14.5)	(2.1%)	645.3	(16.1)	(2.4%)	681.6	36.3	5.6%		
OM&A	674.8	690.5	(15.7)	(2.3%)	689.1	14.3	2.1%	703.2	14.1	2.0%		
Depreciation	493.8	494.1	(0.3)	(0.1%)	542.3	48.5	9.8%	572.0	29.7	5.5%		
Finance Charges	416.0	412.1	3.9	0.9%	417.0	1.0	0.2%	423.7	6.7	1.6%		
Taxes	72.5	70.8	1.7	2.4%	72.5	0.0	0.0%	77.4	4.9	6.8%		
Other	37.7	22.8	14.9	65.4%	30.0	(7.7)	(20.4%)	30.0	0.0	0.0%		
Sub-total Expenses	\$ 2,356.2	\$ 2,366.2	(\$ 10.0)	(0.4%)	\$ 2,396.2	\$ 40.0	1.7%	\$ 2,487.9	\$ 91.7	3.8%		
Operating Income	\$ 46.3	\$ 83.3	(\$ 37.0)	(44.4%)	\$ 159.9	\$ 113.6	245.4%	\$ 209.7	\$ 49.8	31.1%		
Total Revenue Requirement	\$ 2,402.5	\$ 2,449.5	(\$ 47.0)	(1.9%)	\$ 2,556.1	\$ 153.6	6.4%	\$ 2,697.6	\$ 141.5	5.5%		

SaskPower is recommending a flat 5% rate increase across all customer classes (except for contract customers). At the recommendation of the Panel, the corporation recently completed a Cost of Service Methodology Review, in which SaskPower's independent consultant indicated that its rate setting methodology was fair and reasonable. After receiving public feedback, the consultant provided a set of recommendations for enhancements. SaskPower has proposed to delay plans to rebalance rates in this application.

Mid Application Update

SaskPower provided a mid-application update on October 20, 2017 based on the most recent financial forecast as of September 30, 2017 (the original application was based upon information as of July 31, 2017). The update indicated that SaskPower's operating income for 2017-18 is forecasted to decrease from \$159.9 million in the initial submission to \$146.3 million. Net income in 2018-19 is projected to rise slightly from \$209.7 million to \$211.3 million. SaskPower's revised operating ROE forecast for 2017-18 is now 6.4% compared to the original forecast of 6.9%. The 2018-19 operating ROE for SaskPower remains at 8.5%.⁸

2.1 FINANCIAL SUMMARY

Consolidated statement of income

(in millions)	Initial submission	Mid-application update	variance	Initial submission	Mid-application update	variance
	(July 2017)	(September 2017)		(July 2017)	(September 2017)	
	2017-18	2017-18		2018-19	2018-19	
Revenue						
Saskatchewan electricity sales	\$ 2,428.7	\$ 2,459.1	\$ 30.4	\$ 2,566.6	\$ 2,591.3	\$ 24.7
Export	9.2	11.6	2.4	14.3	11.6	(2.7)
Net sales from trading	0.5	(1.0)	(1.5)	0.5	0.5	-
Other	117.7	109.6	(8.1)	116.2	110.8	(5.4)
	2,556.1	2,579.3	23.2	2,697.6	2,714.2	16.6
Expense						
Fuel and purchased power	645.3	644.9	(0.4)	681.6	684.9	3.3
Operating, maintenance & administration	689.1	682.8	(6.3)	703.2	703.2	-
Depreciation	542.3	544.2	1.9	572.0	576.8	4.8
Finance charges	417.0	420.3	3.3	423.7	425.6	1.9
Taxes	72.5	73.5	1.0	77.4	77.4	-
Other	30.0	67.3	37.3	30.0	35.0	5.0
	2,396.2	2,433.0	36.8	2,487.9	2,502.9	15.0
Operating income	\$ 159.9	\$ 146.3	(\$ 13.6)	\$ 209.7	\$ 211.3	\$ 1.6
Return on equity (operating)	6.9%	6.4%	-0.5%	8.5%	8.5%	0.0%

⁷ Summarized from page 26 of the 2018 rate application. 2016/17 forecast figures from the 2016 and 2017 Mid-Application Update

⁸ SaskPower Mid-Application Update 2018 Rate Application, page 1

Operating Income

The \$13.6 million decrease in forecasted income is due to a \$36.8 million increase in forecasted expenses, offset by a \$23.2 million increase in revenue. In 2018-19, the operating income increase of \$1.6 million is due to a \$16.6 million increase in revenue, offset by a \$15.0 million increase in expenses.⁹

Revenue and Load Forecast

SaskPower's 2017-18 revenue forecast is expected to be \$23.2 million higher than the original application forecast. This is driven by a \$30.4 million increase in forecasted sales revenue, largely due to increases in the Oilfield and Power customer classes. An additional \$2.4 million in additional exports also contributes to the increased revenue, offset by an \$8.1 million decrease in other revenue, largely due to lower than expected carbon dioxide sales and customer contributions, as well as a \$1.5 million decrease in trading activities.¹⁰

Revenue is forecasted to increase \$16.6 million in 2018-19 due to Saskatchewan sales increasing by \$24.7 million. This is offset by a forecasted decrease of \$5.4 million in other revenue and \$2.7 million in export revenue.¹¹

Expense Categories

Expenses have increased \$36.8 million in 2017-18 compared to the original forecast. Other expenses increased by \$37.3 million, mainly due to a \$30 million write-down resulting from the deferral of the Tazi Twé Hydroelectric Project. Slight increases in depreciation expense, finance charges and taxes also contributed to the increase in expenses. These increases are offset by a \$6.3 million reduction in OM&A costs and a slight decrease in fuel and purchased power expense.¹²

The 2018-19 forecast shows an increase in expenses of \$15.0 million, driven mainly by increases in other expense (\$5.0 million), depreciation (\$4.8 million), and fuel and purchased power (\$3.3 million). Finance charges are expected to increase by \$1.9 million, while OM&A and taxes are expected to remain flat in the Mid Application update.¹³

⁹ Ibid

¹⁰ Ibid

¹¹ Ibid

¹² Ibid

¹³ Ibid

Public Comments and Submissions

The Panel encouraged written and online submissions. This application generated a significant number of concerns from the public – much more than many other applications in the past. The Panel heard from many individuals who opposed the rate increase and the following themes emerged from these comments:

- Overall affordability of the rate increases
- The frequency of rate increases in a short time span
- Reliability of SaskPower's existing power system
- SaskPower's corporate spending relative to the request for ratepayers to pay more
- The need for better transparency and accountability from SaskPower

Here is a sampling of those comments:

"I am just leaving a comment to mention that my government wants me to take a 3.5 percent pay cut, but increase my utilities an even greater amount...after they have already increased. I find this unacceptable as these small increases seem to be the new normal while wage increases do not match inflation. Regardless of my employer, more and more working-class families are living paycheck to paycheck and they simply cannot sustain these increases. I understand the need for infrastructure but there are also lots of things in my house I would like to fix but can't because of a tight budget." (August 18, 2017)

"With the strained economy in Saskatchewan right now, I do not feel it is appropriate for our Crown to be increasing our power costs. They just had an increase. I think Saskatchewan people need a break for at least a year from our essentials continually costing us more money." (August 18, 2017).

"I am a resident of White City, Saskatchewan, and we have constant troubles with our power going out as glitches and full-fledged power outages. This causes issues with our electronics, appliances and creates great inconveniences for everyone at home. If SaskPower is granted their rate increase I would expect an explanation on their website as to exactly where the money will be used. I'm not happy that each year our rate goes up but our service gets worse." (August 22, 2017)

"Dear members of the Rate Review Panel, I understand that the power problems this summer have been expensive. I would really prefer that SaskPower use cost-cutting measures to help cover these expenses, and opt to make smaller profits, rather than put another increase on customers. Yes, some users won't notice this increase, but for me - it's too much. I am on a pension with few options to earn extra money, and the recent taxation changes to my health insurance just reduced my pension. I will definitely feel the impact. All of my expenses just keep increasing. I hope you consider those of us who live on small, fixed incomes." (August 18, 2017)

"First off, SaskPower is a Crown corp, and I believe your mandate should be to serve the people of Saskatchewan, not profit off our backs. <http://leaderpost.com/news/politics/saskpower-makesprofit-of-46-million-according-to-annual-report>. From that article: 'SaskPower posted a \$46-million profit in 2016-17.' It's clear a rate hike is not needed, if SaskPower remains so profitable. It's exploitative to seek a rate increase from the very same 'shareholders' that you serve. So, my feedback is simple: If you ask for this rate hike, you need to explain why to everyone, as it's clearly unnecessary. So don't do it. If you do, you simply promote avarice and inflation." (August 18, 2017)

"I am on a fixed income. Please explain to me how I am going to pay for this increase? It seems that all these Crown corporations continually have their hands out for more. The people of this province have been hammered by tax increases municipally, provincially and federally. Why? We need a break! Why doesn't the rate review panel do their job and stand up for the people it's supposed to protect. Say no to these Crown executives who continually ask for more. They need to look internally for cost savings and not take the easy way out and Put the burden on the people yet again." (September 21, 2017)

Several industry associations and businesses also stated that increased power rates were a disincentive to investing in the province and could place some existing businesses in financial jeopardy.

Husky Energy has plans to grow its thermal production in Saskatchewan and a five-year plan that would see an additional \$5 billion in capital investment in the province. This investment translates into two new thermal plants per year and each plant

would bring 200 to 250 construction jobs and 50 full-time jobs in operations.¹⁴ However, the proposed SaskPower rate increases will add significant costs to its operations. "When viewed together with other costs associated with methane production requirements, carbon plans (at the federal and provincial levels), and taxation changes, the risk to Saskatchewan's competitive position is clear. While recognizing that major policies are still in development, we have estimated the cumulative incremental cost over a five year period could be as high as \$300 million, or roughly the equivalent of a new 10,000 bbl/day thermal plant. All those involved in influencing and making policy need to have this larger picture in mind and the potential implications on the economy of Saskatchewan."¹⁵

ERCO Worldwide, an electro-chemical company with operations in Saskatoon also expressed similar concerns over the competitiveness of SaskPower's rates and urged the Panel to limit increases to the rate of inflation. "ERCO closed one of the sodium chlorate lines, and exited the Cal Hypo business under similar conditions in the past at Saskatoon, and can no longer afford to continue down the current path without suffering further substantial cutbacks in the form of reduced production and headcounts. In fact, without a satisfactory resolution of the rate application that allows ERCO to stabilize electrical costs going forward:

- ERCO will not invest new capital to the plant and;
- ERCO will consider closing the facility and moving its production elsewhere."¹⁶

Meadow Lake Mechanical Pulp, a major employer in northern Saskatchewan, indicated that it pays approximately \$50 million annually to SaskPower. Its direct competitors are not experiencing the same average annual increases in power rates. "Our business cannot support this type of increase over the selling cycle. If the mill is unable to show a mitigation plan, it puts a red flag up regarding winning future investment."¹⁷

Crescent Point Energy stated that power rates in Alberta, under a competitive procurement system, are half of those in Saskatchewan and it is becoming increasingly difficult to allocate investment to jurisdictions that have escalating costs and limited ability to control those costs. "SaskPower rate increases, coupled with recent PST hikes, will have a detrimental impact on industry competitiveness in the province."¹⁸

Canadian Association of Petroleum Producers (CAPP) and the Explorers and Producers Association of Canada (EPAC) indicated that increasing their costs during a slowdown in the oil and gas sector is challenging. "The cumulative impact of cost increases to our sector is occurring at a time when Canada's largest competitor, the United States, is streamlining regulations and reducing costs. Our industry has successfully reduced operating costs during this low price environment; however, with the potential for cost reductions already realized combined with increasing costs outside of industry's control such as taxes, fees, and other costs associated with policy and regulatory decisions, the impact to competitiveness and investment is considerable."¹⁹

The Saskatchewan Mining Association expressed concern that rising energy rates were compounding low commodity prices. "As noted in SaskPower's rate application, Power Class customers face a monthly increase of \$27,937, translating into an increase of over \$333,000 per year on top of existing costs. The continually escalating SaskPower rates will negatively affect the viability of EITE (Energy Intensive Trade Exposed) mine operations in Saskatchewan as they are unable to absorb significant new costs, particularly when commodity prices continue to be depressed."²⁰

The Saskatchewan Industrial Energy Consumers Association (SIECA), which collectively represents in excess of 21% of SaskPower's energy sales, and 25% of SaskPower's peak demand levels, shared the following concerns:

¹⁴ Intergroup Report, Appendix B, page B-83

¹⁵ Ibid

¹⁶ Ibid, B-121

¹⁷ Ibid, B-127

¹⁸ Ibid, B-89

¹⁹ Ibid B-70

²⁰ Ibid, B-144

- SaskPower is unduly allocating costs to the high load customers in the Power Class, while subsidizing lower load factors consumers, by failing to offer rate rebalancing.
- SaskPower's proposed rate increase is primarily driven by the desire to achieve a corporate ROE of 8.5%. This calculation is inconsistent with rate making methodology, and significantly understates the ROE SaskPower is earning on its equity invested in regulated assets.
- An appropriate calculation on the rate of return would eliminate the need for a 5.1% rate increase.

Please note that all public comments and written submissions as well as responses from SaskPower can be found at the Panel's website at www.saskratereview.com.

Observations

The public comments are compelling and tell a story that stakeholders and customers want the rate to be lower than requested and to slow down the pace of future increases. However, the Panel must also ensure that SaskPower's needs are met and that its recommendations do not put the company in a position where it cannot provide safe and reliable electricity to meet the province's growing needs.

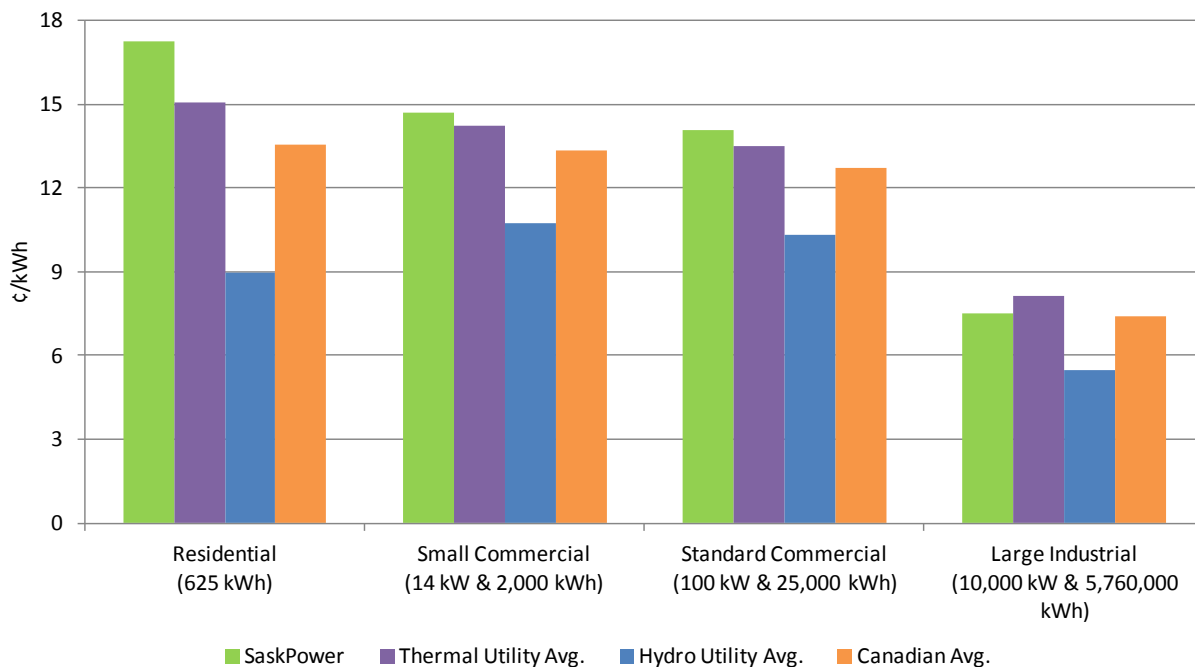
The Competitiveness of the Proposed Rates

Rate comparisons across jurisdictions can be difficult for several reasons, however, the Panel believes there is merit in this review. In this section, comparisons are shown based on Hydro Quebec's Comparison of Electricity Prices in Major North American Cities at April 1 from 2010 to 2017 before taxes. This is a standard reference document used by electric utilities and analysts to compare rates and bills with other jurisdictions.²¹ SaskPower provided the 2016 Hydro Quebec information as part of its filing.

Research contained in this report indicates that effective April 1, 2017, SaskPower rates were among the highest in the country. SaskPower's average residential, small commercial and standard commercial rates were higher than average for the thermal utilities and all utilities average in its survey. SaskPower's average large industrial rates were lower than average for thermal utilities and higher for all utilities average in the survey. It should be noted that these rates do not include taxes and the municipal surcharge, which increases SaskPower's rates even higher than some jurisdictions.

SaskPower's rate application revenue requirement increase is 5%, which translates into a 4.1% increase for the power contract class and 5.1% for all other customer classes.

Rate Comparison to Utility Averages at April 1, 2017 Average Cents/kWh Before Taxes²²



This trend towards higher rates will lead to Saskatchewan being increasingly uncompetitive with other jurisdictions. SaskPower's proposed rate increase of 5.1% on March 1, 2018 is higher than rate increases sought by most other utilities on an annual basis. At least four utilities – Hydro Quebec, New Brunswick Power, Nova Scotia Power, and Ontario – have indicated that they will not be seeking rate increases above 2% or above the expected rate of inflation. SaskPower's requested rate increases will likely result in higher increases than customers in many other Canadian jurisdictions will experience. Some stakeholders have indicated that Alberta energy prices are an important benchmark for them and SaskPower's average bills are higher in 2017 than for similar customer classes in Calgary and Edmonton.

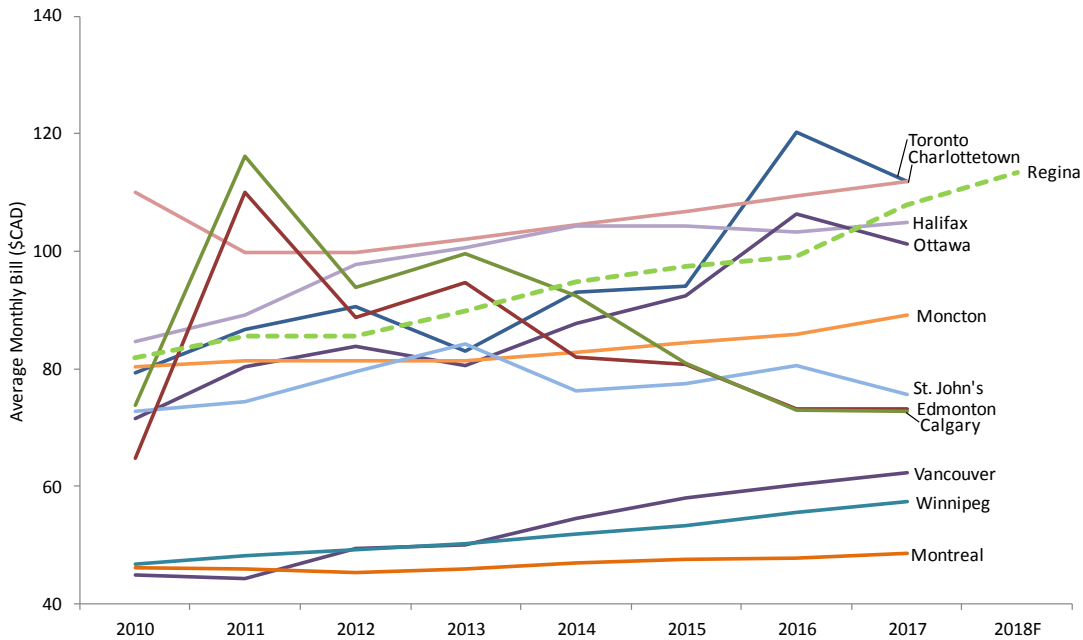
²¹ Hydro Quebec report 2010 to 2017 are available at <http://www.hydroquebec.com/publications/en/corporate-documents/comparaison-electricity-prices.html>

²² Hydro Quebec Report 2017, pages 34, 40, and 52.

Residential

The figure below compares the monthly bill for residential customers using 625 kWh/month over the time period 2010 to 2017 (and SaskPower 2018 proposed rate increase) before taxes. 625 kWh is approximately the mid-point of average monthly consumption for SaskPower’s urban residential customers.²³ It is noted that rankings across utilities may change at different consumption levels due to the magnitude of the customer charge and the influence of multiple energy rate blocks. It is also noted that taxes and surcharges increase as the base monthly bills increase. SaskPower monthly bill comparison for 2018 includes the proposed 5.1% rate increase effective March 1, 2018.

Residential Monthly Bill Comparison Rates in place April 1, 2010 to 2017 625 kWh/month Before Taxes²⁴



As of April 1, 2017 SaskPower was the third highest of the utilities, behind Charlottetown and Toronto. SaskPower had a monthly bill of \$107.89 as of April 1, 2017 for a residential customer using 625 kWh/month. With the proposed rate, SaskPower’s bill would increase to \$113.37/month for a residential customer using 625 kWh/month. As of April 1, 2017 Toronto and Charlottetown had monthly bills of \$111.95 and \$111.82, respectively, for a residential customer using 625 kWh/month.

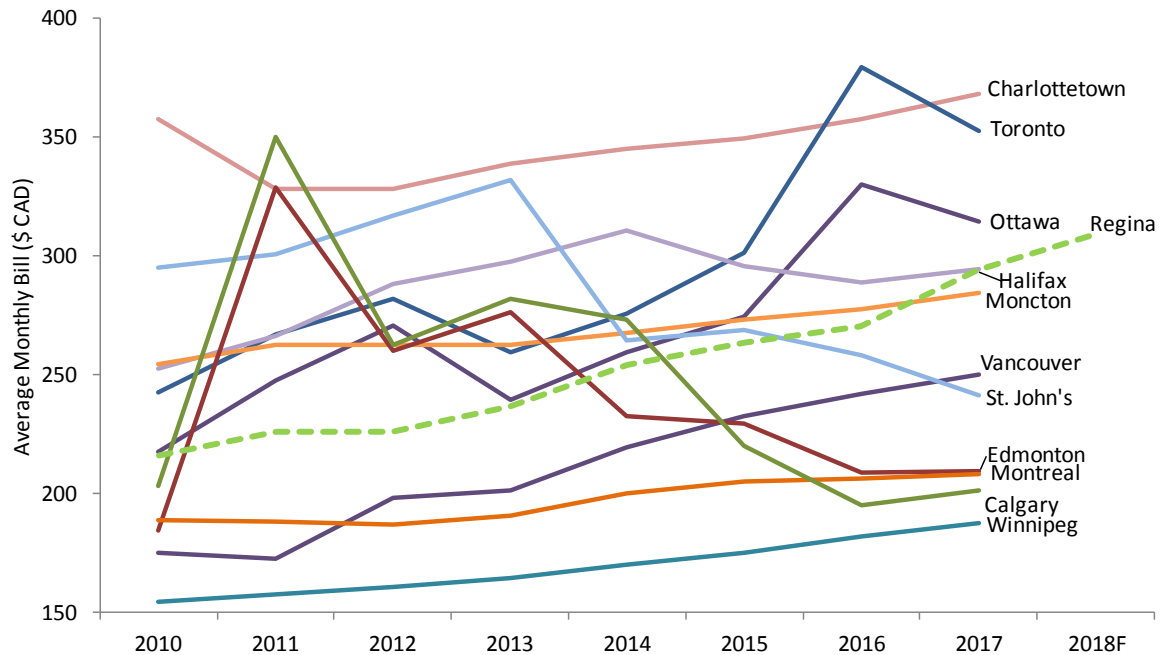
²³ Page 68 (Appendix C) of SaskPower’s 2018 Rate Application shows approximately 56% of SaskPower’s urban residential customers use 600 kWh/month or less

²⁴ Hydro Quebec Report 2010 to 2016 (page 31 for each year) and 2017 (page 33)

Urban Small Commercial

This figure compares the monthly bill for small commercial customers using 14 kW & 2,000 kWh/month over the time period 2010 to 2017 (and SaskPower's 2018 proposed rate increase) before taxes. 14 kW & 2,000 kWh/month is approximately the mid-point of average monthly consumption for SaskPower's urban small commercial customers.²⁵ It is noted that rankings across utilities may change at different consumption levels due to the magnitude of the customer charge and the influence of multiple energy rate blocks. It is also noted that taxes and surcharges increase as the base monthly bills increase. SaskPower monthly bill comparison for 2018 includes the proposed 5.1% rate increase effective March 1, 2018.

Small Commercial Monthly Bill Comparison Rates in Place April 1, 2010 to 2017 14 kW & 2,000 kWh/month Before Taxes²⁶



At April 1, 2017 SaskPower had the fifth highest monthly bill of the utilities, behind Charlottetown, Toronto, Ottawa, and Halifax. SaskPower had a monthly bill of \$294.07 as of April 1, 2017 for a small commercial customer using 14 kW & 2,000 kWh/month. With the proposed rate, SaskPower's bill would increase to \$309.00/month for a small commercial customer using 14 kW & 2,000 kWh/month. As of April 1, 2017 Charlottetown had a monthly bill of \$367.97, Toronto had a monthly bill of \$352.77, Ottawa had a monthly bill of \$314.59, and Halifax had a monthly bill of \$294.14 for a small commercial customer using 14 kW & 2,000 kWh/month.

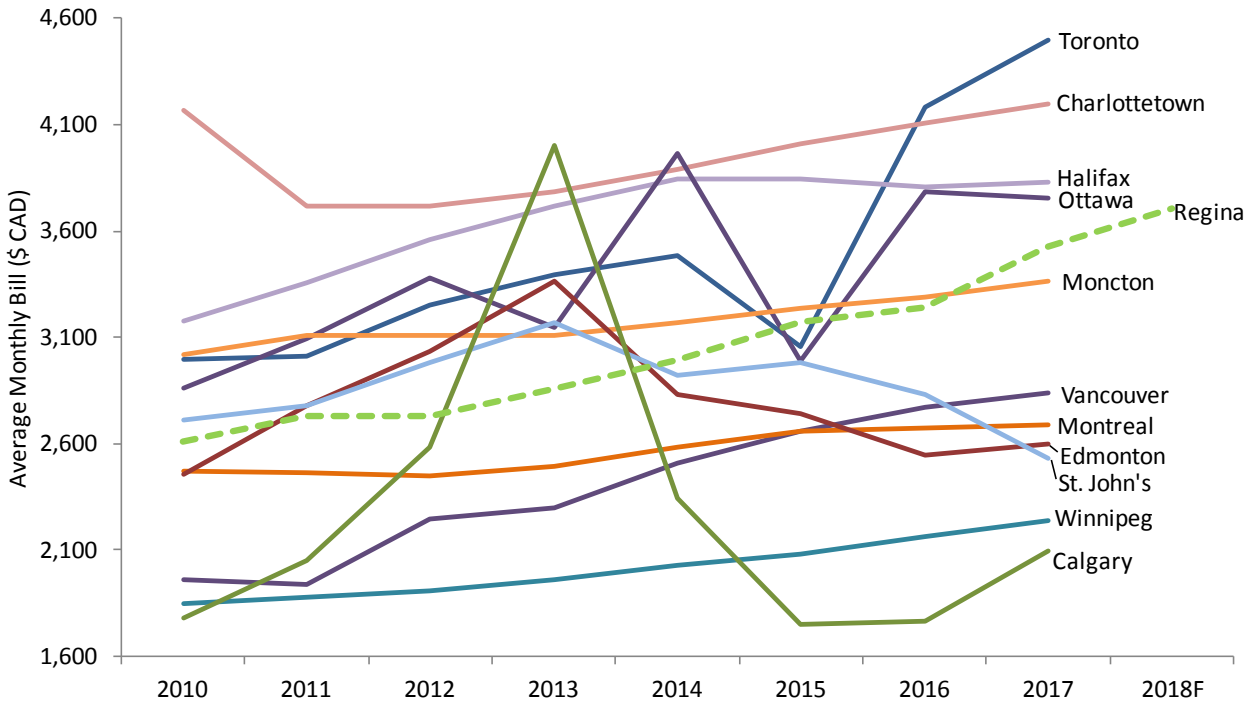
²⁵ Page 79 (Appendix C) of SaskPower's 2018 Rate Application shows approximately 67% of SaskPower's urban small commercial customers use 2,000 kWh/month or less.

²⁶ Hydro Quebec Report 2010 to 2016 (page 37 for each year) and 2017 (page 39).

Standard Commercial

This figure compares the monthly bill for standard commercial customers using 100 kW & 25,000 kWh/month over the time period 2010 to 2017 (and SaskPower's 2018 proposed rate increase) before taxes. It is noted that rankings across utilities may change at different consumption levels due to the magnitude of the customer charge and the influence of multiple energy rate blocks. It is also noted that taxes and surcharges increase as the base monthly bills increase. SaskPower monthly bill comparison for 2018 includes the proposed 5.1% rate increase effective March 1, 2018.

**Standard Commercial Monthly Bill Comparison Rates in Place April 1, 2010 to 2017
100 kW & 25,000 kWh/month Before Taxes²⁷**



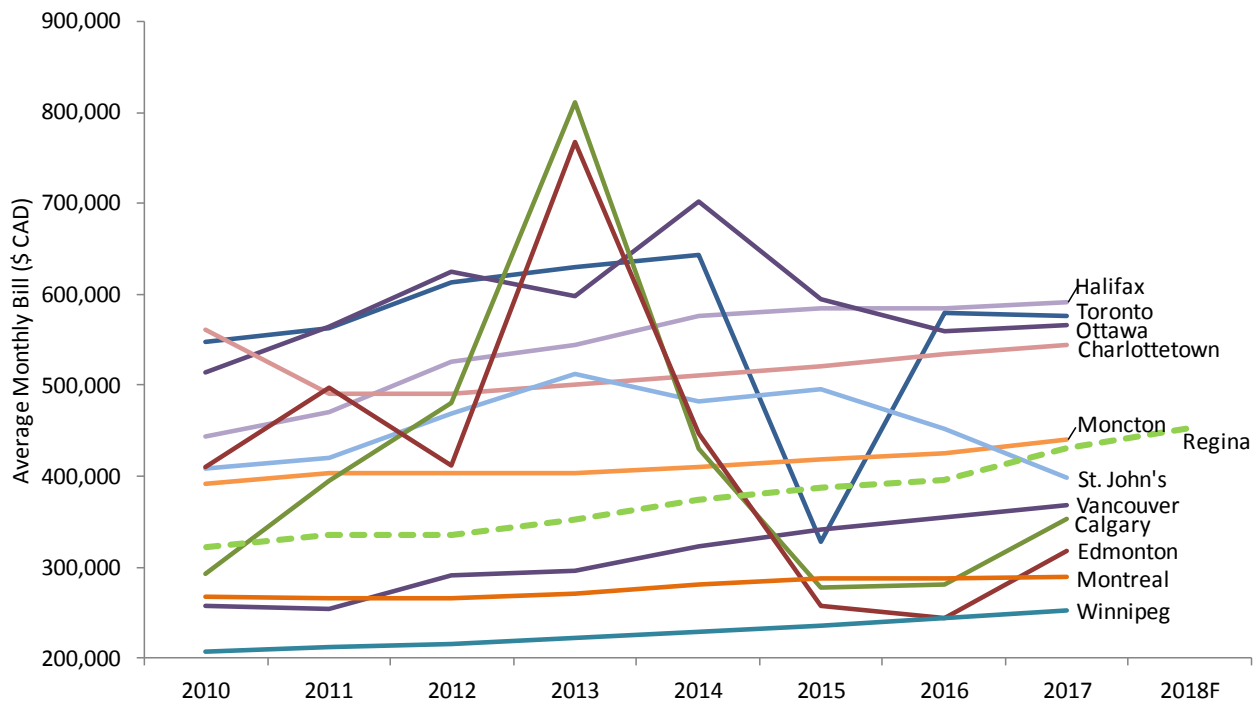
At April 1, 2017 SaskPower had the fifth highest monthly bill of the utilities, behind Toronto, Charlottetown, Halifax, and Ottawa. SaskPower had a monthly bill of \$3,525.30 as of April 1, 2017 for a standard commercial customer using 100 kW & 25,000 kWh/month. With the proposed rate, SaskPower's bill would increase to \$3,704.32/month for a standard commercial customer using 100 kW & 25,000 kWh/month. As of April 1, 2017 Toronto had a monthly bill of \$4,498.43, Charlottetown had a monthly bill of \$4,195.47, Halifax had a monthly bill of \$3,831.75, and Ottawa had a monthly bill of \$3,757.29 for a small commercial customer using 14 kW & 2,000 kWh/month.

²⁷ Hydro Quebec Report 2010 to 2016 (page 37 for each year) and 2017 (page 39)

Large Industrial

This figure compares the monthly bill for large industrial customers using 10,000 kW & 5,760,000 kWh/month over the time period 2010 to 2017 (including SaskPower's 2018 proposed rate increase) before taxes. It is noted that rankings across utilities may change at different consumption levels due to the magnitude of the customer charge and the influence of multiple energy rate blocks. It is also noted that taxes and surcharges increase as the base monthly bills increase. SaskPower monthly bill comparison for 2018 includes the proposed 5.1% rate increase effective March 1, 2018.

**Large Industrial Monthly Bill Comparison Rates in Place April 1, 2010 to 2017
10,000 kW & 5,760,000 kWh/month Before Taxes²⁸**



At April 1, 2017 SaskPower was in the middle of the utilities, five utilities had higher bills, while six had lower bills. SaskPower had a monthly bill of \$431,402.73 as of April 1, 2017 for a large industrial customer using 10,000 kW & 5,760,000 kWh/month. With the proposed rate, SaskPower's bill would increase to \$453,329.87/month for a large industrial customer using 10,000 kW & 5,760,000 kWh/month.

Observations

SaskPower's rates are now among the highest rates in Western Canada and are expected to continue to increase. As indicated in the submissions, this is a significant concern for the province's industrial consumers, which account for a high percentage of SaskPower's revenues. Research conducted by our consultant indicates that the rates in Alberta and Manitoba, our closest competitors, are significantly less. Although rates are not the only consideration when business decisions are made, they are a significant factor for many companies, especially for those in the resource sector. The Panel is concerned that rising rates will make Saskatchewan less desirable for future investment attraction.

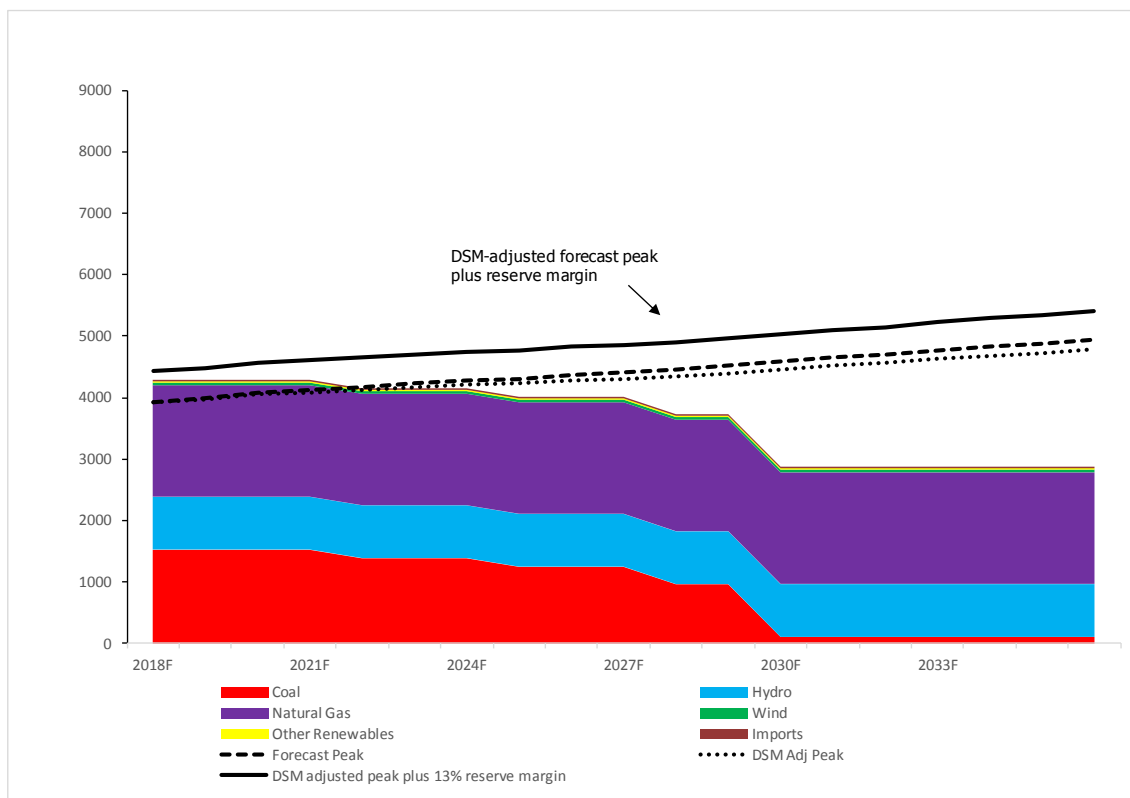
²⁸ Hydro Quebec Report 2010 to 2016 (page 49 for each year) and 2017 (page 51)

Integrated Resource Plan

SaskPower’s 2017 Integrated Resource Plan (IRP) is a 20-year plan that evaluates resource options for meeting forecast demand under a range of potential future conditions. This plan addresses SaskPower’s objective of reducing carbon emissions by 40% from 2005 levels by the year 2030. It also includes a target of having 50% of its installed generation resource capacity from renewable generation by 2030. The cost to implement SaskPower’s preferred generation supply plan would require an 8.5% rate increase over the next five years solely due to capital related costs.²⁹

SaskPower states that the objective is to meet system demand, customer expectations and environmental objectives in a reliable, sustainable and cost-effective manner across a reasonable range of foreseeable futures. The planning approach considers reliability, sustainable development and cost effectiveness.³⁰ The IRP is not a static document, but rather a plan that is refined and adjusted over time based on new information and changing circumstances. However, the preferred plan does provide an indication of SaskPower’s current analysis on the preferred mix and timing of resources over the next 20 years. The following table shows SaskPower’s forecast peak load, demand side management (DSM) adjusted peak load and DSM-adjusted peak load plus a 13% reserve margin compared to existing generation resources, including planned coal retirement dates. This figure also shows capacity deficits arising in the near term (within the next 3-5 years) and increasing over time as system peak loads grow and coal units are retired.

Forecast Annual System Peak and DSM Adjusted System Peak (MW) with Existing Generation Resources and Coal Phase-out (winter capacity MW)³¹



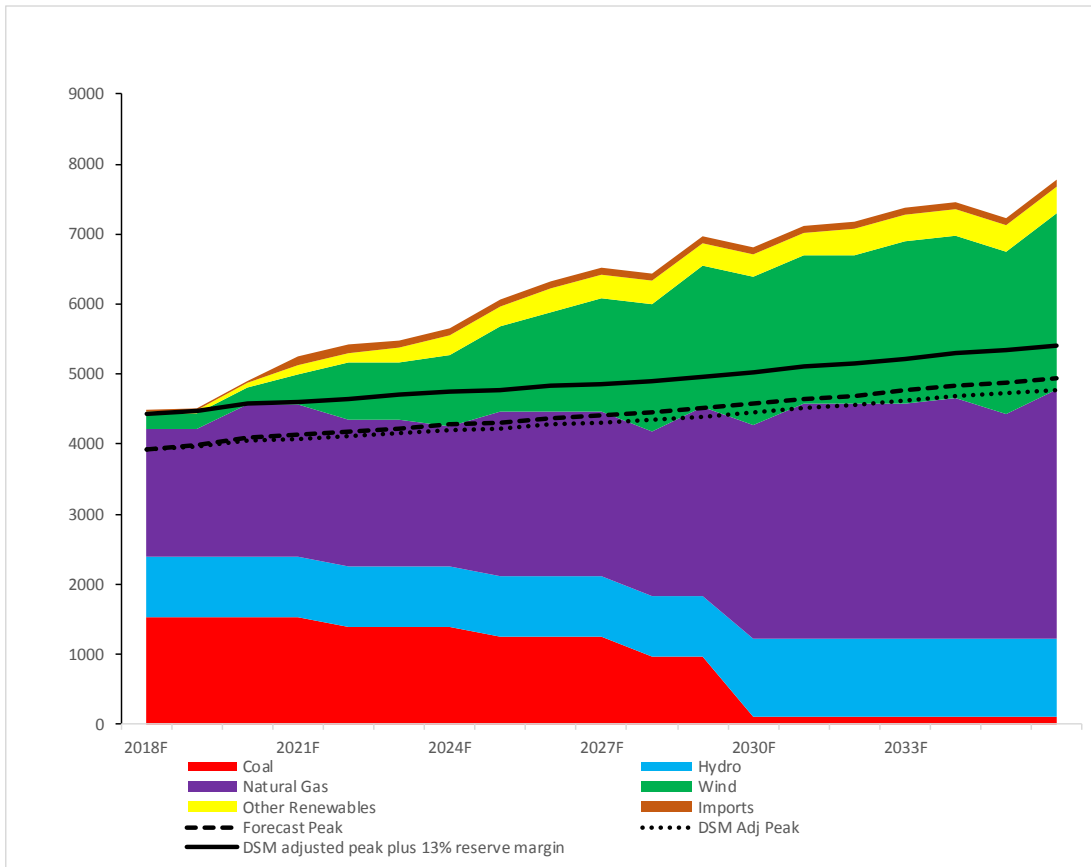
SaskPower’s preferred supply plan includes adding resources, particularly natural gas and wind, to meet forecast peak loads (including reserve margins). The next table shows the forecast installed capacity by generation type in the preferred plan.

²⁹ InterGroup Report, executive summary

³⁰ 1st round information request SRRP Q134.

³¹ Based on data from the response to 1st round information request SRRP Q141. Instantaneous peak data from part i, planned capacities from part ii

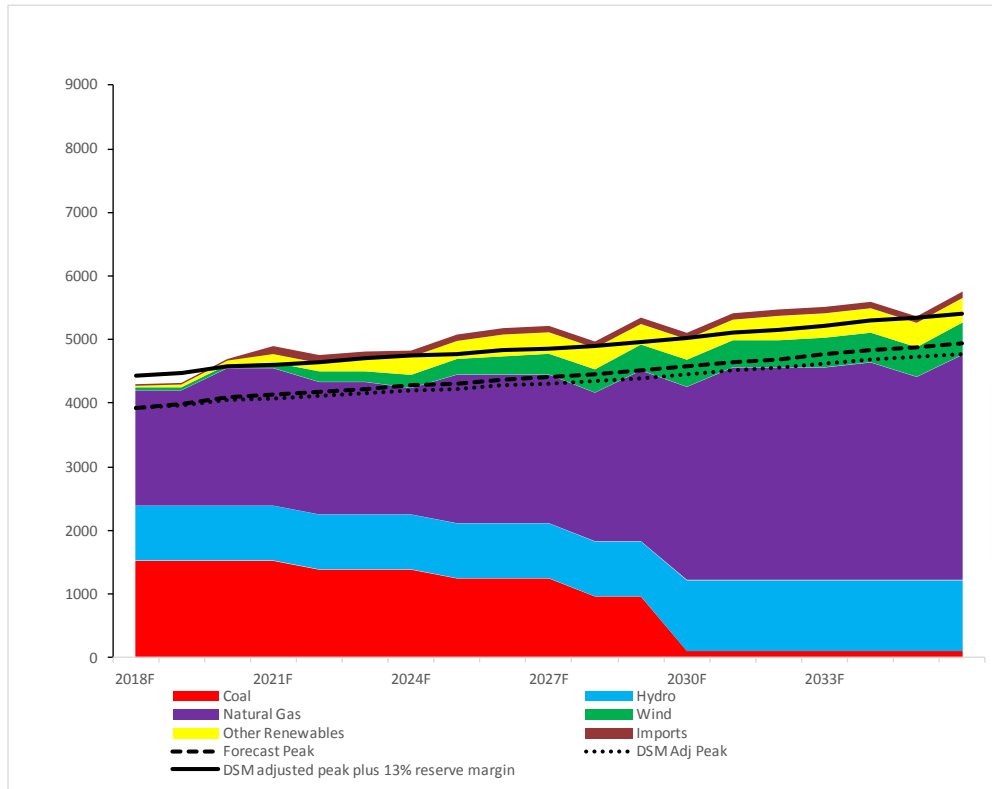
Planned Installed Capacity of Generation Resources (MW)³²



The preferred plan achieves SaskPower’s target of 50% of installed capacity from renewable sources by 2030, an increase from renewables at approximately 25% of installed capacity at present. The 50% capacity from renewables target is largely achieved by adding substantial wind capacity. However, the installed capacity is substantially higher than the capacity available at the time of the winter peak, largely because of lower capacity from wind generation at the time of the winter peak (although some other generation resources also have reduced ability to meet the winter peak to a lesser degree as well). The next figure shows the winter capacity of planned generation sources in the 2017 IRP.

³² Based on data from the response to 1st round information request SRRP Q141. Instantaneous peak data from part i, planned capacities from part ii

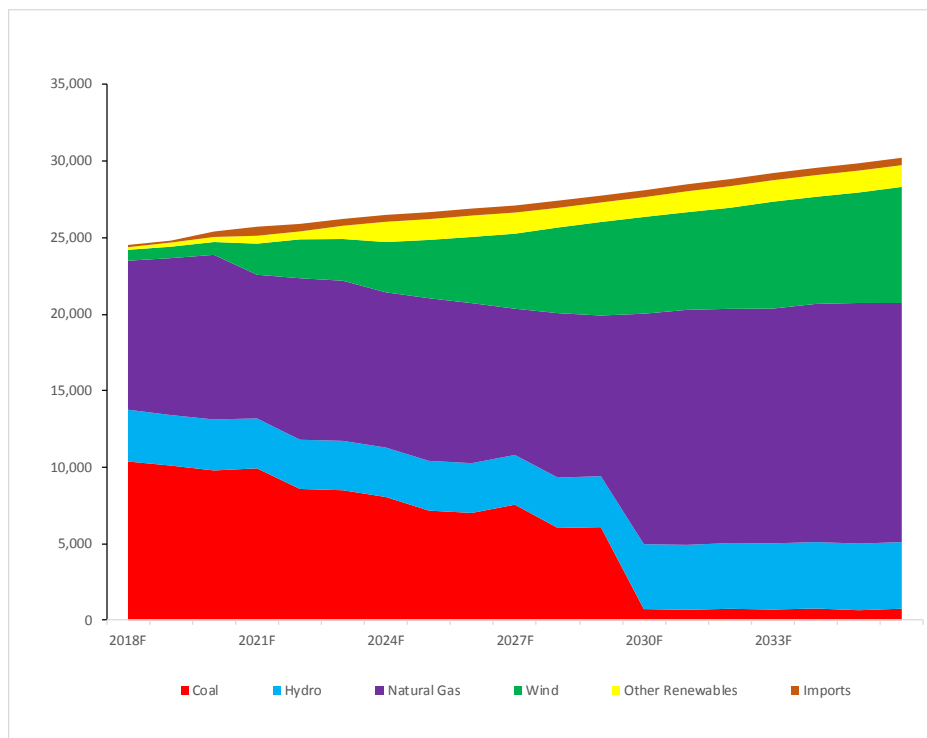
Forecast Annual System Peak and DSM Adjusted System Peak (MW) with Planned Generation Resources (including coal phase-out) (winter capacity MW)³³



This table shows that wind generation capacity at the time of the winter peak, in particular, is lower than the installed capacity. The renewable capacity available at the time of the winter peak in 2030 is approximately 38% (compared to approximately 50% of installed capacity). By 2030, natural gas is relied on to serve approximately 60% of the winter system peak load.

³³ Based on data from the response to 1st round information request SRRP Q141

Forecast Annual DSM Adjusted Energy (GWh) with Planned Generation Resources (including coal phase-out) (winter capacity MW)³⁴



This table shows forecast annual energy by generation type in the 2017 IRP preferred plan. By 2030 approximately 44% of energy requirements are met with renewable generation (compared to about 18% today). Natural gas accounts for approximately 54% of energy production in 2030 (compared to 40% today) and wind accounts for 23% of energy production in 2030 (compared to 3% today).

The next table summarizes the approximate costs of implementing the preferred plan in the 2017 IRP for the 10-year period from 2019 through 2028 by resource type. Over this time period, SaskPower is forecasting generation capital costs of \$6.6 billion. Approximately 60% of the generation capital costs relate to investments in wind generation and a further 22% in natural gas generation.

Forecast Preferred Supply Plan Generation Resource Costs (\$ millions)³⁵

	<u>Biomass</u>	<u>Solar</u>	<u>Wind</u>	<u>Hydro</u>	<u>Natural Gas</u>	<u>Total</u>
2019		48				48
2020	174	48			680	902
2021		49	896			945
2022			486	680		1,166
2023						-
2024			505			505
2025			516		751	1,267
2026		164	526			690
2027			536			536
2028			547			547
Total	\$ 174	\$ 309	\$ 4,012	\$ 680	\$ 1,431	\$ 6,606

³⁴ Based on data from the response to 1st round information request SRRP Q141

³⁵ 1st round information request SRRP Q142

For the 5-year period from 2019 through 2023, total capital investments related to the preferred resource plan are forecast at \$3.061 billion with \$1.382 billion in wind generation during this period. SaskPower indicates that every \$100 million capital spending adds approximately \$7 million to revenue requirement each year.³⁶ Using those figures, the \$3.061 billion resource plan spending in this period would add an estimated \$214 million to revenue requirement over the next five years. At current rates and sales forecasts, each 1% rate increase adds approximately \$25 million in revenue. The \$214 million estimated increase in revenue requirement would require approximately an 8.5% rate increase over the next five years, solely related to the capital costs of the preferred supply plan.

Since this approach will put considerable upward pressure on rates, stakeholders expressed to the Panel an interest for a better understanding of the IRP and its implications for rates over a longer term. Some of the areas that were identified for greater information included:

- Information on how the resource plan would achieve greenhouse gas emissions targets for both SaskPower and the province as a whole and the costs of achieving these emissions targets.
- Implications of implementing the preferred supply plan for electricity rates over the longer-term.
- Opportunities to work with SaskPower to develop Distributed Energy Resources (DER) opportunities (DER are smaller power sources that can be aggregated to provide power necessary to meet regular demand).

For example, CAPP/EPCA noted that the preferred plan appears to add the maximum amount of wind generation as possible, while introducing natural gas generation as a necessary backstop to intermittent wind. Natural gas combined cycle facilities can achieve twice the capacity factor of wind generation, at a lower capital cost per unit of capacity. The costs associated with wind versus natural gas generation need to be more carefully evaluated by recognizing the difference in financing costs. CAPP and EPCA requested that the Panel recommend that SaskPower “thoroughly examine the cost of all aspects of the preferred supply plan with a view of minimizing the cost of this plan.”³⁷

Crescent Point, Saskatchewan’s largest oil and gas producer, also suggested that the renewable generation target of 50%, needs to be re-examined. In a presentation to the Panel, the corporation indicated that “if cost-effective power and emission reductions are the goal, SaskPower should issue RFPs to support this goal and not prescribe how the power should be generated (i.e. solar and wind RFPs).”³⁸

Observations

During the 2016-17 rate review, SaskPower indicated that it was developing a comprehensive stakeholder engagement strategy to accompany its IRP, but that has not yet taken place.³⁹ The Panel maintains that such a strategy would be beneficial in light of the submissions it has received on this matter. One of the key concerns of stakeholders is the cost of implementing the preferred plan in the IRP. From 2019-28, SaskPower is forecasting generation capital spending of \$6.6 billion and approximately 60% of the generation capital costs relate to investments in wind generation and a further 22% in natural gas generation. Several stakeholders expressed an interest in working with SaskPower on developing collaborative solutions to the province’s energy needs including DER projects that may reduce overall implementation costs. The Panel believes that the engagement strategy should include information on the unit cost of achieving SaskPower’s emissions targets, a longer-term view of potential rate impacts, and information on opportunities for customers to implement DER and other alternative energy or emission production targets.

³⁶ 1st round information request SRRP Q7

³⁷ Intergroup Report, Appendix B, Crescent Point Presentation, page B-75

³⁸ Intergroup Report, Appendix B, Crescent Point Presentation, page B-91

³⁹ 2016-17 rate application 2nd round information request SRRP Q32

Revenue Forecast

SaskPower's revenue forecast includes revenues from electricity sales to customers in Saskatchewan (approximately 95% of total revenue in 2017-18 and 2018-19) and revenues from export sales, gas and electrical inspections, customer contributions, CO₂ sales and miscellaneous revenues (collectively about 5% of total revenue in 2017-18 to 2018-19).

Revenues from Saskatchewan electricity sales are forecast to increase by \$152 million in 2017-18 (6.7%) and \$137.9 million (5.7%) in 2018-19. These increases are a result of both increases in sales volumes and the requested rate increases. Revenues from other sources are forecast to increase by \$1.6 million (1.3%) in 2017-18 and \$3.6 million (2.8%) in 2018-19. SaskPower is not forecasting revenue from the Carbon Capture Test Facility in 2017-18 or 2018-19. Revenues from the facility were \$12.5 million in each of 2015-16 and 2016-17.

As noted in the mid-application update, SaskPower lowered its revenue forecasts for net sales from trading and other revenues by \$9.6 million in 2017-18 compared to the original application, offset by a forecast increase in export revenues of \$2.4 million for a net reduction of \$7.2 million. SaskPower's mid-application update also lowered the forecast for 2018-19 by \$8.1 million (\$2.7 million lower export revenues and \$5.4 million lower in other revenues).

Observations

After a review of SaskPower's load forecast for 2018-19, the Panel is satisfied the revenue forecast meets the fair and reasonable test.

Operations, Maintenance and Administration (OM&A)

Operating, Maintenance and Administrative costs tend to make up the largest component of SaskPower's revenue requirement in 2017-18 and 2018-19 (accounting for approximately 26% of the total revenue requirement). In our last report, the Panel recommended that SaskPower limit the growth in OM&A per customer account to one-half the increase in Saskatchewan's Consumer Price Index (inflation). In this application the Panel has been able to confirm that SaskPower has made progress on this recommendation and is on track to achieve this target in 2017-18, 2018-19, and 2019-20. The Panel appreciates the efforts that SaskPower has made in containing its OM&A costs and encourages the corporation to continue to demonstrate diligence in constraining growth in this area.

SaskPower's full-time equivalent (FTE) complement is forecast to decrease by 25 FTEs (0.8% decrease) in 2017-18 compared to 2016-18. The corporation has also indicated that due to financial constraints it is not planning to increase its FTE complement through the calendar year 2020.⁴⁰ Labour costs represent more than half of SaskPower's total OM&A costs and the Panel notes that SaskPower will need to continue to carefully manage this area to constrain OM&A spending increases.

SaskPower has also been reducing expenses through its business optimization initiative, which is streamlining, refining and prioritizing the corporation's operations and improving its ability to evolve along with changing regulatory requirements, technological standards and service expectations.⁴¹ Through a combination of restraint measures and optimization activities, SaskPower has realized \$73 million budgeted OM&A savings over the past two years.⁴²

At the conclusion of the 2016 and 2017 rate application, the Panel recommended that SaskPower limit the increase in OM&A spending, on a per customer basis, to one-half the increase in Saskatchewan's consumer price index (inflation).⁴³ SaskPower is forecasting growth in OM&A per customer account of less than one percent in 2017-18 through 2019-20. Based on these forecasts, SaskPower will achieve the target recommended by the Panel in 2017-18, 2018-19, and 2019-20 (see table below).

OM&A per Customer Forecast Growth Rate (2016/17 to 2019/20)⁴⁴

	Actuals		Forecast	
	2016/17	2017/18	2018/19	2019/20
OM&A/Customer (\$/Customer)	1,286.0	1,281.3	1,287.2	1,296.5
Percent Change		(0.4%)	0.5%	0.7%
Inflation Rate Assumption		2.0%	2.0%	2.0%
Half the Rate of Inflation		1.0%	1.0%	1.0%

As noted in the consultant's report, the customer accounts figure used to calculate OM&A per customer includes all types of accounts, therefore the OM&A per customer is a corporate-wide number across all account types (from small residential to large industrial customers). SaskPower provided information indicating the annual OM&A per residential customer (urban and rural) for 2017-18 is approximately \$536 per customer. The Panel encourages SaskPower to file comparison statistics for each rate class in future applications.

Observations

The Panel recognizes that SaskPower has achieved its recommendation in the previous report to limit the growth in OM&A per

⁴⁰ SaskPower's Five Year Corporate Workforce Plan 2016-2020, page 11

⁴¹ 2018 Rate Application, page 17

⁴² 2016-17 SaskPower Annual Report, page 26

⁴³ SRRP, Report to the Minister Responsible for Crown Investments Corporation of Saskatchewan, Regarding the SaskPower 2016 and 2017 Rate Application, Effective Dates July 1, 2016 and January 1 2017. Report submitted November 7, 2016, page, 11.

⁴⁴ InterGroup Consultant's Report, page 7-2

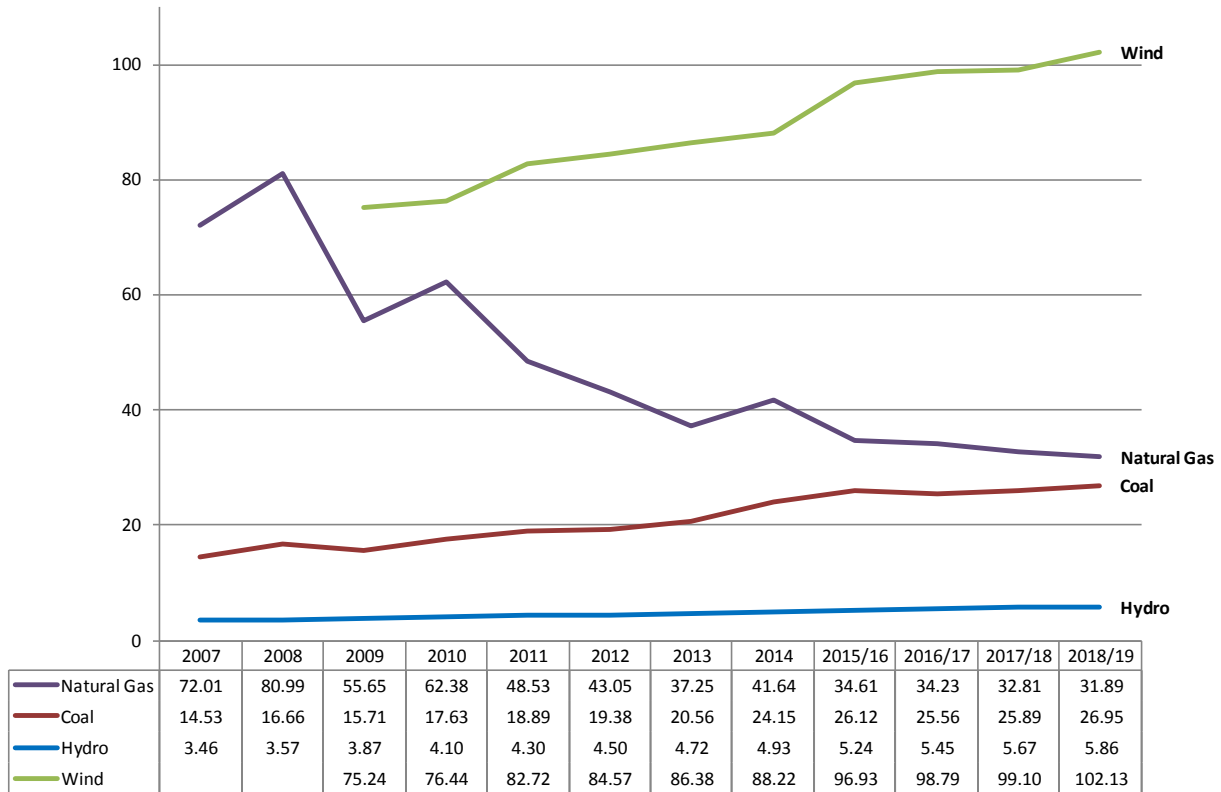
customer account to half the rate of inflation.⁴⁵ SaskPower also intends to continue this practice into the future. The Panel encourages SaskPower to continue to focus on limiting growth in OM&A per customer account to one-half the increases in the Saskatchewan consumer price index and to continue to track and provide OM&A per customer for each rate class for future rate applications.

⁴⁵ SRRP, Report to the Minister Responsible for Crown Investments Corporation of Saskatchewan, Regarding the SaskPower 2016 and 2017 Rate Application, Effective Dates July 1, 2016 and January 1 2017. Report submitted November 7, 2016, page, 11.

Fuel and Purchased Power Expense

SaskPower’s fuel and purchased power (F&PP) expense (approximately 25.3% of the revenue requirement) includes fuel charges associated with SaskPower owned facilities, energy purchased from power purchase agreements (PPAs), and electricity imported from other jurisdictions. F&PP costs can vary year to year as a result of changes in electricity sales and total generation requirements; the unit prices of different fuel sources, and the mix of generation sources. As noted in the tables below, costs for natural gas have been declining, with coal and wind increasing. It is important to note the cost associated with wind also includes the facility costs power purchase agreements (PPAs).

Fuel and Purchased Power Unit Cost (\$/MWh)⁴⁶



Observations

Natural gas represents approximately 35% of generation by volume (MWh) but approximately 44% of forecast F&PP expense in the test years as a result of the higher average unit costs of natural gas compared to other generation sources. The Panel has noted that SaskPower’s reliance on natural gas is expected to increase beyond the test years as coal plants are phased out and this will increase SaskPower’s exposure to fluctuations in natural gas prices.

⁴⁶ 1st round information request SRRP Q41 and 2018 Rate Application, page 34; InterGroup Consultants Report, page 7-14

Depreciation Expense

Depreciation expense (approximately 21.2% of the revenue requirement) is forecasted to increase as noted in the table below:

Expense (\$ millions)	2016/17				2017/18			2018/19		
	2015/16 Actual	Actuals	change over 2015/16 actuals		Forecast	change over 2015/16 actuals		Forecast	change over 2015/16 actuals	
			\$	%		\$	%		\$	%
Depreciation Expense	409.3	437.5	28.2	6.9%	486.0	48.5	11.1%	514.5	28.5	5.9%
Capital Lease Amortization	56.3	56.3	0.0	0.0%	56.3	0.0	0.0%	57.5	1.2	2.1%
Total	\$465.6	\$493.8	\$28.2	6.1%	\$542.3	\$48.5	9.8%	\$572.0	\$29.7	5.5%

SaskPower's depreciation methods have not been reviewed externally since 2010. Since substantial capital reinvestments have occurred since that time and since major assets are being retired, without a new study, it is extremely difficult for the Panel to assess the reasonableness of SaskPower's depreciation expense. While SaskPower has internally reexamined its depreciation methodology, the significance of the financial revenue requirements in the last few rate applications strongly suggest that an external study confirmation is warranted.

Several items in this expense have raised concerns among the Panel since they have increased expenses by approximately \$39.325 million (see chart on page 28), which is about 8% more than the original calculations and equates to a 1.5% rate increase of the 5% requested in the application.⁴⁷ In the 2016 and 2017 rate application, SaskPower's internal depreciation review recommended a \$10.7 million increase to depreciation expense (\$5.58 million due to coal retirement date changes and \$5.13 million from useful life changes).⁴⁸ Comparatively, the incremental impact of the internal review of the depreciation in the 2018 application is \$34.2 million.⁴⁹ The increasing depreciation charges are primarily related to SaskPower's proposed treatment of coal assets. These assets include the potential retirement in 2018 of the Shand Carbon Capture Test Facility which was officially opened in June of 2015, which will result in an annual increase to depreciation expense of approximately \$7 million, and adjustments to the terminal requirements of coal generation facilities that reflect an increase of \$12 million. SaskPower's internal annual depreciation reviews have also resulted in service life decreases that have led to increases in depreciation expense. There does not appear to have been any increase to life extensions that could help offset these increases notwithstanding the significant new reinvestments that have been undertaken.

The Panel's independent consultant's report notes that SaskPower's depreciation expense for 2017-18 and 2018-19 includes an increase due to advancing the retirement of coal facilities. SaskPower states these changes reflect terms broadly set out in the Equivalency Agreement in Principle between the *Saskatchewan Ministry of Environment and Environment and Climate Change Canada*. The coal facilities have proposed terminal retirement dates starting in 2021. Due to uncertainty surrounding the Equivalency Agreement, these dates were determined through discussions with SaskPower's Asset Management Department and reflect the current supply plan. SaskPower notes these retirement dates are subject to change.⁵⁰ Hopefully, this uncertainty will be resolved with the expected signing of the equivalency agreement in 2018.

Terminal Retirement of Coal Facilities

The remaining net book value at March 31, 2017 of SaskPower's coal facilities is substantial.⁵¹ The circumstances leading to the proposed acceleration of depreciation rates are not something that could have been anticipated when SaskPower built the assets. The increased costs are primarily a result of regulatory regime changes outside of the control of either SaskPower or its customers. However, there is also no increased benefit to ratepayers associated with these increases in proposed costs.

The Panel has reviewed this issue in other jurisdictions. The National Energy Board, for example, has made judgements based

⁴⁷ \$39.325 million divided by approximately \$25 million increase in revenue of a 1% rate increase.

⁴⁸ InterGroup Consultants Report, page 7-18

⁴⁹ 1st round information request SRRP Q21(a).

⁵⁰ 1st round information request SRRP Q21.

⁵¹ 2nd round information request SRRP Q11 indicates remaining net book value of coal generation facilities excluding Boundary Dam unit #3 of approximately \$1 billion.

upon factors such as the current and expected asset use; the extent to which customers bear costs not associated with providing them service, and current and expected competitiveness.⁵² Other utilities and regulators have also dealt with issues related to material changes in asset lives, stranded assets, or other issues related to whether an asset is used and useful in the revenue requirement and have adopted alternative methods for depreciation. The Panel understands that SaskPower determines depreciation expense in accordance with International Financial Reporting Standards (IFRS) requirements and may not be able to utilize rate regulatory accounting options given the rate regulation framework in Saskatchewan.

Shand Carbon Capture Test Facility

SaskPower used the Shand Carbon Capture Test Facility, in conjunction with an external partner, to perform tests with the goal of minimizing the cost of amine use in the existing carbon capture process at the Boundary Dam Integrated Carbon Capture and Storage Demonstration Project.⁵³ SaskPower is proposing to advance the retirement date of this facility from 2020 to 2019.⁵⁴ This decision will lead to a rate increase of approximately 0.33%. SaskPower is still actively seeking new sources for the test facility and has had several prospective clients tour it for potential replacement when the current partnership ends.⁵⁵

Average Service Lives

SaskPower's internal annual depreciation reviews have resulted in service life decreases, which are causing increases to its depreciation expense. There have not been any changes made to increase life extensions that could help offset these increases. The Panel reviewed a 2016 study completed for Newfoundland Hydro and peer utility information and recommendations from the 2010 study performed for SaskPower.⁵⁶ This review indicated that there may be longer service lives being observed for other Canadian utilities. For example:

- **Gas Turbine:** SaskPower's 2010 study recommended a service life of 15 years and noted the current estimate at the time of the study was 25 years;⁵⁷ the 2016 Newfoundland Hydro study describes a range of 30-55 years for gas turbines. This account represented 2% of SaskPower's depreciable plant in the 2010 study.⁵⁸
- **Transmission steel structures:** SaskPower's 2010 study included peer service lives of 45-85 years; the 2016 Newfoundland Hydro study describes a range of 55 to 85 years.⁵⁹ This account represented 3% of SaskPower's depreciable plant in the 2010 study.
- **Transmission wood structures:** SaskPower's 2010 study included peer service lives of 25-55 years; the 2016 Newfoundland Hydro study describes a range of 40 to 65 years.⁶⁰ This account represented 2% of SaskPower's depreciable plant in the 2010 study.

Although peer comparison information is not the only relevant consideration when determining appropriate depreciation for SaskPower and that the specific types of assets included in each account may vary by utility, an external review may identify areas where SaskPower's service lives could be extended lessening the financial impact of these forced coal asset retirements.

SaskPower last conducted an external depreciation study in 2010 by Gannett Fleming based on 2009 data.⁶¹ The corporation's policy is to conduct an external study every five years, however, that timeline was deferred by management as a cost-cutting

⁵² NEB Decision FH-003-2011 regarding TransCanada Mainline, page 43, <https://apps.neb-one.gc.ca/REGDOCS/Item/View./939799>

⁵³ 2nd round information request SRRP Q10(b).

⁵⁴ 2nd round information request SRRP Q10(c).

⁵⁵ 1st round information request SRRP Q35.

⁵⁶ Exhibit 11: 2016 Depreciation Study in Newfoundland Hydro 2017 GRA (Volume II), <http://pub.nl.ca/applications/NLH2017GRA/applications/NLH%202017%20General%20Rate%20Application%20-%20Volume%202%20-%20Revision%203%20-%202017-10-27.PDF>

⁵⁷ Page A-21 of the 2010 SaskPower study; Page II-11 of the 2016 Newfoundland Hydro study.

⁵⁸ The Consultant understands SaskPower currently uses a 25 year service life for both thermal and gas turbines.

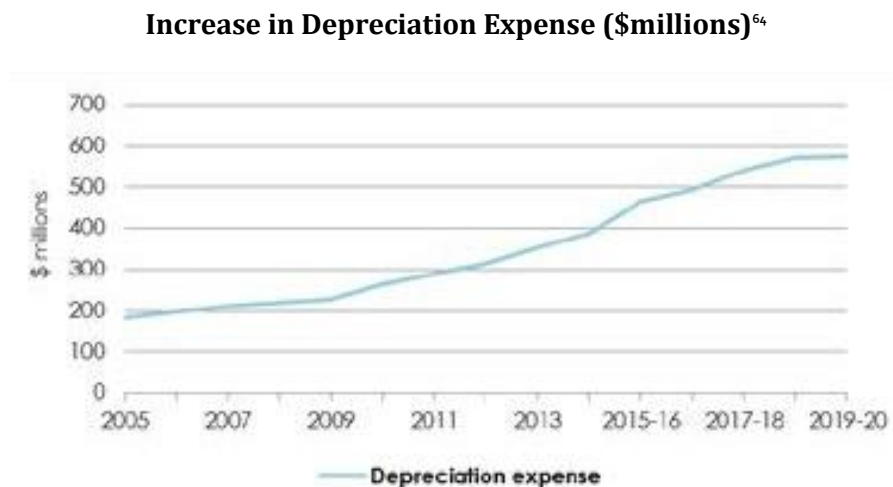
⁵⁹ Page A-22 of the 2010 SaskPower study; Page II-19 of the 2016 Newfoundland Hydro study.

⁶⁰ Page A-24 of the 2010 SaskPower study; Page II-16 of the 2016 Newfoundland Hydro study.

⁶¹ SaskPower 2016 and 2017 Rate Application, IR response to SRRP Q16

initiative. SaskPower in its 2016 rate application indicated that it intended to conduct its next external depreciation study in fiscal 2017-18, but SaskPower has stated that it intends to only internally review the estimated service life and depreciation rates for generation, transmission and distribution assets in 2017-18.⁶²

Depreciation expense is impacted by several factors including asset additions, asset retirements, and methodology changes. During the last decade depreciation has increased by approximately \$300 million cumulatively, due primarily to SaskPower's \$8.7 billion investment in electricity infrastructure.⁶³ The following figure demonstrates the trend in depreciation expense since the last external depreciation study (implemented January 1, 2011).



⁶² 1st Round Information Request, SRRP Q19

⁶³ SaskPower 2018 Rate Application, page 39

⁶⁴ 2018 Rate Application, page 39.

The following table outlines the cumulative annual impact of these changes by asset category.

Cumulative Annual Impact from Depreciation Methodology Changes since 2010 Study⁶⁵

Depreciation Property Group	Revised Retirement Date	Previous Retirement Date	Revised Dep. Rate	Previous Dep. Rate	Change	Cumulative Annual Impact (\$000)
Shand Carbon Capture Test Facility	2019	2020	30.07%	20.00%	10.07%	\$ 6,910
Boundary Dam Unit 4	2021	2021	12.38%	9.27%	3.11%	\$ 7,397
Boundary Dam Unit 5	2024	2022	6.34%	6.70%	-0.36%	\$ 919
Boundary Dam Unit 6	2027	2023	4.74%	6.86%	-2.12%	-\$ 1,322
Poplar River Unit 1	2029	2028	4.95%	4.96%	-0.01%	\$ 899
Poplar River Unit 2	2029	2026	4.85%	5.61%	-0.76%	\$ 19
Poplar River Common	2029	N/A	5.58%	3.33%	2.25%	\$ 3,647
Landis	2021	2020	7.03%	7.14%	-0.11%	\$ 550
Meadow Lake	2021	2020	7.01%	7.15%	-0.14%	-\$ 4
Queen Elizabeth Unit 3	2023	2022	13.11%	13.30%	-0.19%	-\$ 25
Total						\$ 18,990
Depreciable Property Group	Revised Average Service Life (years)	Previous Average Service Life (years)	Revised Dep. Rate	Previous Dep. Rate	Change	Cumulative Annual Impact (\$000)
Gas Turbines Combuster and Compressor	5 - 25	15 - 25	4% - 20%	4% - 6.67%	0 - 13.33%	\$ 6,049
Anodes & Coating	15	45 - 50	6.67%	2% - 2.22%	4.45% - 4.67%	\$ 4,149
Stub & Treat Wood Poles	15	35	6.67%	2.86%	3.81%	\$ 3,023
Grid Automation	15	35	6.67%	2.86%	3.81%	\$ 855
Station Automation	15	20 - 35	6.67%	2.86 - 5%	1.67% - 3.81%	\$ 524
Transformer Automation	15	50	6.67%	2.00%	4.67%	\$ 178
Overhead Switching Station Conductors & Devices	25	40	4.00%	2.50%	1.50%	\$ 313
Surface Stone & Fencing	20	40	5.00%	2.50%	2.50%	\$ 115
Generation - Controls and Protection	15	25	6.67%	4.00%	2.67%	\$ 4,701
Vehicles - Power Operated	15	20	6.00%	4.50%	1.50%	\$ 164
Vehicles - Track Mounted	15	25	6.00%	3.60%	2.40%	\$ 264
Total						\$ 20,335

Observations

Given the magnitude of the increase in depreciation expense and the time since the last external review, the Panel recommends that SaskPower undertake a thorough external review of depreciation expense. This is especially important for regulatory considerations that are not incorporated in SaskPower's financial statement focused review. This external review may assist in identifying areas where SaskPower's service lives could be extended, where supported by the corporation's own retirement data as well as peer utility comparisons and other relevant considerations. It may also identify areas where service lives should be further shortened. Part of this review would examine terminal retirement of coal facilities to determine if these costs increases relate to assets that are used and useful and are just and reasonable to include in the rate charged to customers. As well, it may determine if the Shand Carbon Test Facility may continue to be useful to SaskPower and its customers.

As the financial impact of these changes on the ratepayers is significant, the Panel feels it is extremely important not only to ratepayers but as well as SaskPower, that the depreciation expense be confirmed. Since the financial consequences to either party could be significant, the Panel recommends SaskPower undertake an external depreciation study in consultation with the Panel prior to the next application.

Depreciation has drawn the attention of the Panel due to the accelerated rates and their significant impact on the expense that is part of the rate increase. The shortened life of the Shand Test Facility and the coal facilities appears to be a large part of this impact. The Panel would like to see that the total impact of these rate changes be fully confirmed by an external review before the next application, so the effect on rates is fully vetted and confirmed by such a study. The Panel should be included in the process so that these concerns are fully considered in the external study.

⁶⁵ 2nd round information request SRRP Q9.

Finance Expense

Finance charges (approximately 15.7% of the revenue requirement) reflect interest expense on SaskPower's long-term and short-term borrowings and capital leases offset by capitalized interest costs and debt retirement fund earnings.

Actual and Forecast Finance Charges (\$ millions)⁶⁶

	2016/17				2017/18			2018/19		
	2015/16 Actual	Actual	change over 2015/16 Actual		Forecast	change over 2016/17 Actual		Forecast	change over 2017/18 Forecast	
			\$	%		\$	%		\$	%
Expense (\$ millions)										
Interest on long-term debt	243.0	257.0	14.0	5.8%	268.0	11.0	4.3%	286.0	18.0	6.7%
Interest on finance lease	167.0	166.0	(1.0)	(0.6%)	163.0	(3.0)	(1.8%)	164.0	1.0	0.6%
Interest on short-term debt	5.0	6.0	1.0	20.0%	7.0	1.0	16.7%	9.0	2.0	28.6%
Accretion	4.0	5.0	1.0	25.0%	5.0	0.0	0.0%	5.0	0.0	0.0%
Capitalized Interest	(25.0)	(15.0)	10.0	(40.0%)	(23.0)	(8.0)	53.3%	(34.0)	(11.0)	47.8%
Amortization of debt premiums/discounts	(2.0)	(1.0)	1.0	(50.0%)	1.0	2.0	(200.0%)	(1.0)	(2.0)	(200.0%)
Interest on employee benefits	9.0	11.0	2.0	22.2%	9.0	(2.0)	(18.2%)	9.0	0.0	0.0%
Other interest and charges	1.0	0.0	(1.0)	(100.0%)	(1.0)	(1.0)	-	4.0	5.0	(500.0%)
Finance Expense	\$402.0	\$429.0	\$27.0	6.7%	\$430.0	\$1.0	0.2%	\$442.0	\$12.0	2.8%
Income (\$ millions)										
Debt retirement fund earnings	(17.0)	(13.0)	4.0	(23.5%)	(12.0)	1.0	(7.7%)	(17.0)	(5.0)	41.7%
Interest income	(1.0)	0.0	1.0		(1.0)	(1.0)		(1.0)	0.0	0.0%
Finance Income	(18.0)	(13.0)	5.0	(27.8%)	(13.0)	0.0	0.0%	(18.0)	(5.0)	38.5%
Total Finance Charges	\$384.0	\$416.0	\$32.0	8.3%	\$417.0	\$1.0	0.2%	\$424.0	\$7.0	1.7%

The above table summarizes SaskPower's actual interest expense for 2015-16 and 2016-17 as well as forecasts for 2017-18 and 2018-19. Interest expense is generally increasing due to increased capital spending. Total finance charges are forecast to increase from \$384 million in 2015-16 to \$424 million in 2018-19 (\$40 million or 10.4% increase) due to increased interest on long-term debt.

Observations

Finance expense changes due to both changes in SaskPower's overall debt level, as well to interest rates on short-term and long-term debt. With the size of the capital program it is expected these costs will continue to increase on an upward trend in the future.

⁶⁶ 1st round information request SRRP Q15

Tax Expense

SaskPower incurs tax expenses (approximately 2.9% of the revenue requirement) related to corporate capital tax obligations and grants in lieu of taxes. As indicated in the table below, tax expenses are forecast to be \$72.5 million in 2017-18 and \$77.4 million in 2018-19.

Actual and Forecast Tax Expense (\$ millions)⁶⁷

Tax Expense	2016/17				2017/18			2018/19		
	Actual	Forecast	change over forecast		Forecast	change over 2016/17 actuals		Forecast	change over 2017/18 forecast	
			\$	%		\$	%		\$	%
Corporate capital tax	46.9	45.8	1.1	2.4%	46.3	(0.6)	(1.3%)	51.0	4.7	10.2%
Grants in lieu of taxes	25.6	25.0	0.6	2.4%	26.2	0.6	2.3%	26.4	0.2	0.8%
Sub-total	72.5	70.8	1.7	2.4%	72.5	0.0	0.0%	77.4	75.7	6.8%

Observations

These taxes are imposed under legislative requirements. As SaskPower's capital investments continue and sales revenue increase these tax obligations will continue to increase.

⁶⁷ 2018 Rate Application, page 40; 2016 and 2017 Mid-Application Update, page 8.

Capital Structure, Rate Base and Return on Equity

SaskPower lists ROE and debt ratio as key financial indicators in its rate application. The list of key financial indicators also considers operating income, net income, OM&A/PP&E and dividends declared.⁶⁸ The debt ratio provides a measure of total debt to total corporate capital structure. SaskPower's target ratio is 60% to 75%. Since 2011 SaskPower has increased its borrowing to support the delivery of its capital program. SaskPower's debt ratio is forecast to be at the upper end of the target range in the test years.

SaskPower advised that it currently calculates an interest coverage ratio based on EBIT (earnings before interest and taxes) as a financial performance measure. SaskPower calculates the indicator monthly and results are measured against targets established for both the current fiscal year (1.4 for 2017-18) and the long term (2.0). SaskPower states it will replace the interest coverage ratio based on EBIT to an interest coverage ratio based on EBITDA (earnings before taxes, interest and depreciation and amortization), which SaskPower believes provides a better indicator of its ability to cover interest obligations.⁶⁹ The EBIT and EBITDA interest coverage ratios for actual years and forecasts for 2017-18 and 2018-19 (based on the current rate proposals) are all summarized in the consultant's report. While the Panel has no concerns relative to SaskPower changing its financial metric it would prefer both to be supplied in future applications for a transitional period.

SaskPower also states that in recent years it has requested rate increases that fell short of meeting financial targets to keep rate increases more manageable for customers and that it has not earned its long-term target ROE of 8.5% since 2011. SaskPower notes that now that its debt ratio has climbed to the top of the long-term target range of 60-75%, the corporation must request rate increases that provide enough cash flow to prevent it from further exceeding the range.⁷⁰ SaskPower's proposed 5% rate increase effective March 1, 2018 results in a forecast ROE of 6.9% in 2017-18, (now revised in the mid application update to 6.4%) and a return to the long-term target ROE of 8.5% in 2018-19.⁷¹ SaskPower is forecasting a debt ratio of 75.3% and a net income of approximately \$210 million in 2018-19.

It should be noted that in the second quarter of 2017-2018 SaskPower recognized a \$ 30 million loss as a result of the decision to defer development of the Tazi Twe Hydroelectric project. This materially impacted net income in 2017-2018 and the resultant ROE forecast.

As noted in the consultant's report, SaskPower's long-term targets of 8.5% ROE and 60-75% debt ratio are in line with industry practice. However, comparing the actual results of these utilities requires additional considerations. For example, SaskPower as a fully integrated electric utility (i.e. offering distribution, transmission and generation services to customers) which requires a larger capital spending threshold (on a per customer basis) and has different considerations for managing its asset base, compared to a utility that provides only distribution level service. Legislative differences are also relevant. For example, the Manitoba Hydro Act states the price of power shall reflect the cost of supplying power including sums required to fund reserves sufficient for insurance against losses and the stabilization of rates, but do not explicitly include a return on equity,⁷² while regulations under the New Brunswick Electricity Act specify a particular return on equity and capital structure.⁷³

The Consultant noted that adherence to the debt target range during SaskPower's period of major capital investment will continue to put upward pressure on rates, which as noted in the submissions section, is a significant concern for ratepayers.

⁶⁸ 2018 Rate Application, page 45.

⁶⁹ 1st round information request SRRP Q9.

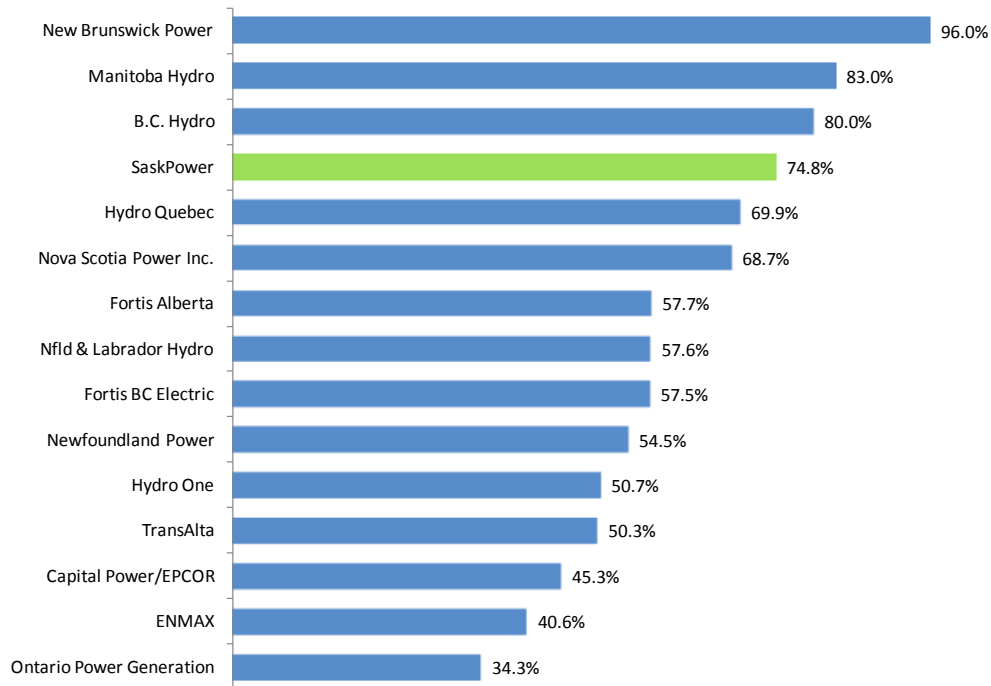
⁷⁰ 2018 Rate Application, page 3.

⁷¹ 1st round information request SRRP Q3.

⁷² Manitoba Hydro Act, Section 39(1), <http://web2.gov.mb.ca/laws/statutes/ccsm/h190e.php>

⁷³ New Brunswick Electricity Act, Section 68(a)ii <http://laws.gnb.ca/en/ShowPdf/cs/2013-c.7.pdf> and New Brunswick Regulation No. 2013-67, <http://laws.gnb.ca/en/ShowPdf/cr/2013-67.pdf>

Canadian Utility Comparison of Debt Ratio 2015/16⁷⁴



These figures indicate that SaskPower now has the fourth highest percent debt ratio in the sample. The three utilities with higher debt ratios are all government owned and two (Manitoba Hydro and BC Hydro) are primarily hydro-electric generation utilities. It should be noted that actual ROE varies from year to year for several reasons, such as weather, increased or decreased number of customers, changes to fuel prices and other factors. SaskPower provided information in its application that indicated its long-term target ROE is within the range of other Canadian utilities.⁷⁵

Several stakeholders expressed their concern about SaskPower achieving its ROE in such a short period of time. The Saskatchewan Industrial Energy Consumers Association (SEICA) indicated that “there are more questions as to the fairness of going straight to that target when it is described in the CIC Minister’s Terms of Reference as a ‘long term target’.”⁷⁶ CAPP/EPAC recommended that Panel evaluate the fairness of SaskPower’s requested increase “based on the total returns to the shareholder – not based on the requested return on equity in isolation.”⁷⁷ Meadow Lake Mechanical Pulp indicated that “in most businesses, coincidentally (i) increasing the capacity of the business, (ii) intensively renewing existing infrastructure, (iii) not only increasing, but hitting return on equity “targets” and (iv) reducing debt at the same time, just does not happen. Is it reasonable to expect that all these outcomes should be fulfilled at the same time?”⁷⁸

Observations

In reviewing public comments on this issue, the Panel recognizes that a longer period of time for SaskPower to achieve its stated ROE target would enable all ratepayers to better prepare for rate adjustments and allow the province to remain competitive. The proposed rate increases are projected to increase SaskPower’s ROE to 6.4% in 2017-18 and 8.5% in 2018-19. This translates to a significant financial increase in revenue requirement from year to year. It should be noted that actual ROE varies from year to year for several reasons, such as weather, increased or decreased number of customers, changes to fuel prices and other factors.

⁷⁴ 2018 Rate Application, page 19

⁷⁵ Ibid page 18

⁷⁶ InterGroup Consultants Report, page B-140

⁷⁷ InterGroup Consultants Report, page 8-74

⁷⁸ InterGroup Consultants Report, page B-135

Cost of Service Methodology Review

In its report to the Minister on SaskPower's 2016 and 2017 rate application, the Panel recommended that SaskPower provide stakeholders with the opportunity to provide meaningful input into the next cost of service methodology review. Following through with the Panel's recommendation, SaskPower engaged an independent consultant, Elenchus, to undertake such a review in consultation with the stakeholders and the Panel.

In their final report, Elenchus made three main recommended changes to SaskPower's cost of service methods:

- That SaskPower should implement the average and excess method for classifying generation costs. This is a change from the equivalent peaker method that SaskPower had previously used. Elenchus recommended moving away from the equivalent peaker method in part because the standard costing data for fossil fuel plants used to prepare the equivalent peaker analysis is no longer available.
- That SaskPower implement the minimum system method for classifying distribution lines and transformers. This is a change from the previous use of utility survey information.
- That SaskPower calculate the non-coincident peak loads used to allocate costs using the class maximum diversified demand (MDD) method. This is a change to the method previously used by SaskPower that used each individual customer's maximum demand to calculate the non-coincident peak load factor of the customer class.⁷⁹

Observations

The Panel concurs with SaskPower's consultant's recommendation and accepts SaskPower's cost of service study with the revisions recommended by SaskPower as reasonable for rate-making purposes.

⁷⁹ Summarized from chapter 6 of the final Elenchus report to SaskPower. Available: http://www.saskpower.com/wp-content/uploads/Final_Elenchus_report.pdf. Accessed October 10, 2017.

Rate Rebalancing

SaskPower is proposing to implement its rate increase largely by equal percentage increases to all components of the rate structure with a few exceptions:

- Power contract customer rate increases are calculated according to the terms of each contract. The contract customer class is subject to an average rate increase of 4.1% and has a revenue-to-revenue requirement ratio of less than 1.00 due to one contract in that rate class. There are two customers in the power contract class and all contracts in the class will expire by December 31, 2019. The decision to convert existing contract customers to published rates will be dependent on negotiations with customers.⁸⁰
- SaskPower is proposing to adjust the calculation of recorded demand for commercial customers with time-of-day metering from the greater of the current month demand in the on-peak period or 80% of the maximum demand registered at any other time to the maximum demand in the on-peak period or 85% of the of the maximum demand registered at any other time. SaskPower indicates this reflects the corporation's shifting of the time-of-day incentive from demand to energy.⁸¹ This change applies to fewer than 30 customers and has a maximum effect on annual revenue from any one customer of 1% or less.⁸²

The following table summarizes the revenue-to-revenue requirement ratios following the rate increase requested in the application using SaskPower's current cost of service study:

Class Revenue to Revenue Requirement Ratios Following Requested Rate Increase on March 1, 2018⁸³

	Proposed Rate Increase	R/RR Ratio after rate increases (current COS methods)
Residential	5.1%	0.97
Farms	5.1%	0.97
Urban commercial	5.1%	1.02
Rural commercial	5.1%	1.00
Total Commercial	5.1%	1.02
Power - published rates	5.1%	1.03
Power - contract rates	4.1%	0.99
Total Power	4.8%	1.02
Oilfields	5.1%	1.03
Streetlights	5.1%	0.85
Reseller	5.1%	0.99

The only major class outside of the 0.95 to 1.05 revenue-to-revenue requirement range is the streetlights class. SaskPower has indicated that due to their relatively small size, the streetlight class is sensitive to fluctuations in their costs. SaskPower is also

⁸⁰ 1st round information request SRRP Q119

⁸¹ 2018 Rate Application, page 47

⁸² 1st round information request SRRP Q123

⁸³ 2018 Rate Application, page 47

converting many of its light standards to more energy efficient LED technologies, which will affect the cost of streetlights and reduce energy consumption and contribution to peak system. As a result, it is expected that the R/RR ratio will move gradually towards to the required target range.

In response to an information request from the Panel, SaskPower prepared an alternative rate design scenario for review (see table below) that addressed the following:

- Fully implements the core recommendations in the 2017 Elenchus cost of service review.
- Amalgamates urban and rural rates for residential and commercial customers (rate simplification).
- Ensures all customer class R/RR ratios other than streetlights are within the 0.95 to 1.05 range.
- Holds the streetlight R/RR ratio constant until the impacts of the LED conversion program are known.
- Fully rebalances the reseller class due to changes in the cost of service methods from the 2012 review.

Alternative Rate Scenario Revenue Requirement Ratios⁸⁴

	Alternative Rate Scenario	R/RR Ratio after rate increases
Residential	5.2%	0.99
Farms	5.2%	0.96
Small Commercial	5.9%	1.01
General Service	3.7%	1.01
Total Commercial	4.7%	1.01
Power - published rates	5.2%	1.01
Power - contract rates	4.2%	0.98
Total Power	4.9%	1.01
Oilfields	4.6%	1.01
Streetlights	8.1%	0.82
Reseller	6.0%	1.00

Differences in the rate increases in this alternative scenario compared to the rate application include:

- Increases for the streetlight class (8.1% compared to 5.1%), reseller class (6.0% compared to 5.1%) and small commercial class (5.9% compared to 5.1%).

⁸⁴ 1st round information request SRRP Q122(b).

- Decreases for the general service class (3.7% compared to 5.1%) and oilfields classes (4.6% compared to 5.1%).
- Small increases (about 0.1%) for other rate classes.

The Panel recognizes that SaskPower's rate design objectives are consistent with Canadian utility industry practice, but urges SaskPower in future applications to transition all rate classes within the 0.95 to 1.05 revenue-to-revenue requirement target range. As part of this approach, SaskPower is to consider adjustments to future power class customer contracts to address lower than average rate increases for these customers when their revenue-to-revenue requirement ratios are less than 1.0.

SaskPower is also proposing to increase all components of the rate structure by equal percentages. The corporation has indicated that it considers the following when designing rates:

- Limiting the maximum increase to any single customer or class to 15%, which includes any single component of the rate itself (i.e. basic monthly, energy and demand charges).
- Ensure the proposed rate structures are consistent with the ideal rates calculated within cost of service. SaskPower attempts to limit the variance of rate components between proposed and ideals to a maximum of 15%. SaskPower notes that it requires this flexibility due to the large degree of variability that can exist within rate codes due to the diversity of customer load characteristics.⁸⁵

Observations

The Panel recognizes that some variation between cost of service unit costs and rates is unavoidable and can serve other reasonable rate design criteria including rate stability, gradualism and providing effective price signals to customers.

The Panel understands the difficulty and the impact of rebalancing but feels that following the extensive review and merits of the changes that some rebalancing should occur forthwith to limit extended cross subsidization of costs between customer classes.

SaskPower in its next application must also consider rebalancing rates between demand charges, energy and customer charges based on the average unit costs calculated by SaskPower's cost of service study. This is particularly important where rates vary from unit costs by more than 15%.

SaskPower also offers a net metering program that allows customers the opportunity to generate their own power using environmentally-preferred technologies up to 100kW of capacity. Customers who generate more electricity than they consume can add the electricity to SaskPower's grid and bank those kW hours as credit towards future consumption for use within a 12-month period. There are currently 975 net metering customers and SaskPower estimates that the reduced revenue on net-metered electricity generation is approximately \$850,000.⁸⁶ However, as more customers generate their own power, SaskPower's costs to maintain and operate the grid are spread over a smaller customer base, which has the effect of raising rates from the remaining customers. As a result, SaskPower is undertaking an internal review of self-generation programs and the results should be available in early 2018.⁸⁷ The Panel requests that SaskPower provide a copy of this review as part of its next application as well as any steps that the corporation believes are appropriate to address this issue.

⁸⁵ 2nd round information request SRRP Q38(b)

⁸⁶ 2nd round information request SRRP Q40

⁸⁷ Ibid

Panel's Recommendations to the Minister

The Saskatchewan Rate Review Panel, following its review and analysis that included meetings with SaskPower management, information requests, several meetings with its technical consultant culminating with receipt of the consultant's independent report, and taking into account public and industry input regarding the application, makes the following recommendation to the Minister:

1. That the proposed system-wide 5% average rate increase be reduced to 3.5%.

Panel's Recommendations to SaskPower

The Panel offers the following recommendations to SaskPower arising from its deliberations during this review:

2. That SaskPower have an external review of its depreciation expense, including average service life estimates and the resulting rates, prior to the next general rate application filing, and that the Panel be included in the process so that concerns regarding impact on rates is fully considered.
3. That SaskPower undertake as requested by the stakeholders a comprehensive public engagement process for its integrated resource plan, including implications for future rate increases, as soon as reasonably possible.
4. That SaskPower address rate rebalancing between customer classes using the most recent cost of service study review and recommendations, particularly where a class is outside of the revenue-to-revenue requirement target range of 0.95 to 1.05.
5. That the recommendations included in our consultant's report be reviewed and considered by SaskPower prior to the next application.

It is clear from this review that both the public and industry are becoming increasingly concerned about both the increase in rates and the frequency at which they are occurring. They are all encouraging the Panel to lower the rate from what has been requested and to slow the pace of future increases. Industry has signaled that the province is becoming uncompetitive for investment as rates have increased from among the lowest in the country to near the highest. With SaskPower's capital program during the next decade forecasted to be approximately \$ 1 billion a year, upward pressure on rates is expected to continue well into the future.

At the same time, SaskPower has a significant revenue requirement as it is changing the way it provides power in the province. The corporation has been investing \$1 billion a year for 10 years to renew and modernize its electrical system. Coal-fired plants are being replaced with natural gas plants. SaskPower has also made a commitment to develop 50% of installed generation resource capacity from renewable generation by 2030. The cost to implement SaskPower's preferred generation supply plan alone will require an 8.5% rate increase over the next five years solely due to capital related costs.

The Panel recognizes the level of concern being expressed by SaskPower's customers and reducing the proposed rate will help mitigate some of those concerns. However, reducing the proposed rate should not be at the expense of pushing SaskPower's debt ratio beyond its target or making its long-term ROE goal of 8.5% unachievable. The Panel's proposed rate will maintain the corporation's debt ratio at the higher end of its target range, but with the recommended rate increase and if SaskPower's 2018-19 financial forecasts materialize, all the financial metrics move positively toward the target goal. The long-term ROE goal may not be achieved with this application, but the corporation will be on track to reach that goal in near future applications. As well, the provincial government can place additional restraint measures on the corporation if it desires to reach its ROE target sooner. If the Panel were to decrease the proposed rates any further, then both SaskPower's debt ratio and ROE targets would be moving in an unfavourable direction.

There are other measures that SaskPower can take to meet its revenue requirements with the revised rates. Although OM&A spending per customer has been limited to half the rate of inflation, SaskPower can continue to focus on limited growth in this area. The capital spending program should be prioritized in such a manner that discretionary items are made a long-term priority in order to reduce pressure on rates.

The other major factor that can impact SaskPower's revenue requirement is the depreciation expense. As previously noted, given the magnitude of the increase in depreciation expense, an external review of SaskPower's depreciation expense is necessary to identify areas where SaskPower's service lives could be expanded.

The Integrated Resource Plan addresses SaskPower's objective of reducing carbon emissions by 40% from 2005 levels by 2030. This plan also includes a target of having 50% of its installed generation resource capacity from renewable generation by that date. A substantial capital investment is required over the next 10 to 20 years to implement this plan, which will continue to apply upward pressure to rates. The Panel has heard that numerous stakeholders want to have a better understanding of this plan and perhaps be an integral part of the resource plan. With the implication for rates over the longer term, the Panel believes it is a reasonable request for these stakeholders to be engaged in this process and to have meaningful input.

In terms of rate balancing, the Panel recognizes that the current application may have required a more simplified approach to rate design, but there are some aspects of the recent Cost of Service Study that should be immediately implemented. In its next application, SaskPower should start rebalancing rates between demand charges, energy and customer charges based on the average unit costs calculated in the study. SaskPower should also consider the impact to the rate base due to net metering programs and provide a copy of this review to the Panel.

On a final note, the Panel's consultant made a number of technical recommendations throughout its report that should be considered by SaskPower. A summary of the consultant's recommendations can be found on pages 17-1 to 17-3.

Risks and Considerations

The Panel has considered a number of potential risks and considerations in making these recommendations but the following should not be considered a complete analysis of all the risks that SaskPower is subjected. These risks may appear at a future date and have an impact on the ratepayer, the corporation and the public. All stakeholders should be aware of these risks and considerations as they may have an impact on future rate applications.

Main Financial Considerations

SaskPower identified the main financial risks it faces regarding the requested rate increases, domestic electricity sales, natural gas prices and hydro levels. Some of these risks include:

- A 1% decrease in the requested rate increase would reduce net income by \$24 to \$25 million annually.
- A \$1/GJ increase in natural gas prices would reduce net income by \$24 to \$32 million.
- A 10% decrease in hydro generation would reduce net income by approximately \$13 million.
- A 1% increase in short-term interest rates would reduce net income by approximately \$11 to \$12 million.
- A \$100 million reduction in capital spending would increase net income by \$7 million.⁸⁸

Carbon Tax

The federal government announced a new carbon tax that would set a minimum price on carbon of \$50/tonne by 2022. The floor price will begin at \$10/tonne in 2018, and increase by \$10 a year for the next four years. SaskPower indicated that the implementation of the federal government carbon pricing backstop program in July 2018 would reduce net income by an estimated \$139 million in 2018-19. However, SaskPower also noted that the implementation of a carbon tax is not part of this rate application. The Provincial government has given no indication that it will comply with any form of Federal carbon tax, including the Federal Carbon Backstop proposal as of the date of this report. The Federal Carbon Pricing Backstop's assumed implementation date of July 2018 is uncertain. The impact to net income is also unknown and could fluctuate significantly if any of the carbon tax revenue was reinvested in SaskPower to help it achieve its emissions targets.⁸⁹

SaskPower is currently the province's largest greenhouse gas emitter and if a tax is implemented, it will have an impact on rates which at \$10/tonne is estimated to increase rates approximately 7% annually until it reaches the proposed maximum without mediation measures.

Provincial Economic Outlook

SaskPower's finances are heavily influenced by the overall provincial economy. Based on Conference Board of Canada forecasts, Saskatchewan economic growth and recovery is expected in 2017 and 2018. Rebounding prices for minerals, commodities, agricultural products, and oil have led to a better economic outlook in the province, which in turn, increases demand for energy and increases revenues. If economic growth continues to improve, then this will impact SaskPower's revenue. However, if the economic outlook falters and demand for energy decreases, SaskPower will see a negative impact to its revenues.

⁸⁸ InterGroup Consultants Report, page 7-40

⁸⁹ 2nd round information request SRRP Q5

Weather

Weather is a constant risk for SaskPower and the corporation must prepare for the worst possible scenarios. If weather is colder than normal, then its revenues will be higher and customer bills will increase since more power will be consumed. If weather is warmer than normal, customers will consume less power, resulting in lower bills and lower revenue for the corporation. It should also be noted that a colder than normal winter may result in an increase in natural gas prices and increase operating costs for SaskPower. The reverse may occur as a result of a warmer than normal winter.

Changing Regulatory Environment

SaskPower continues to operate in a changing regulatory environment that is expected to apply pressure to rates. In addition to the federal carbon tax, the province recently released its climate change strategy (Prairie Resilience: A Made-in-Saskatchewan Climate Change Strategy), which reaffirms SaskPower's commitment to achieve a 50 per cent electricity capacity from renewable resources and reduce overall greenhouse gas emissions by 40% by 2030. Provincial regulations will also be introduced for electrical generation that will help facilitate an equivalency agreement with the federal government covering coal-fired generation in the province.⁹⁰

Collective Agreements

SaskPower's employees are subject to one of two collective labour agreements and both agreements expired on December 31, 2016.⁹¹ There is risk that these collective agreement rates may be higher than SaskPower is forecasting, which would apply pressure to rates.

⁹⁰ <http://www.saskatchewan.ca/government/news-and-media/2017/december/04/climate-change-strategy>, Dec. 13, 2017.

⁹¹ 1st round information request, SRRP Q76

The Impacts of SaskPower's Proposed Rates

Based upon its terms of reference, the Panel must balance the interests of SaskPower, its customer, and the public. The Panel recognizes the need for SaskPower to increase rates to meet its revenue requirements. At the same time the Panel has heard from customers who have expressed concern that continued rate increases can have a substantial impact on individuals, families and businesses. In making its recommendations, the Panel has considered the current needs of customers and the utility along with possible future outcomes.

SaskPower Monthly Bill with Rate Increase Before Taxes⁹²

Customer Class	SaskPower Monthly Bill in CAD\$		
	April 1, 2017 Monthly Bill	March 1, 2018 (5% Increase) Monthly Bill	March 1, 2018 (5% Increase) Bill Increase
Urban Residential 625 kWh	\$107.89	\$113.37	\$5.48
Urban Small Commercial 14 kW & 2,000 kWh	\$294.07	\$309.00	\$14.93
Urban Standard Commercial 100 kW & 25,000 kWh	\$3,525.30	\$3,704.32	\$179.02
Large Industrial 10,000 kW & 5,760,000 kWh	\$431,402.73	\$453,329.87	\$21,927.14

Should the Panel's recommendation be accepted, monthly bill increases would be reduced to approximately \$ 3.82 for Urban Residential; \$ 10.45 Urban Small Commercial; \$ 125.30 Urban Standard Commercial and \$ 15,348.90 Large Industrial customers.

Impact on the Crown Corporation – SaskPower

The Panel's recommendations to the Minister and SaskPower will assist the company to continue to provide safe and reliable power to Saskatchewan people. The recommendations in this report encourage SaskPower to complete an external review of its depreciation rates, to provide a public engagement process for its Integrated Resource Plan, and to address rate rebalancing in its next application. These measures will increase transparency and foster greater understanding and collaboration with key stakeholders and the public in future decision making.

If the Panel's recommended rates are approved, then the following forecasted impacts on SaskPower, as determined by our consultant, would be:

- net income will increase from \$ 139.1 million in 2017-18 to \$ 176.35 million in 2018-19;
- debt ratio will be reduced from 75.8% in 2017-18 to 75.5% in 2018-19
- and ROE will increase from 6.4% in 2017-18 to 7.2% in 2018-19

Impacts on the Customer

The Panel notes that the bill increases are material for all customer classes and the ability of each type of customer (residential, commercial, industrial) to adapt or respond to these bill increases is different. Some customers will be able to absorb the increases, while others will reduce their consumption to offset the rate increases. A recent report prepared for the Manitoba Public Utilities Board provided estimates that short-term electricity price elasticities are on the order of -0.1, which means that for every 10% increase in prices, customers will respond by decreasing consumption by 1%. In the longer-term, price elasticities

⁹² Calculated based on Appendix C of 2018 Rate Application, page 68-90

of -0.35 for residential customers and -0.50 for industrial customers were cited. This indicates that in the longer-term, industrial customer would be expected to reduce their loads to a greater degree than residential and commercial customers.⁹³ If the Panel's recommended rates are accepted, then the increases would be limited to 70% of the proposed rates.

Impact on the Public

The public has shown an extraordinary interest in SaskPower, the requested rate increase, competitiveness, and the future of power generation in Saskatchewan. All citizens of the province are shareholders in SaskPower and have a vested interest in its operations. The public has a right to expect that as a Crown corporation, SaskPower will deliver safe, reliable electricity in a cost-effective and sustainable manner. They want to understand and participate in planning for the future power generation needs of the province. These recommendations will ensure that the province's current and future energy needs will be met.

⁹³ Testimony of Dr. Adonis Yatchew before the Manitoba Hydro Public Utilities Board with respect to Manitoba Hydro's 2017/18 and 2018/19 General Rate Application. November 2017

Role of the Saskatchewan Rate Review Panel

Mandate

Through Order-in-Council dated December 5, 2012, and amended on December 31, 2014; January 13, 2015; and December 16, 2015, the Minister of Crown Investments Corporation (the Minister) appointed a Ministerial Advisory Committee known as the Saskatchewan Rate Review Panel (the Panel), with the mandate that it shall:

... conduct a review and provide an opinion of the fairness and reasonableness of proposed Crown corporation rate changes, referred to the Panel by the Minister of Crown Investments Corporation; and incorporate as part of its mandate specific terms of reference for particular Crown corporation rate change reviews that may be attached by further Minister's Order.

Whether in the original Order-in-Council establishing the Panel (437/2000 dated July 27, 2000), or in the Terms of Reference for particular reviews, the Panel has always been instructed to consider: "...the interests of the customer, the Crown corporation, and the public."

The mandate of the Panel extends to three Crown corporations in Saskatchewan – SaskEnergy, SaskPower and SGI's Saskatchewan Auto Fund. Serving as an advisory body to the Minister Responsible for Crown Investments Corporation, the Panel provides independent advice on rate proposals from the above-noted corporations. The final decision about these proposals continues to rest with the Saskatchewan government.

Members of the Panel

The following members have been appointed to serve on the Saskatchewan Rate Review Panel:

Chair	Albert Johnston, Saskatoon
Vice-Chair	Delaine Barber, Weyburn
Members	Burl Adams, Kelvington; Daryl Hasein, Biggar; Duane Hayunga, Prince Albert; Steve Kemp, Regina; Lyle Walsh, Yorkton.

Panel's Terms of Reference

The Minister issued an Order on August 15, 2017 establishing the Terms of Reference guiding the Panel's review of SaskPower's 2018 Rate Application. The Minister's Order and the Terms of Reference for this application identified several factors that the Panel is to consider in conducting its review, as well as various parameters that are outside the Panel's purview.

The parameters that are outside the Panel's mandate include:

- The budgeted capital allocation, the rate base, and established corporate policies over the period 2017-18 and 2018-19 inclusive.
- The targeted long-term Return on Equity of 8.5%.
- The existing service levels.
- Any existing supply contract.
- And the revenue to revenue requirement ratio target range of 0.95 to 1.05.

The Minister's Order for this review called for the Panel to complete its work no later than January 11, 2018.

Review Process for the Application

Consultant

InterGroup Consultants Ltd. (the consultant) was engaged by the Panel as an independent technical adviser to review the fairness and reasonableness of SaskPower's proposed rate change, and to provide an independent report including recommendations that would be consistent with the Terms of Reference for the Panel's review of the application.

The consulting team was led by Andrew McLaren, a principal at InterGroup Consultants Ltd. in Winnipeg. He has more than a decade experience in utility regulation and socio-economic effects assessment.

At the direction of the Panel, the consultant conducted a detailed analysis of the application. The Panel, with the assistance of the consultant, asked two rounds of information requests and supplementary questions (all posted on the Panel's website), and had individual discussions with SaskPower staff to clarify specific points. The consultant reviewed public comments and industry submissions to the Panel, and participated in several meetings and conference calls with the Panel during the review process, before presenting its final report to the Panel on November 24, 2017.

Public Consultations

In reviewing SaskPower's Application, the Panel invited public comment. The public consultation process included:

- Submissions received by mail;
- Online messages received through the Panel's website;
- Messages received directly through the Panel's email address;
- Messages received through the Panel's toll-free voice mailbox; and
- Messages posted to the Panel's Facebook and Twitter accounts.

All methods for public input were advertised in the two major daily newspapers, and information was disseminated through Facebook and Twitter. SaskPower's application received news coverage immediately after it was announced. Copies of the application were available to the public at its offices and on the Panel's website. Public Meetings were held in Regina on October 3 and in Saskatoon on October 16. Members of the public were also invited to view the meeting online and type their questions from their computer, tablet or smartphone during the live broadcast.

The Panel received 41 email responses, 34 social media comments (these comments were made on a single Facebook discussion thread), 21 from the on-line submission form, and one voice mail.

Stakeholders were provided the opportunity to ask questions of SaskPower and submit written comments to the Panel. Written submissions were received from ERCO Worldwide, the Saskatchewan Industrial Energy Consumers Association (SIECA) the Canadian Association of Petroleum Producers and the Explorers and Producers Association of Canada (joint submission), the Saskatchewan Mining Association, Crescent Point Energy, Husky Energy, and Meadow Lake Mechanical Pulp (the last three also made presentations to the Panel). A summary of these submissions can be found in the consultant's report posted on the Panel's website.

All submissions and a transcript of the public meetings are available on the Panel's website at www.saskratereview.ca.

In Appreciation

The Panel thanks SaskPower for the timely and helpful assistance it provided throughout this application.

The Panel thanks Andrew McLaren and InterGroup Consultants Ltd. for their thorough analysis of the application.

The Panel thanks Gerry Forrest, our general consultant, for his ongoing assistance in the work of the Panel.

The Panel thanks technical writer Pat Rediger for his assistance in preparing this report.

Finally, the Panel wishes to acknowledge the members of the public who participated in the review process. All contributions were received and evaluated by the Panel during its decision-making process.

For More Information

For more information on this review, please visit the Saskatchewan Rate Review's website at www.saskratereview.ca. The site contains SaskPower's 2018 Rate Application, the Mid-Application Update, SaskPower's public presentation on the application, the Panel's terms of reference, information requests to SaskPower and the responses, video of the public meeting, public submissions and comments, the technical consultant's report, SaskPower's cost of service study, and the Panel's media releases.

REVIEW OF SASKPOWER'S 2018 RATE APPLICATION

Submitted to:

SASKATCHEWAN RATE REVIEW PANEL

Prepared by:

INTERGROUP CONSULTANTS LTD.

500-280 Smith Street
Winnipeg, MB R3C 1K2

November 2017



InterGroup
CONSULTANTS

EXECUTIVE SUMMARY

InterGroup Consultants Ltd was retained by the Saskatchewan Rate Review Panel to provide an independent review of SaskPower's application for rates effective March 1, 2018, pursuant to the Minister's order for this review. In conducting this review, the Consultant considered the Application and Mid-Application update, as well as SaskPower's responses to information requests and submissions from the public and stakeholders.

SaskPower's Application requests an average increase in rates of 5% effective March 1, 2018. This rate increase is forecast to result in operating net incomes of \$159.9 million in 2017/18 and \$209.7 million in 2018/19. The rate increase is also forecast to achieve a return on equity (ROE) of 8.5% in 2018/19, consistent with SaskPower's long-term target ROE.

SaskPower filed a Mid-Application Update in October 2017 which revised the expected 2017/18 operating net income from the initial application forecast of \$159.9 million to \$146.3 million, a reduction of \$13.6 million. SaskPower's forecast 2018/19 net operating income increased from \$209.7 million to \$211.3 million. SaskPower's 2018/19 ROE is still 8.5% for 2018/19. SaskPower did not change its requested rates as a result of the mid-application update.

Based on the review of the material available to the Consultant, the main drivers of the increases in revenue requirement include the following:

- Increased operating income (\$113.6 million increase in 2017/18 over 2016/17 actuals and a further \$49.8 million in 2018/19). SaskPower indicates the increased operating income is required to achieve the long-term target ROE of 8.5% in 2018/19 and to prevent SaskPower's debt to equity ratio from increasing beyond the upper end of the target debt ratio range of 60-75%.
- Increased depreciation charges (\$48.5 million increase in 2017/18 over 2016/17 and a further \$29.7 million increase in 2018/19 over 2017/18). Depreciation charges are forecast to increase both as a result of continued capital spending, and the accelerated retirement of coal generation facilities.
- Fuel and purchase power expense is forecast to decrease in 2017/18 compared to 2016/17 by \$16.1 million (largely due to lower natural gas prices and higher than average water levels leading to increased hydro generation) before increasing by \$36.3 million in 2018/19 due to coal price increases and a forecast return to average water levels (net increase of \$20.2 million over 2016/17 actuals).

The Consultant notes that SaskPower has been attentive to the Panel's previous recommendations to constrain operations, maintenance and administration expenses (OM&A). The current application limits the increase in OM&A to less than 1% per year on a per customer basis. However the Consultant notes a concern with respect to the increases in depreciation expense in recent years. SaskPower last completed an external depreciation study in 2010. The Consultant recommends the Panel encourage SaskPower to conduct an external review of its depreciation rates to verify they remain reasonable for ratemaking purposes.

SaskPower is operating in an environment of considerable uncertainty with respect to the potential effects of federal greenhouse gas legislation and regulation on its operations. SaskPower is in the process

of working with the province of Saskatchewan and the federal government to negotiate an equivalency agreement that should provide clarity on how SaskPower will contribute to meeting provincial and federal emissions targets. SaskPower anticipates having an equivalency agreement completed by mid-2018, at which time there should be more certainty. However, in the event there is no equivalency agreement in place and SaskPower is subject to a federal carbon tax backstop, it could reduce SaskPower's net income in 2018/19 by \$140 million compared to the current business plan. The Consultant acknowledges that SaskPower is working to obtain the equivalency agreement and reduce the uncertainty.

SaskPower's 10-year capital plan includes approximately \$10.1 billion of capital spending for the period from 2017/18 through 2026/27. Approximately 54% of the forecast capital spending in this period relates to growth and compliance spending, a substantial portion of which relates to implementing SaskPower's preferred integrated resource plan. The integrated resource plan addresses SaskPower's objective of reducing carbon emissions by 40% from 2005 levels by the year 2030. SaskPower's integrated resource plan also includes a target of having 50% of its installed generation resource capacity from renewable generation by 2030. Implementing SaskPower's preferred resource plan would require an 8.5% rate increase over the next five years solely due to capital related costs.

The Consultant and the Panel heard from many stakeholders that the pace and magnitude of recent electricity rate increases is being felt across all customer classes. The recent rate increases were also noted to have made SaskPower's rates and customer bills less competitive relative to other thermal generation utilities in Canada. The Consultant has noted these effects on competitiveness in this report.

While the current application only requests approval for rates for 2018, the Consultant feels strongly that ratepayers should have access to the information to understand the implications of the capital program and the integrated resource plan for future rate increases. SaskPower's rates have increased faster than inflation for the last ten years and this trend seems likely to continue for some time. On that basis, the Consultant has made several recommendations for the Panel to consider to allow for an informed public discussion on the future direction of SaskPower's cost drivers and rates.

SaskPower completed an external third party review of its cost of service study in 2017. The Consultant reviewed the report provided by the external consultant and SaskPower's responses to the consultant's report and comments from stakeholders. We provided advice to the Panel that SaskPower's recommended changes to its cost of service study methods appear reasonable and consistent with Canadian utility practice.

SaskPower is proposing to implement its rate increase on an equal percentage basis across all customer classes with the exception of a small number of power class customers whose rates are determined by a contract with SaskPower. We note for the Panel's consideration that this rate proposal does not address differences in revenue to revenue requirement ratios (a measure of the degree to which rates for individual customer classes are over- or under-recovering the costs to serve them). We recommend that the Panel encourage SaskPower to undertake rate rebalancing in the near future to address differences in revenue to revenue requirement ratios between classes and also between unit costs of different components of the rate structure (e.g. monthly customer charges, energy charges and demand charges). Finally, the Consultant recommends that the Panel encourage SaskPower to address the issue that certain current industrial contracts result in those customers having lower than average rate increases despite having rates that are lower than the full cost to serve them.

In summary, the Consultant notes that many stakeholders expressed concern and interest in better understanding SaskPower's integrated resource plan and the likely effect on rates over the next five to ten years. While we recognize this is beyond the mandate of the Panel, we believe a public dialogue involving stakeholders and the Panel is necessary. On that basis the Consultant makes recommendations to the Panel on the importance of substantive public review and engagement on SaskPower's capital spending and resource plans.

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1.0 INTRODUCTION

1.1 TERMS OF REFERENCE AND CONSULTANT'S MANDATE

The Saskatchewan Rate Review Panel ("SRRP" or "the Panel") is a Ministerial Advisory Committee established by a Minister's Order dated December 16, 2015, pursuant to Section 15 of *The Executive Government Administration Act*. The Panel's general mandate and operational terms of reference are specified in the Minister's Order. Specifically with respect to this Application, the Panel is charged with providing an opinion on the fairness and reasonableness of proposed rate changes while giving consideration to 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 rate change on the competitiveness of the Crown Corporation related to other jurisdictions.

On August 15, 2017, the Minister of Crown Investments issued Terms of Reference to the Panel for SaskPower's 2018 Rate Application. The Panel was requested to conduct a review of SaskPower's request for increases to its electricity rates to be effective on March 1, 2018.

In conducting its review of the proposed electricity rate changes, the Terms of Reference require the Panel to consider:

- A) The reasonableness of the proposed changes to the rates in the context of SaskPower's forecasted cost of service over the period 2017/18 and 2018/19 inclusive of:
 - i. anticipated costs for fuel;
 - ii. anticipated hydro facilities availability;
 - iii. load forecast;
 - iv. planned maintenance programs;
 - v. operating, administrative and maintenance expenses;
 - vi. depreciation and finance expenses; and
 - vii. corporate capital tax.
- B) The revenue requirement resulting from the cost of service.
- C) The reasonableness of the current rate structure and all components (basic charge, energy charge and demand charge) comprising the rate.
- D) The future impact of the proposed rate change on different customer groups.

- E) The Panel shall consider the following parameters as given:
- i. the budgeted capital allocation, the rate base, and established corporate policies over the period 2017/18 to 2018/19 inclusive;
 - ii. the long-term return on equity (ROE) target of 8.5%;
 - iii. the existing service levels;
 - iv. any existing supply contracts; and
 - v. the revenue to revenue requirement ratio target range of 0.95 to 1.05.

A copy of the Minister's Order is included in Appendix A to this report.

The Panel retained InterGroup Consultants Ltd. ("the Consultant") to assist in the review of SaskPower's application and prepare an independent report summarizing observations and recommendation. This report summarizes the Consultant's analysis of the application; observations on the reasonableness of forecasts, revenue requirement, 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:

- SaskPower's 2018 rate change application for proposed rates effective March 1, 2018;
- Responses to two rounds of information requests to SaskPower;
- Transcripts and videos from public meetings 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: Review Timeline

Review Process Activity	Date
The Panel receives application from SaskPower.	August 15, 2017
The Consultant participated in SaskPower's overview presentation to the Panel and met with the Panel to discuss preliminary issues and potential concerns.	August 16, 2017
The Consultant participated in a conference call with the Panel to review initial issues and first round information requests.	September 5, 2017
The Consultant provided first round information requests to SaskPower on behalf of the Panel.	September 5, 2017
SaskPower filed responses to first round information requests.	September 20, 2017
The Consultant and Panel Chair attended a workshop with SaskPower to review specific topics in the application and first round information request responses.	September 26, 2017
The Consultant and Panel met to review issues list and 1 st round information request responses.	September 27, 2017
The Panel hosted a public meeting in Regina.	October 3, 2017
The Consultant and Panel participated in a conference call to discuss 2 nd round information requests.	October 4, 2017
The Consultant provided second round information requests to SaskPower on behalf of the Panel.	October 6, 2017
The Panel hosted a public meeting in Saskatoon.	October 16, 2017
SaskPower filed responses to second round information requests.	October 20, 2017
SaskPower filed its Mid-Application Update with the Panel.	October 20, 2017
The Consultant and Panel met to review second 2 nd information requests, the Mid-Application Update and initial findings and recommendations.	October 26, 2017
The Panel received presentations from stakeholders	October 30, 2017
The Consultant participated in a meeting with the Panel to discuss the initial draft report.	November 9, 2017
The Consultant submitted the draft report to the Panel.	November 16, 2017
The Consultant submitted the abridged draft report to SaskPower	November 16, 2017
SaskPower provided comments on the abridged draft report.	November 20, 2017
The Consultant met with the Panel to review the draft report.	November 21, 2017
The Consultant submitted the final report to the Panel.	November 24, 2017
The Panel expects to present its report to the Minister.	January 10, 2018

1.3 MINIMUM FILING REQUIREMENTS

SaskPower was directed by the Crown Investments Corporation to provide an application that met a set of minimum filing requirements. SaskPower provided the Consultant and the Panel with materials consistent with the minimum filing requirements.

1.3.1 Consultant Observations

The Consultant finds that the materials provided by SaskPower were consistent with the minimum filing requirements. A number of reports were provided to the Consultant initially on a confidential basis. The Consultant accepts that there are reasonable requirements for SaskPower to maintain some information as confidential. However, in the Consultant's view, the review process would benefit from having public versions of certain key documents available. In particular, the Consultant believes that public versions, omitting any commercially sensitive or customer specific information, of SaskPower's business plan and integrated resource plan would be valuable to the public review process. The Consultant notes that SaskPower did provide substantive additional public information during the review process.

1.3.2 Consultant Recommendations

The Consultant recommends that the Panel encourage SaskPower to prepare public versions of the business plan and integrated resource plan as part of future rate applications.

2.0 APPLICATION OVERVIEW AND CONTEXT

2.1 REQUESTED RATES

SaskPower is applying for a 5% rate increase effective March 1, 2018. SaskPower's proposed rates reflect a 5.1% increase to all elements of the rate structure for all customer classes with two exceptions that affect a very small number of customers:

- Some Power Contract rate customers have different escalation clauses that govern the rate increases under the contracts.
- The maximum demand used for billing for some commercial customers with time-of-day metering will increase from 80% to 85%.¹

SaskPower's application is based on its July 2017 business plan update.² Table 2-1 compares the 2016/17 forecast and actual revenues and revenue requirement to the 2017/18 and 2018/19 forecasts.

Table 2-1: Revenue and Revenue Requirement Comparison (\$ millions)³

	2016/17				2017/18			2018/19		
	Actuals	Forecast	actuals change over forecast		Forecast	change over 2016/17 actuals		Forecast	change over 2017/18 forecast	
			\$	%		\$	%		\$	%
Revenues										
Domestic Electricity Sales	2,276.7	2,326.0	(49.3)	(2.1%)	2,428.7	152.0	6.7%	2,566.6	137.9	5.7%
Export Sales	5.4	8.8	(3.4)	(38.6%)	9.2	3.8	70.4%	14.3	5.1	55.4%
Net sales from trading	(2.8)	1.2	(4.0)	(333.3%)	0.5	3.3	(117.9%)	0.5	0.0	0.0%
Other	123.2	113.5	9.7	8.5%	117.7	(5.5)	(4.5%)	116.2	(1.5)	(1.3%)
Sub-total Revenues	\$ 2,402.5	\$ 2,449.5	(\$ 47.0)	(1.9%)	\$ 2,556.1	\$ 153.6	6.4%	\$ 2,697.6	\$ 141.5	5.5%
Expenses										
Fuel and purchased power	661.4	675.9	(14.5)	(2.1%)	645.3	(16.1)	(2.4%)	681.6	36.3	5.6%
OM&A	674.8	690.5	(15.7)	(2.3%)	689.1	14.3	2.1%	703.2	14.1	2.0%
Depreciation	493.8	494.1	(0.3)	(0.1%)	542.3	48.5	9.8%	572.0	29.7	5.5%
Finance Charges	416.0	412.1	3.9	0.9%	417.0	1.0	0.2%	423.7	6.7	1.6%
Taxes	72.5	70.8	1.7	2.4%	72.5	0.0	0.0%	77.4	4.9	6.8%
Other	37.7	22.8	14.9	65.4%	30.0	(7.7)	(20.4%)	30.0	0.0	0.0%
Sub-total Expenses	\$ 2,356.2	\$ 2,366.2	(\$ 10.0)	(0.4%)	\$ 2,396.2	\$ 40.0	1.7%	\$ 2,487.9	\$ 91.7	3.8%
Operating Income	\$ 46.3	\$ 83.3	(\$ 37.0)	(44.4%)	\$ 159.9	\$ 113.6	245.4%	\$ 209.7	\$ 49.8	31.1%
Total Revenue Requirement	\$ 2,402.5	\$ 2,449.5	(\$ 47.0)	(1.9%)	\$ 2,556.1	\$ 153.6	6.4%	\$ 2,697.6	\$ 141.5	5.5%

With respect to 2016/17 forecasts and actuals, the following is noted:

- Overall actual 2016/17 revenues were approximately \$47 million lower than forecasts. Domestic sales, export sales and net sales from trading were all lower than forecasts at the time of the mid-application update. Domestic revenues were lower in part due to the Panel recommending a

¹ 2018 Rate Application, page 47.

² 1st round information request SRRP Q1.

³ Summarized from page 26 of the 2018 Rate Application; 2016/17 forecast figures from the 2016 and 2017 Mid-Application Update.

lower rate increase effective January 1, 2017 than requested by SaskPower.⁴ These lower revenues were partially offset by somewhat higher than forecast other revenues.

- Overall expenses were lower in 2016/17 by \$10.0 million compared to forecasts. Decreases in fuel and purchased power, OM&A and depreciation all contributed to the lower total expenses. These decreases were partially offset by increases in finance charges, taxes and other expenses.
- As a result of these variances, actual 2016/17 operating income was \$37.0 million lower than forecast at the time of the mid-application update to the 2016 and 2017 Rate Application.

The 2017/18 and 2018/19 forecasts indicate the following changes compared to 2016/17 actuals:

- Increased revenues of \$153.6 million in 2017/18 and a further \$141.5 million in 2018/19. Increased revenues are primarily a result of higher forecast domestic sales revenues reflecting both the proposed rate increases and load growth.
- A small decrease in fuel and purchased power expense in 2017/18 followed by an increase of \$36.3 million in 2018/19.
- Increased operations and maintenance expense of \$14.3 million in 2017/18 and a further \$14.1 million in 2018/19.
- Increased depreciation expense of \$48.5 million in 2017/18 and a further \$29.7 million in 2018/19.
- Increased finance charges of \$1.0 million in 2017/18 followed by a further increase of \$6.7 million in 2018/19.
- Operating income higher by \$113.6 million in 2017/18 and a further \$49.8 million in 2018/19.

Further discussion on the elements of the revenue forecast and the revenue requirements forecasts is provided in Sections 6 and 7 of this report.

2.2 PROVINCIAL ECONOMIC CONTEXT

This section provides an overview of actual and forecast changes to certain economic indicators for Saskatchewan. Actual information for 2012 through 2016 is taken from Statistics Canada. Forecast information is taken from a Conference Board of Canada outlook report. Table 2-2 summarizes the key indicator information.

Saskatchewan accounts for 36% of Canada's primary energy production.⁵ The province is one of the only places in the world that produces crude oil, natural gas, coal, uranium, biofuels, geothermal, wind and hydro power. Saskatchewan has the largest potash industry in the world, accounting for about one third

⁴ The Panel recommended that SaskPower's requested 5% rate increase effective January 1, 2017 be reduced to 3.5%. Saskatchewan Rate Review Panel Report to the Minister Responsible for Crown Investments Corporation of Saskatchewan. Dated November 7, 2016.

⁵ Government of Saskatchewan, Economic Overview Brochure 2017, page 9, <http://publications.gov.sk.ca/documents/310/93841-2017-09-21%20ECON%20Overview%20Brochure%20-electronic%20-%20FINAL.pdf>

of annual global production and hosting nearly half of the world's known resources.⁶ Some of the world's largest high-grade uranium deposits are located in northern Saskatchewan, which accounted for just over 22% of the world's primary uranium production in 2016.⁷ However, in November 2017 Cameco Corporation announced it would temporarily shut down production at two of its sites, McArthur River mining and Key Lake milling, in January 2018 due to uranium price weakness.⁸

The province has some of the most productive land in the world, with nearly 40% of Canada's farmable land. Saskatchewan supplies almost a third of the world's total exported durum wheat and is the world's largest exporter of lentils, dried peas, mustard, flaxseed and canola. The province has a strong agri-food sector and is Canada's largest exporter of agri-food products with sales reaching \$14.4 billion in 2016.⁹ The October 2017 throne speech noted that Saskatchewan exported \$14.4 billion in agricultural products in 2016 and over 100,000 jobs depend on export.¹⁰

Table 2-2: Saskatchewan Economic Indicators

Indicator	Actuals						Forecast	
	2011	2012	2013	2014	2015	2016	2017	2018
GDP at Market Prices (\$ millions) ¹	74,821	77,957	83,159	84,201	79,415	76,654	81,436	86,188
% Change from prior year		4.2%	6.7%	1.3%	(5.7%)	(3.5%)	6.2%	5.8%
Employment (000s) ²	536	549	565	571	574	569	572	578
% Change from prior year		2.4%	2.9%	1.1%	0.5%	(0.9%)	0.5%	1.0%
Employment Rate (%) ³	66.0	66.4	67.3	67.0	66.6	65.4	65.2	65.2
% Change from prior year		0.6%	1.4%	(0.4%)	(0.6%)	(1.8%)	(0.3%)	0.0%
Unemployment Rate (%) ⁴	4.9	4.7	4.1	3.8	5.0	6.3	6.2	6.0
% Change from prior year		(4.1%)	(12.8%)	(7.3%)	31.6%	26.0%	(1.6%)	(3.2%)
CPI (%) ⁵	2.8	1.6	1.5	2.4	1.6	1.1	1.6	1.8

Sources:

1. Gross domestic product, expenditure-based, by province and territory. Statistics Canada, CANSIM, Table 384-0038 (for data from 2011 to 2015); Conference Board of Canada. Provincial Outlook: Executive Summary, Spring 2017 (for data from 2016 to 2018).
2. Labour force survey estimates (LFS), by sex and age group, seasonally adjusted and unadjusted. Statistics Canada, CANSIM, Table 282-0087 (for data from 2011 to 2016); Conference Board of Canada. Provincial Outlook: Executive Summary, Spring 2017 (for data in 2017 and 2018).
3. Labour force survey estimates (LFS), by sex and age group, seasonally adjusted and unadjusted. Statistics Canada, CANSIM, Table 282-0087 (for data from 2011 to 2016); Conference Board of Canada. Provincial Outlook: Executive Summary, Spring 2017 (for data in 2017 and 2018).
4. Labour force survey estimates (LFS), by sex and age group, seasonally adjusted and unadjusted. Statistics Canada, CANSIM, Table 282-0087 (for data from 2011 to 2016); Conference Board of Canada. Provincial Outlook: Executive Summary, Spring 2017 (for data in 2017 and 2018).
5. CPI. Statistics Canada, CANSIM, Table 326-0021, Consumer Price Index (CPI) (for data from 2011 to 2016); Saskatchewan Ministry of Finance, Financial Highlights of 2017-18 Budget (for data in 2017 and 2018).

Definitions:

1. Gross domestic product - is the total value of goods and services produced in the economic territory of a country or region within a given time period.
2. Employment - consists of those people who did any work at a job or business and those who had a job but were not at work for various reasons.
3. Employment rate - is the percentage of the labor force that is employed.
4. Unemployment rate - accounts for people who are on temporary lay off, were without work (but were available to work) or who had a job lined up in the near future.
5. The Consumer Price Index (CPI) is based on the fixed-basket concept.

⁶ Government of Saskatchewan, Economic Overview Brochure 2017, page 10, <http://publications.gov.sk.ca/documents/310/93841-2017-09-21%20ECON%20Overview%20Brochure%20-electronic%20-%20FINAL.pdf>

⁷ Government of Saskatchewan, Economic Overview Brochure 2017, page 10, <http://publications.gov.sk.ca/documents/310/93841-2017-09-21%20ECON%20Overview%20Brochure%20-electronic%20-%20FINAL.pdf>

⁸ From Cameco Corp. website: <https://www.cameco.com/media/news/cameco-to-suspend-production-from-mcarthur-river-and-key-lake-operations-and-reduce-its-dividend>

⁹ Government of Saskatchewan, Economic Overview Brochure 2017, page 7, <http://publications.gov.sk.ca/documents/310/93841-2017-09-21%20ECON%20Overview%20Brochure%20-electronic%20-%20FINAL.pdf>

¹⁰ Speech from the Throne 2017, <http://www.saskatchewan.ca/~media/news%20release%20backgrounders/2017/oct/throne%20speech%202017%20english.pdf?a=en>

Gross Domestic Product¹¹

From 2012 to 2014, Saskatchewan's economy experienced annual increases in Gross Domestic Product (GDP) in the range of 1% to 7%. In 2015 and 2016, GDP declined compared to prior years. The Saskatchewan Bureau of Statistics indicates the main reasons for the downturn were changes in non-renewable resource markets.¹² Oil prices declined dramatically in the second half of 2014 and remained low throughout 2015 and 2016. There were also significant declines in potash prices at the same time. These losses were partially offset by growth in the agriculture sector where total crop production was at a near-record level and the agriculture industry experienced benefits from lower oil and potash prices. The Conference Board of Canada anticipates increases in provincial GDP of approximately 6% in each of 2017 and 2018.

Employment¹³

Saskatchewan employment numbers increased by 0.5% to 3% annually between 2012 and 2015. In 2016 employment decreased by about 1% compared to the previous year. The Conference Board of Canada is forecasting that Saskatchewan will show positive employment growth in the medium term, adding 4,800 jobs per year on average between 2017 and 2021. The Conference Board of Canada forecasts employment to be in the range of 572,000 to 578,000 in 2017 and 2018 respectively.

Employment Rate

The employment rate measures the percentage of the labour force that is employed. The employment rate increased in 2012 and 2013 but then declined from 2014 through 2016. The Conference Board of Canada is forecasting a small decrease in the employment rate in 2017 but anticipates the employment rate to remain unchanged in 2018.

Unemployment Rate

The Saskatchewan unemployment rate declined year over year from 2012 to 2014 before increasing in 2015 and 2016. The unemployment rate increased in 2016 mainly as a result of the slowdown in the oil and gas sector.¹⁴ The Conference Board of Canada forecasts the Saskatchewan unemployment rate will slightly decrease in 2017 and 2018.

In summary, the Saskatchewan economy experienced a noticeable slowdown or decline in many economic indicators in 2014-2016 relative to prior years. Based on Conference Board of Canada forecasts, Saskatchewan economic growth and recovery is expected in 2017 and 2018.

¹¹ Statistics Canada definition for Gross domestic product, <http://www.statcan.gc.ca/eng/nea/list/gdp>

¹² Saskatchewan Economic Review 2016, <http://www.stats.gov.sk.ca/stats/ER2016.pdf>

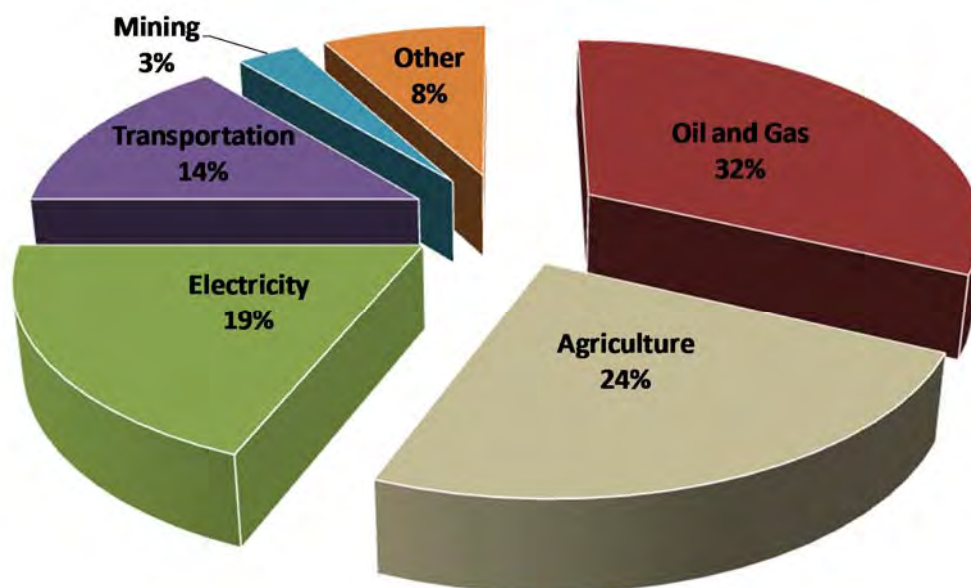
¹³ Statistics Canada definitions for Employment, Employment rate and Unemployment rate, <http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=2820087&p2=33>

¹⁴ Saskatchewan Ministry of Economy, Annual Report for 2016-17, page 13, <http://finance.gov.sk.ca/PlanningAndReporting/2016-17/2016-17EconomyAnnualReport.pdf>

2.3 CLIMATE CHANGE AND CARBON POLICIES

Saskatchewan accounts for 10% of Canada's greenhouse gas (GHG) emissions.¹⁵ Figure 2-1 shows the breakdown of GHG emissions by sector in Saskatchewan for 2015. Electricity generation accounted for approximately 19% of the province's GHG emissions in 2015.

Figure 2-1: Distribution of Saskatchewan GHG Emissions by Economic Sector (2015)¹⁶



SaskPower has identified changing regulations regarding fossil fuel generation as one of the top corporate risks faced by the utility. Federal regulations prevent the development of any new conventional coal generation facilities and set timelines and conditions for the shutdown of conventional coal units. Specifically, any unit that does not meet the standard of 420 tonnes of CO₂ per GWh will have to be retired or refurbished using the following guidelines:¹⁷

- Units commissioned prior to 1975 – the end of life status is reached on the earliest of December 31 of its 50th year of service or December 31, 2019. Applies to Boundary Dam Power Station Units #4 and #5, which have total generating capacity of 278 MW. Both will need to be retired upon the date stated unless a retrofit with carbon capture technology or an Equivalency Agreement is reached.
- Units commissioned between 1975 and 1985 – end of life status is reached at earliest of 50th year of service or December 31, 2029. Applies to Boundary Dam Power Station Unit #6 (retirement for end 2027) and Poplar River Power Station Units #1 and #2 (retirement for end of 2029), which have total capacity of 866 MW.

¹⁵ Government of Saskatchewan, Climate Change. Accessed November 3, 2017 at <https://www.saskatchewan.ca/business/environmental-protection-and-sustainability/climate-change-policy>

¹⁶ Government of Saskatchewan, Climate Change. Accessed November 6, 2017 at <https://www.saskatchewan.ca/business/environmental-protection-and-sustainability/climate-change-policy>

¹⁷ 2018 Rate Application, page 15.

- For all other cases, Environment and Climate Change Canada (ECCC) has pledged to move up end of life coal units to end of 2029. This will mean a much earlier retirement for Shand Power Station, whose end of life was originally scheduled for 2042.

The Government of Canada's Pan-Canadian Framework on Clean Growth and Climate Change is a plan to meet emissions reduction targets in response to a changing climate. A central component of the Pan-Canadian Framework is the commitment to pricing carbon pollution across the country by 2018.¹⁸ In October 2016, the federal government published a benchmark for ensuring that carbon pricing applies to a broad set of emission sources throughout Canada by 2018 with increasing stringency over time; this benchmark provides provinces and territories with flexibility to implement their own carbon pollution pricing systems.¹⁹ The benchmark includes the 8 elements of (1) an implemented system by 2018; (2) common scope pricing based on GHG emissions; (3) two systems that can be implemented: price based system or cap-and-trade system; (4) legislated increases in stringency;²⁰ (5) revenues to remain in the jurisdiction of origin; (6) the federal backstop; (7) five-year reviews; and (8) reporting requirements.²¹ The Government of Canada has released a technical paper on a federal carbon pricing backstop program that indicates that the federal government plans to introduce legislation and regulations to implement a carbon pricing system – the backstop – to be applied in jurisdictions that do not have carbon pricing systems that align with the benchmark. The backstop will establish carbon levy rates will initially be set for the period from 2018 to 2022. Rates for each fuel subject to the levy will be set such that they are equivalent to \$10 per tonne of CO₂e in 2018 and increase by \$10 per tonne annually to \$50 per tonne in 2022.²²

In November 2016, Saskatchewan and Canada signed an agreement in principle to complete an equivalency agreement (EA). The EA would enable the Government of Saskatchewan to assume regulatory oversight on GHG emissions from coal and natural gas facilities generating electricity for SaskPower, and requires the regulatory oversight from Saskatchewan to provide equivalent, or lower, emission rates to those that would be achieved under current federal regulations. Under an EA, end-of-life dates currently defined or proposed under federal regulations would no longer be in effect in Saskatchewan. Instead, SaskPower would be required to meet specific emissions limits that are deemed to be equivalent to what the federal regulation would have achieved. This would enable SaskPower to have some flexibility on the end-of-life dates for conventional coal units and allow a more cost-effective transition to a lower emissions electricity generation system.²³

SaskPower has provided technical information to the provincial government and ECCC for the purposes of calculating CO₂ equivalent emission limits for provincial regulations. SaskPower anticipates provincial

¹⁸ Government of Canada. Available: <https://www.canada.ca/en/services/environment/weather/climatechange/technical-paper-federal-carbon-pricing-backstop.html> Accessed: November 4, 2017.

¹⁹ ECCC, Technical Paper on the Federal Carbon Pricing Backstop, page 7. Accessed online at <https://www.canada.ca/content/dam/eccc/documents/pdf/20170518-2-en.pdf>

²⁰ Legislated increases in stringency are modified for the two systems. A price-based system should start at a minimum of \$10 per tonne in 2018 and rise by \$10 per year to \$50 per tonne in 2022. Provinces with cap-and-trade need: (1) a 2030 emissions reduction target equal to or greater than Canada's 30% reduction target and (2) declining (more stringent) annual caps to at least 2022 that correspond, at a minimum, to the projected emissions reductions resulting from the carbon price that year in price-based systems.

²¹ Government of Canada, Pan-Canadian Approach to Pricing Carbon Pollution. Accessed November 6, 2017 at <https://www.canada.ca/en/environment-climate-change/news/2016/10/canadian-approach-pricing-carbon-pollution.html>.

²² ECCC, Technical Paper on the Federal Carbon Pricing Backstop, page 4. Accessed online at <https://www.canada.ca/content/dam/eccc/documents/pdf/20170518-2-en.pdf>

²³ 1st round information request SRRP Q57.

regulations to come into force by January 1, 2018.²⁴ A formal signing of the EA (between ECCC and Saskatchewan's Ministry of Environment) is anticipated for July 2018.²⁵

SaskPower has noted that the implementation of a carbon tax is not included in the current rate application. The province of Saskatchewan has given no indication that it would comply with any form of federal carbon tax, including the backstop proposal. In the event that the federal backstop program were implemented in July 2018, SaskPower provided a high level estimate of the impact on its net income of \$139 million, but noted the implementation date and the magnitude of the impact is speculative and could fluctuate significantly if any of the carbon tax revenue was reinvested in SaskPower to help achieve its emissions targets.²⁶

²⁴ 1st round information request SRRP Q57.

²⁵ 1st round information request SRRP Q57.

²⁶ 2nd round information request SRRP Q7.

3.0 LOAD FORECAST

3.1 LOAD FORECAST METHODS

SaskPower prepares its load forecast annually to determine the long-term energy requirements and peak demands it must be prepared to meet. The forecast compiles energy sales across customer classes including residential, farm, commercial, oilfield, power, and reseller. The forecast also includes non-grid customers, corporate internal use, system losses, unaccounted energy use and peak demand. Key data inputs include SaskPower's economic forecast (including information on population, household growth, GDP growth rates for commercial and farm classes), historic energy consumption and customer forecasts. The Load Forecast methodology is reviewed by outside experts every 5 years to determine if the methodology continues to be suitable for SaskPower and is consistent with industry practice.²⁷

Since the previous rate application SaskPower has implemented new load forecasting software²⁸ and made adjustments to its load forecast methodology for residential, commercial, streetlights, farm, and oilfield class customers. The methodology has not changed for power, reseller, corporate use, non-grid, system losses and unaccounted energy classes.²⁹

Table 3-1 compares the 2016/17 forecasts using the old and new load forecast methods with comparisons to 2016/17 actual sales.

Table 3-1: Comparison of Load Forecast Methodologies in 2016/17³⁰

	2016/17 Actuals	Old Method	New Method	Variance over actuals		Absolute Percent Error	
				Old	New	Old	New
Volumes (GWh)							
Residential	3,068.6	3,281.9	3,327.3	(213.3)	(258.7)	6.5%	7.8%
Farm	1,188.8	1,331.9	1,256.3	(143.1)	(67.5)	10.7%	5.4%
Commercial	3,776.9	3,844.8	3,798.2	(67.9)	(21.3)	1.8%	0.6%
Oilfields	3,620.8	3,478.9	3,619.5	141.9	1.3	4.1%	0.0%
Power customers	9,206.7	9,190.5	9,190.5	16.2	16.2	0.2%	0.2%
Reseller	1,218.7	1,290.8	1,290.8	(72.1)	(72.1)	5.6%	5.6%
Total	22,080.5	22,418.8	22,482.6	(338.3)	(402.1)	1.5%	1.8%
Average Absolute Percent Error						4.8%	3.3%

The new method shows improved accuracy for the farm and commercial customers and a lower overall average absolute percent error. SaskPower noted that the differences in the residential forecasts is due to a higher use per customer, driven in part by the difference in weather inputs between the two methods. The old method used an average of 30 years of weather. The new method calculates weather influences by ordering it seasonally and smoothing the weather data. SaskPower states it believes this is

²⁷ Page 3, SaskPower 2017 Fiscal Q1 Load Forecast.

²⁸ 2018 Rate Application, page 29.

²⁹ Summarized from the response to 1st round information request SRRP Q102(a).

³⁰ 1st round information request SRRP Q102(c).

a better indicator of weather for forecast purposes.³¹ Other changes to the methods for individual customer classes noted by SaskPower include:³²

Residential Class

For residential customers, rather than separating households into single detached and apartment dwellings, a weighted average of these is applied to the end-use data and then the Residential class customer count is forecasted as a whole.

Farm Class

Methodology changes for the farm customer class include:

- Customer forecast – Farm customer forecasts are no longer derived by differentiating between farm households and operations. Instead, they are now obtained by using a variable which integrates household size and farm households.
- Energy forecast – Energy is no longer calculated separately between analysis on household, operations, and irrigation. All farm energy is now input into a regression analysis that factors in end-use assumptions as well as past trends carrying forward into the future. Irrigation is forecast separately as before.

Commercial Class

The residential customer forecast is no longer used as an input to the forecast. Rather, population estimates as well as gross domestic product for finance, insurance, real estate, public administration, wholesale and retail trade, transportation and warehousing are used in conjunction with regression analysis to derive the customer forecast.

Oilfield Class

Oilfield customers are determined by extrapolating historical customer counts based on historic trends. Previously, this was done using existing numbers of operating wells and adding on future forecasts of number of wells drilled.

3.2 HISTORIC LOAD FORECAST RESULTS

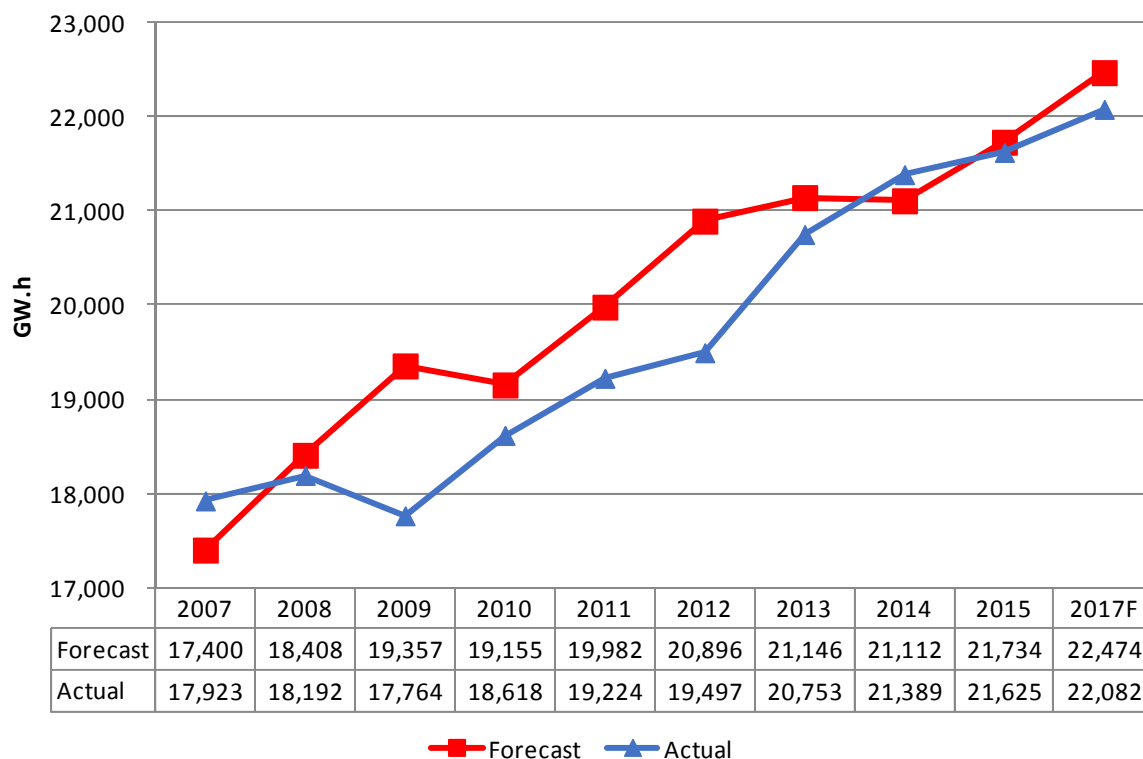
SaskPower provided data comparing load forecasts and actual sales for the period from 2007 through 2016/17. Figure 3-1 compares the actual and forecast sales for this period. From 2009 through 2013 sales forecasts were typically higher than actuals. SaskPower has noted that for customers in the potash and oil sectors, production forecasts from government and industry sources are also considered in preparing sales forecasts. SaskPower states this approach has improved the accuracy of forecasts

³¹ 2nd round information request SRRP Q29.

³² 1st round information request SRRP Q102(a).

compared to relying solely on customer estimates.³³ Since 2014 the variance between forecast and actuals has narrowed.

Figure 3-1: SaskPower Actual and Forecast GWh Sales³⁴



3.3 TEST YEAR RESULTS

SaskPower's energy sales volume for the 2018/19 is based on the 2017 Q2 Load Forecast.³⁵ Table 3-2 compares forecast sales volume for 2015/16 and 2016/17 actuals with forecasts for 2017/18 and 2018/19. 2017/18 sales are forecast to increase by 1.9% over 2016/17 actuals. This increase is primarily driven by forecast increases in the residential, commercial and farm classes and the increase is offset by decrease in oilfield class.

2018/19 forecasts are 1.2% higher than 2017/18. The main contributors to growth in 2018/19 are increases in the power customer and oilfield classes.

³³ 1st round information request SRRP Q107 from the 2016 and 2017 Rate Application.

³⁴ Based on data from the response to 1st round information request SRRP Q105.

³⁵ 1st round information request SRRP Q101.

Table 3-2: Test Year Sales Volume Comparison (GWh)³⁶

	2015/16 Actuals	2016/17			2017/18			2018/19		
		Actuals	change over 2015/16 actuals		Forecast	change over 2016/17 actuals		Forecast	change over 2017/18 forecast	
			GWh	%		GWh	%		GWh	%
Volumes (GWh)										
Residential	3,066.6	3,068.6	2.0	0.1%	3,323.9	255.3	8.3%	3,372.0	48.1	1.4%
Farm	1,255.5	1,188.8	(66.7)	(5.3%)	1,308.4	119.6	10.1%	1,288.0	(20.4)	(1.6%)
Commercial	3,768.2	3,776.9	8.7	0.2%	3,914.5	137.6	3.6%	3,939.0	24.5	0.6%
Oilfields	3,453.4	3,620.8	167.4	4.8%	3,445.3	(175.5)	(4.8%)	3,538.0	92.7	2.7%
Power customers	8,876.5	9,206.7	330.2	3.7%	9,217.7	11.0	0.1%	9,339.0	121.3	1.3%
Reseller	1,222.7	1,218.7	(4.0)	(0.3%)	1,285.7	67.0	5.5%	1,289.0	3.3	0.3%
Total	21,642.9	22,080.5	437.6	2.0%	22,495.5	415.0	1.9%	22,765.0	269.5	1.2%

3.4 CONSULTANT OBSERVATIONS

The Consultant notes that SaskPower has previously stated it has a corporate level target of plus or minus 3% for its load forecast variance to actual.³⁷ SaskPower has been within this target for each of the four most recent fiscal years.³⁸ On that basis the Consultant concludes that SaskPower's load forecast is reasonable for ratemaking purposes.

³⁶ 2018 Rate Application, page 28.

³⁷ 2nd round information request SRRP Q15 from the 2016 and 2017 Rate Application.

³⁸ 1st round information request SRRP Q101.

4.0 SYSTEM OPERATION AND INTEGRATED RESOURCE PLAN

4.1 SYSTEM OPERATION

SaskPower operates its system based on an hourly dispatch approach with the following parameters:

- Projected must-run generation is calculated based on minimum required hydro generation (generation from run-of-river plans or required minimum flows for environmental reasons); projected wind generation as wind generation cannot be dispatched on a planned basis and is used when the wind is available; take-or-pay portions of PPA contracted generation; contracted imports; and minimum generating points of SaskPower's other baseload units.
- The difference between each hour's projected load and SaskPower's cumulative must-run generation is the load required to be served by dispatchable generation.
- Available units are dispatched in order from the least incremental cost unit available through to the unit required to serve the generation requirement. The typical unit dispatch order based on least cost is dispatchable hydro generation followed by dispatchable coal generation and finally dispatchable gas generation.
- The incremental cost of the last unit dispatched (the marginal cost unit) is compared to the spot import costs in neighbouring jurisdictions. If the import costs are less and there is tie line availability, then spot imports replace dispatchable generation up to the import transfer capability.
- The new marginal cost is then compared to the spot export prices in neighbouring jurisdictions. If the export prices are greater than the marginal cost of supply and if there is tie line availability then generation is committed to facilitate the spot export.³⁹

This system operation framework is important for developing SaskPower's fuel expense forecasts and also for resource planning purposes.

4.2 INTEGRATED RESOURCE PLAN

4.2.1 Overview and Objectives

SaskPower's 2017 integrated resource plan (IRP) is a 20-year plan that evaluates resource options (supply-side, demand-side and transmission/distribution resources) for meeting forecast demand for electricity under a range of potential future conditions. SaskPower states that the objective of the 2017 IRP is:

To meet system demand, customer expectations and environmental objectives in a reliable, sustainable and cost-effective manner across a reasonable range of

³⁹ 1st round information request SRRP Q39.

foreseeable futures. The planning approach considers reliability, sustainable development and cost effectiveness.⁴⁰

Specific planning considerations used in developing the 2017 IRP included:

- The IRP considers the quantity of resources needed to meet expected load requirements over time, including SaskPower's planning criteria to have a 13% reserve margin at the time of the estimated peak load.⁴¹
- The IRP identifies the existing resources and potential future resources that could be available to meet load requirements at the time they are required.
- SaskPower has a target of having up to 50% renewable capacity by 2030.
- SaskPower has a target of reducing carbon emissions by 40% from 2005 levels by 2030.⁴²

SaskPower notes that preparing the 2017 IRP was an iterative process, using both internal and external resources, and involved the following steps:

- **Scoping:** SaskPower identified resource options, strategies and future conditions to evaluate as part of the IRP process. Sessions were held with employees representing various departments and levels of seniority and experience. This process helped identify important issues and lay the foundation for the process.
- **Develop Planning Framework:** SaskPower developed scenarios using a collaborative approach to identify the range of plausible future scenarios and potential portfolios and strategies SaskPower could choose to employ to respond to those scenarios.
- **Assess Needs:** SaskPower evaluated forecasts of load growth, plant conditions, contract terms and operational constraints to define the needed resources over the 20-year planning period.
- **Consider Resource Options:** SaskPower evaluated potential energy resources, including conventional, renewable, and customer-side solutions and identified the role each may play in meeting customer needs. Peak contributions from existing resources were compared to the forecasted load and reserve requirements.
- **Perform Scenario Analysis:** SaskPower ran the combinations of strategies and scenarios through a simulation model that filtered each through a series of pre-defined variables to produce key decision metrics for further evaluation and comparison. This phase of the IRP used industry-standard capacity expansion planning and production cost modelling software including PROMOD and Strategist.
- **Select Plan:** SaskPower selected a portfolio from the scenario analysis process based on the one that provided the best mix of benefits to SaskPower and customers.⁴³

⁴⁰ 1st round information request SRRP Q134.

⁴¹ 1st round information request SRRP Q109 from the 2016 and 2017 Rate Application.

⁴² 1st round information request SRRP Q135.

⁴³ 1st round information request SRRP Q134.

SaskPower states that it shares information on the IRP on an ongoing basis, including the following methods:

- Information is provided on SaskPower's website;
- Presentations to key stakeholders including the Saskatchewan Industrial Energy Consumers Association, business organizations and other interested parties; and
- Open houses to provide detailed information and seek input on major projects. As an example, SaskPower indicated that consultations on solar generation were held in the spring of 2017 to help shape future solar programs in the province.⁴⁴

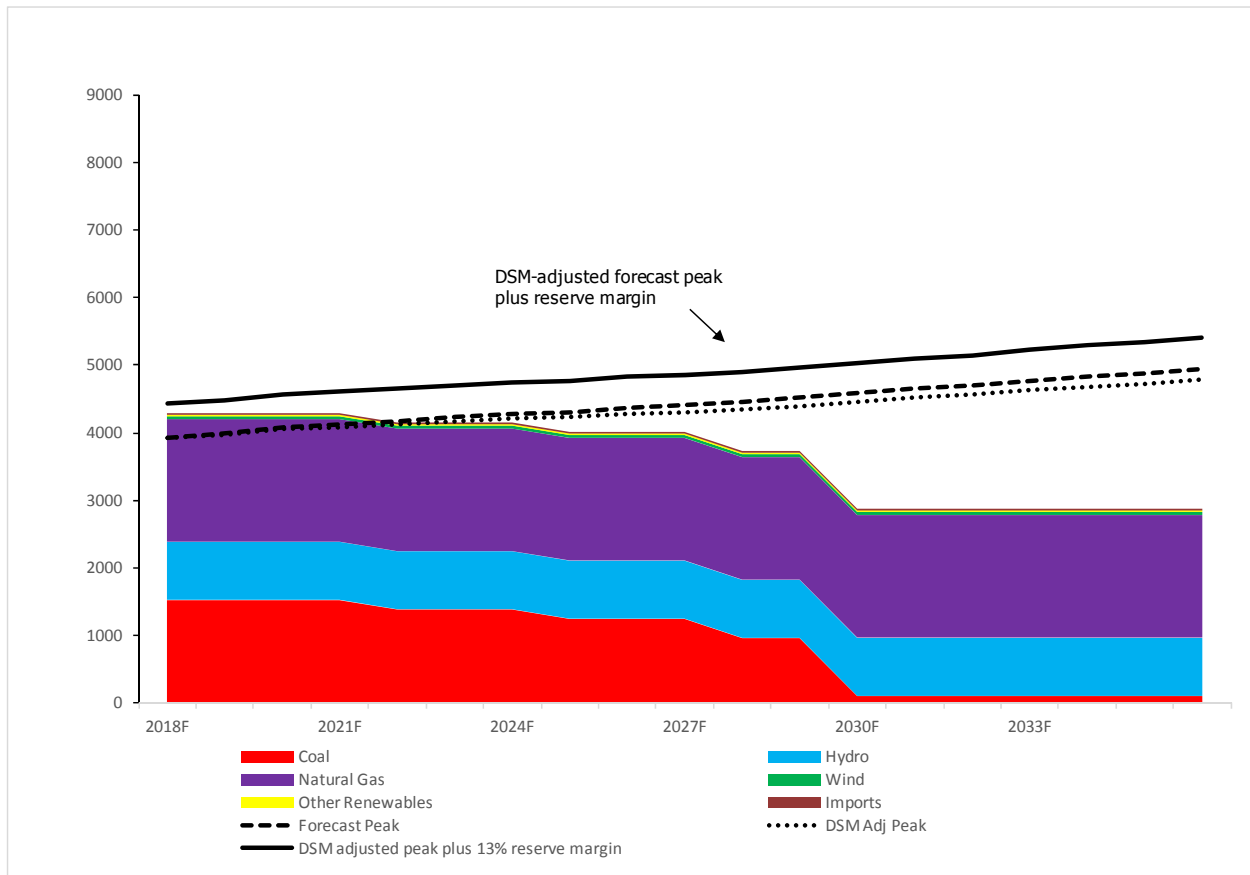
4.2.2 Summary of 2017 IRP

SaskPower provided information related to its 2017 IRP preferred plan in response to information requests from the Panel. An IRP is not a static document, but rather a plan that gets refined and adjusted over time based on new information and changing circumstances. However, the preferred plan gives an indication of SaskPower's current thoughts and perspectives on the preferred mix and timing of resources over the next 20 years.

Figure 4-1 shows SaskPower's forecast peak load, DSM-adjusted peak load and DSM-adjusted peak load plus a 13% reserve margin compared to existing generation resources, including planned coal retirement dates. Figure 4-1 shows capacity deficits arising in the near term (within the next 3-5 years) and increasing over time as system peak loads grow and coal units are retired.

⁴⁴ 1st round information request SRRP Q136.

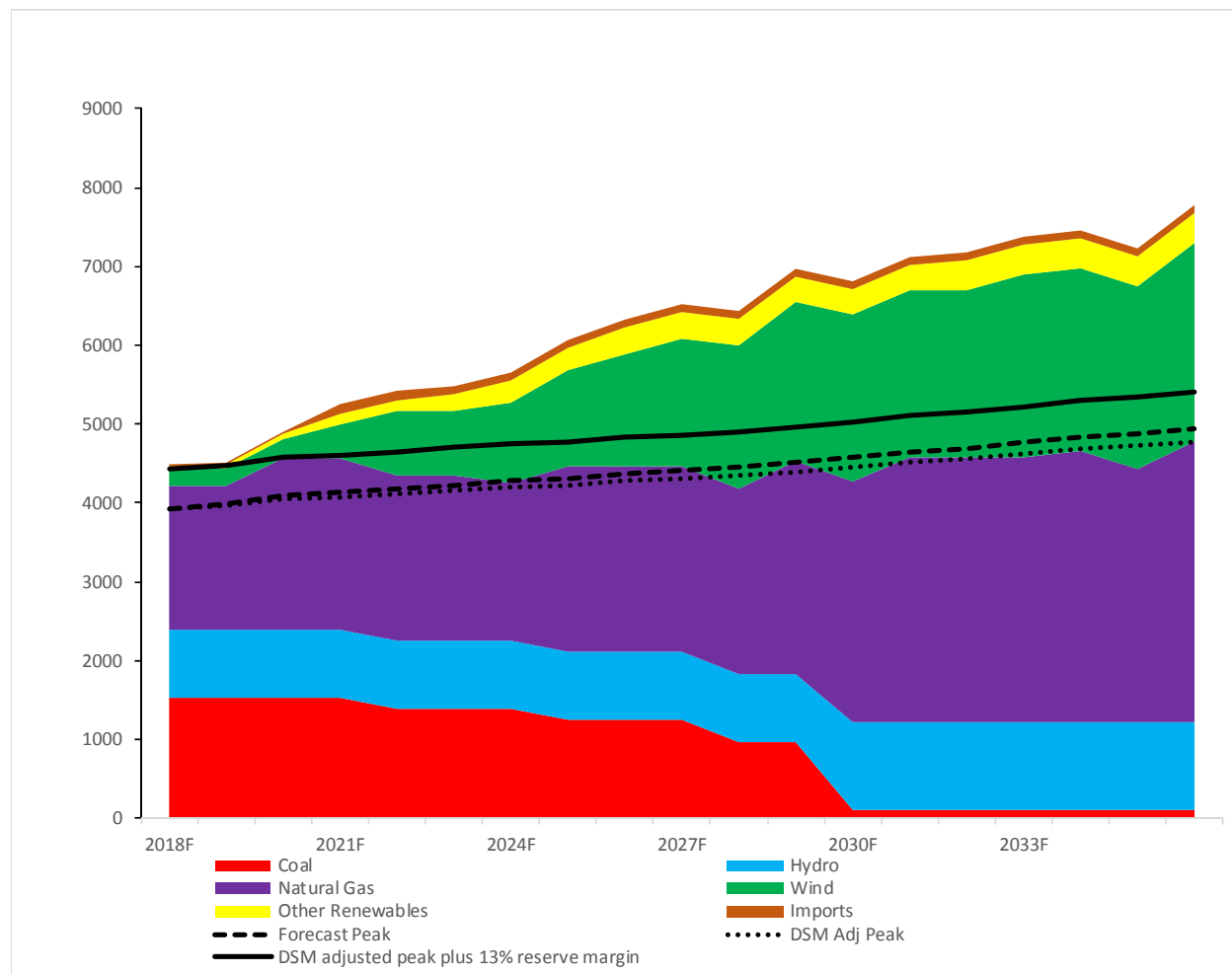
Figure 4-1: Forecast Annual System Peak and DSM Adjusted System Peak (MW) with Existing Generation Resources and Coal Phase-out (winter capacity MW)⁴⁵



⁴⁵ Based on data from the response to 1st round information request SRRP Q141. Instantaneous peak data from part i, planned capacities from part ii.

SaskPower’s preferred supply plan includes adding resources, particularly natural gas and wind, to meet forecast peak loads (including reserve margins). Figure 4-2 shows the forecast installed capacity by generation type in the preferred plan.

Figure 4-2: Planned Installed Capacity of Generation Resources (MW)⁴⁶



The preferred plan achieves SaskPower’s target of 50% of installed capacity from renewable sources by 2030, an increase from renewables at approximately 25% of installed capacity at present. The 50% capacity from renewables target is largely achieved by adding substantial wind capacity, an increase of approximately 1,900 MW of wind capacity by 2030, although the plan also includes increases in capacity from other renewables.

However, the installed capacity is higher than the capacity available at the time of the winter peak, largely because of lower capacity from wind generation at the time of the winter peak (although some

⁴⁶ Based on data from the response to 1st round information request SRRP Q141. Instantaneous peak data from part i, planned capacities from part ii.

other generation resources also have reduced ability to meet the winter peak to a lesser degree as well). Figure 4-3 shows the winter capacity of planned generation sources in the 2017 IRP.

Figure 4-3: Forecast Annual System Peak and DSM Adjusted System Peak (MW) with Planned Generation Resources (including coal phase-out) (winter capacity MW)⁴⁷

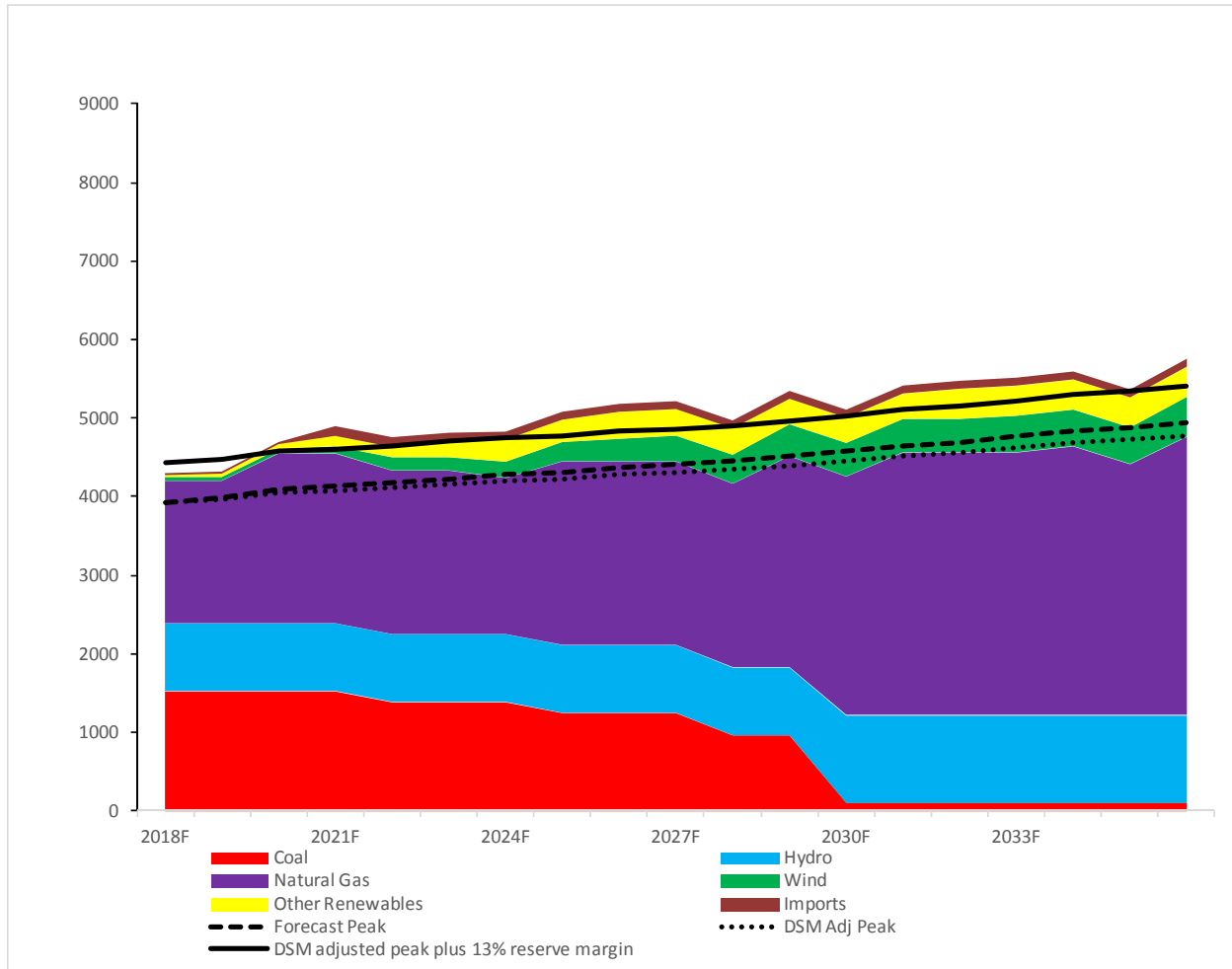


Figure 4-3 shows that wind generation capacity at the time of the winter peak in particular is lower than the installed capacity. The renewable capacity available at the time of the winter peak in 2030 is approximately 38% (compared to approximately 50% of installed capacity). By 2030, natural gas is relied on to serve approximately 60% of the winter system peak load.

Figure 4-4 shows forecast annual energy by generation type in the 2017 IRP preferred plan. By 2030 approximately 44% of energy requirements are met with renewable generation (compared to about 18% today). Natural gas accounts for approximately 54% of energy production in 2030 (compared to 40% today) and wind accounts for 23% of energy production in 2030 (compared to 3% today).

⁴⁷ Based on data from the response to 1st round information request SRRP Q141.

Figure 4-4: Forecast Annual DSM Adjusted Energy (GWh) with Planned Generation Resources (including coal phase-out) (winter capacity MW)⁴⁸

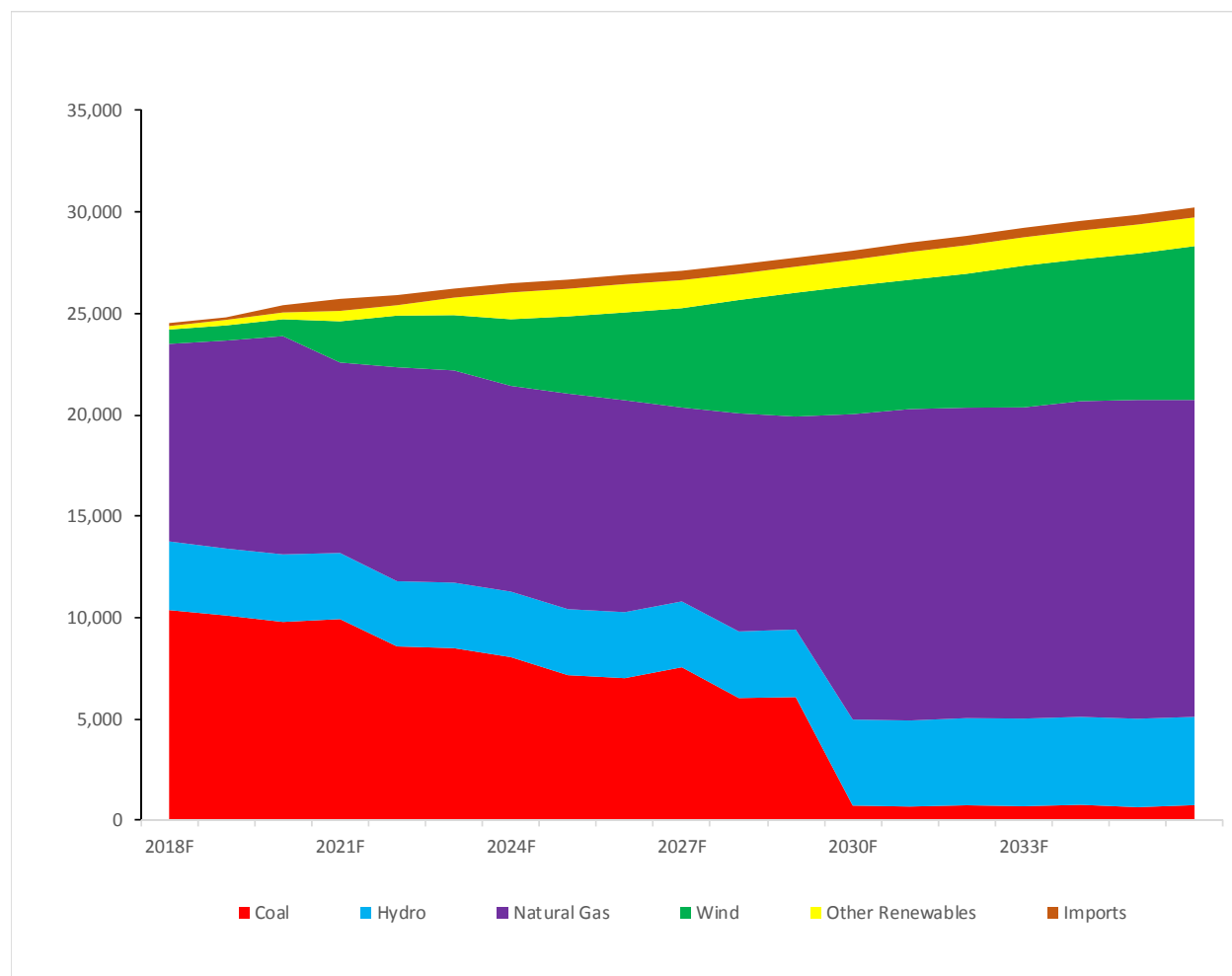


Table 4-1 summarizes the approximate costs of implementing the preferred plan in the 2017 IRP for the 10 year period from 2019 through 2028 by resource type. Over this time period, SaskPower is forecasting generation capital costs of \$6.6 billion. Approximately 60% of the generation capital costs relate to investments in wind generation and a further 22% in natural gas generation.

For the 5-year period from 2019 through 2023, total capital investments related to the preferred resource plan are forecast at \$3.061 billion with \$1.382 billion in wind generation in this period (45% of total resource plan capital spending). SaskPower indicates that every \$100 million capital spending adds approximately \$7 million to revenue requirement each year.⁴⁹ Using those figures, the \$3.061 billion resource plan spending in this period would add an estimated \$214 million to revenue requirement over the next five years. At current rates and sales forecasts, each 1% rate increase adds approximately \$25 million in revenue. The \$214 million estimated increase in revenue requirement would require

⁴⁸ Based on data from the response to 1st round information request SRRP Q141.

⁴⁹ 1st round information request SRRP Q7.

approximately an 8.5% rate increase over the next five years, solely related to the capital costs of the preferred supply plan.

Table 4-1: Forecast Preferred Supply Plan Generation Resource Costs (\$ millions)⁵⁰

	<u>Biomass</u>	<u>Solar</u>	<u>Wind</u>	<u>Hydro</u>	<u>Natural Gas</u>	<u>Total</u>
2019		48				48
2020	174	48			680	902
2021		49	896			945
2022			486	680		1,166
2023						-
2024			505			505
2025			516		751	1,267
2026		164	526			690
2027			536			536
2028			547			547
Total	\$ 174	\$ 309	\$ 4,012	\$ 680	\$ 1,431	\$ 6,606

4.2.3 Future Considerations

Integrated resource plans are frequently updated by utilities to respond to new information such as updated load forecasts, generation resource costing and other policy considerations. SaskPower notes the following information that is being considered in the ongoing resource planning process:

- SaskPower is completing a renewable integration study that is expected to be completed by the end of 2017.⁵¹
- While battery storage was considered in the 2017 IRP, cost estimates available at the time meant it was not included in the detailed analysis. SaskPower has indicated it will continue monitoring energy storage costs (including but not limited to batteries).⁵²
- SaskPower indicates that with appropriate testing there would appear to be an opportunity to leverage customer investments in Distributed Energy Resources (DER). DER resources create decentralized generation resources that can be included as a strategic electricity supply option in the IRP. SaskPower notes that it created a cross-functional solar task force to evaluate how SaskPower can most effectively support future development. SaskPower notes that stakeholders expressed strong support for ongoing engagement with SaskPower in the development of customer generation programs in Saskatchewan.⁵³

⁵⁰ 1st round information request SRRP Q142.

⁵¹ 1st round information request SRRP Q138.

⁵² 1st round information request SRRP Q139.

⁵³ 1st round information request SRRP Q140.

4.3 CONSULTANT OBSERVATIONS

The Consultant notes that key operational, policy and regulatory requirements influencing SaskPower's resource plan are:

- A forecast increase in the system peak that must be met from 3,917 MW in 2018 to 4,299 MW in 2027.⁵⁴
- The objective to meet system demand, customer expectations and environmental objectives in a reliable, sustainable and cost-effective manner across a reasonable range of foreseeable futures.⁵⁵
- Policy objectives to increase renewable energy capacity to up to 50% of total generation capacity by 2030 and to reduce carbon emissions by 40% from 2005 levels by 2030.⁵⁶

Meeting these resource planning requirements will require substantial capital investment over the next 10 to 20 years. This will put considerable upward pressure on rates during this period. The Consultant notes that during the rate review process, stakeholders expressed an interest in better understanding the IRP and the implications for SaskPower's rates over a longer term. Specific areas of interest identified by some stakeholders included:

- Information on how SaskPower's resource plan would achieve greenhouse gas emissions targets for both SaskPower and the province as a whole and the costs of achieving these emissions targets.
- Implications of implementing the preferred supply plan for electricity rates over the longer-term.
- Opportunities to work with SaskPower to develop DER opportunities.

In the Consultant's view these are reasonable areas of interest for customers. During the 2016 and 2017 Rate Application review the Consultant noted a number of other jurisdictions in Canada that had recently undertaken detailed public reviews of integrated resource plans. During the 2016 and 2017 Rate Application review, SaskPower indicated it was developing a comprehensive stakeholder engagement strategy to accompany its integrated resource plan.⁵⁷ The Consultant believes such a stakeholder engagement strategy would be beneficial, and should include information on the unit cost of achieving SaskPower's emissions targets, a longer term view of potential rate impacts and information on opportunities for customers to implement DER and other alternative energy or emissions reduction projects.

The Consultant understands that the IRP is not a static document, but evolves and changes over time in response to new information about load growth, generation resource options, costs and environmental policy considerations. The Consultant understands there is particular uncertainty in the future direction of resource planning related to the equivalency agreement SaskPower and Saskatchewan are working to

⁵⁴ 1st round information request SRRP Q141.

⁵⁵ 1st round information request SRRP Q134.

⁵⁶ 1st round information request SRRP Q135.

⁵⁷ 2nd round information request SRRP Q32 from the 2016 and 2017 Rate Application.

implement with the federal government. However the Consultant believes there is a need within the near term to undertake a more comprehensive public engagement program than has been completed to date.

4.4 CONSULTANT RECOMMENDATIONS

The Consultant recommends that the Panel request that SaskPower file a copy of the renewables integration study with the Panel when completed.

The Consultant recommends that the Panel support a public engagement process for SaskPower's resource plan, including implications for future rate increases, before December 31, 2019. The Consultant recommends that the resource plan include information on the following:

- SaskPower's long-term load forecast, including different load scenarios as appropriate;
- Capacity and energy gaps between existing generation resources (including planned retirements) and SaskPower's long-term load forecast;
- Options to address the future capacity and energy gaps (including DSM programs), including the costs of each option or portfolio of options and the appropriate timing and optimization of options;
- The cost to achieve SaskPower's greenhouse gas emissions targets associated with each option or portfolio of options;
- Opportunities for customers to implement DER or other emissions reduction projects in coordination with SaskPower; and
- Forecast rate increases over the planning horizon associated with each option or portfolio of options.

The Consultant understands that the information and forecasts for a 20-year resource planning period will be at a higher level than that provided for a rate application, however the Consultant believes this information is vital for customers and stakeholders to understand the future rate and other implications of SaskPower's resource plan.

5.0 DEMAND SIDE MANAGEMENT

SaskPower delivers Demand Side Management (DSM) energy efficiency and conservation programs to help customers minimize the impact of rate increases and to secure SaskPower's energy supply.⁵⁸ SaskPower's DSM programs affect rates in a number of ways:

- Customer load forecasts and corresponding revenue forecasts;
- Revenue requirement including costs to deliver DSM programs as well as fuel expense and other savings from reduced generation requirements; and
- IRP and capital plans by deferring or delaying the need for new generation resources.

SaskPower states its portfolio of DSM programs is designed to serve a wide range of customer segments. Programs that are available to all customers include⁵⁹

- **Customer Self Generation:** Available to residential and business customers to generate up to 100 kW of their own electricity to offset their own needs with excess delivered back to the electricity grid. Installation rebates are available. This is offered through the Net Metering Program and the Small Power Producers Program.
- **Energy Efficiency Education and Outreach:** includes i) Engagement, in store education events for residential customers on energy efficient products, iii) Efficiency Partners Program which is a network of organizations that work with SaskPower to help customers make energy efficient choices, and iii) Business Education and Outreach providing information on energy efficient practices for small and medium business and strategic partnerships with trade groups and business associations.

Other programs are developed to serve specific customer segments, including:⁶⁰

- **Residential:** Retail Discount Program (point-of-purchase discounts on energy efficient products), Online Home Energy Assessment Tool (provides insight on power and natural gas consumption, providing recommendations on savings potential), Home Assistance Pilot Program (assists low income households to reduce electricity needs and save money through delivery and installation of energy efficient kits), and Saskatchewan Science Centre Home & Community Exhibit (an exhibit that encourages learning on sustainable home construction and power conservation).
- **Commercial:** Lighting Incentive Program (discounted energy efficient lighting equipment), Online Energy Assessment for Small & Medium Business (provides insight on power and natural gas consumption, providing recommendations on savings potential), Walk-Through Assessment (in-person energy assessment of facilities), Commercial Energy Optimization Program (incentives for development and implementation of customer projects for large commercial customers), Commercial Refrigeration Incentive Program (incentives to purchase energy efficient refrigeration

⁵⁸ 2018 Rate Application, page 4.

⁵⁹ 2018 Rate Application, page 7 – 8.

⁶⁰ 2018 Rate Application, page 5 – 7.

products), Compressed Air Program (incentives to cover costs of audits on compressed air systems, with additional incentives available for recommendation implementation), Parking Lot Controller Program (incentives for controls on flow of electricity to vehicles based on temperature), Municipal Ice Rink Program (financial incentives and energy audits for operational efficiencies of ice rinks), and Commercial HVAC Program (incentives for energy efficient HVAC units for new construction and retrofits).

- **Power (Industrial):** Industrial Energy Optimization Program (assistance in identifying energy waste in facilities and processes), and Demand Response Program (monthly compensation for contracted intermittent operation interruption based on SaskPower peak system needs).

SaskPower also offers pilot programs to explore potential benefits of new programs. An example is the Residential Demand Response Pilot Program. In addition, SaskPower introduced online tools in 2017 for residential and commercial energy assessments.⁶¹

SaskPower states its energy efficiency and conservation initiatives have resulted in peak demand savings of 125 MW from 2008 to the end of 2016/17.⁶² In addition, demand response initiatives targeting Power (industrial) customers provide 85 MW of capacity value. Actual DSM costs included in OM&A for 2016/17 were \$17 million.⁶³ The DSM portfolio has targeted an additional 12 MW in savings in 2017/18 forecast year.⁶⁴ Table 5-1 provides target savings and costs by customer class for 2017/18.

Table 5-1: Forecast DSM Savings and Targets by Customer Class⁶⁵

2017/18	DSM Target (GWh)	DSM Target (MW)	Forecast Cost (\$000)
Residential	24.3	9.9	3,460
Commercial	14.2	1.8	2,190
Industrial	14	2	2,400
Line Losses			
Total	52.5	13.7	8,050

SaskPower's current DSM program results in a cumulative 341.3 GWh and 371.5 GWh energy savings in 2017/18 and 2018/19 test years (with 273.2 GWh realized prior to 2016). Tables 5-2 and 5-3 show the long-term Load Forecast and DSM savings for energy (GWh) and demand (MW).

⁶¹ 1st round information request SRRP Q111(b).

⁶² 2018 Rate Application, page 18.

⁶³ 1st round information request SRRP Q69.

⁶⁴ 2018 Rate Application, Page 18.

⁶⁵ 1st round information request SRRP Q112.

Table 5-2: Load Forecast With and Without DSM (GWh)⁶⁶

Year	Grid Only Energy Requirements (GWh)				
	Load Forecast No DSM	DSM Savings		Total DSM	DSM Adjusted
		Prior to 2016	After 2016		
2016/17	24,617.8	273.2	38.1	311.3	24,306.5
2017/18	25,141.5	273.2	68.1	341.3	24,800.2
2018/19	25,489.0	273.2	98.3	371.5	25,117.5
2019/20	26,074.4	273.2	128.5	401.7	25,672.7
2020/21	26,336.1	273.2	159.5	432.7	25,903.4
2021/22	26,577.8	273.2	191.4	464.6	26,113.2
2022/23	27,024.4	273.2	223.8	497.0	26,527.4
2023/24	27,406.0	273.2	257.9	531.1	26,874.9
2024/25	27,759.6	273.2	292.7	565.9	27,193.7
2025/26	28,182.3	273.2	326.0	599.2	27,583.1
2026/27	28,559.9	273.2	357.3	630.5	27,929.4

Table 5-3: Load Forecast With and Without DSM (MW)⁶⁷

Year	Interval Calendar Peak (MW)				
	Load Forecast No DSM	DSM Savings		Total DSM	DSM Adjusted
		Prior to 2016	After 2016		
2016/17	3,906.2	109.5	7.2	116.7	3,789.5
2017/18	4,004.9	109.5	14.4	123.9	3,881.0
2018/19	4,056.7	109.5	28.6	138.1	3,918.6
2019/20	4,159.1	109.5	38.2	147.7	4,011.4
2020/21	4,192.8	109.5	47.7	157.2	4,035.6
2021/22	4,232.0	109.5	57.3	166.8	4,065.2
2022/23	4,302.2	109.5	66.9	176.4	4,125.8
2023/24	4,361.9	109.5	76.5	186.0	4,175.9
2024/25	4,414.8	109.5	86.1	195.6	4,219.2
2025/26	4,489.4	109.5	95.2	204.7	4,284.7
2026/27	4,547.2	109.5	103.8	213.3	4,333.9

⁶⁶ 2017 Load Forecast, Table A5. Public version provided by SaskPower and available here: <http://www.saskratereview.ca/docs/saskpower2017/load-forecast.pdf>

⁶⁷ 2017 Load Forecast, Table A5. Public version provided by SaskPower and available here: <http://www.saskratereview.ca/docs/saskpower2017/load-forecast.pdf>

5.1 CONSULTANT OBSERVATIONS

The Consultant notes that the business case for utility investment in DSM is strongest when benefits extend beyond reducing bills for individual customers and instead reduce ongoing operating costs and defer or delay the need for new infrastructure to the benefit of all ratepayers. The Consultant also notes that SaskPower's current IRP includes increased DSM savings within the next 20 years.

In the Consultant's experience SaskPower's DSM program areas are similar in nature to programs offered in other Canadian jurisdictions. However, the Consultant considers that information on the optimization of DSM programming across customer segments over time would be useful to include as part of the public review of SaskPower's IRP. The Consultant notes that some industrial customers identified an interest in new or expanded DSM and alternative rate offerings. Crescent Point has identified the potential for distributed/self-generation opportunities (including flare/vent gas to power installations and the Brown field solar development).⁶⁸ Meadow Lake Mechanical Pulp expressed an interest in changes to the energy optimization program to reflect the size of different operations, as well as the potential for self-generation options.⁶⁹

⁶⁸ Crescent Point, Presentation to SK Rate Review Panel, slide 9 - "How Crescent Point Can Help," October 26, 2017,

⁶⁹ Meadow Lake Mechanical Pulp, Submission to the Saskatchewan Rate Review Panel, slide 8 - "Elements of the Mill's Increasing Power Cost Mitigation Strategy," October 16, 2017.

6.0 REVENUE FORECAST

SaskPower's revenue forecast includes revenues from electricity sales to customers in Saskatchewan (approximately 95% of total revenue in 2017/18 and 2018/19) and revenues from export sales, gas and electrical inspections, customer contributions, CO₂ sales and miscellaneous revenues (collectively approximately 5% of total revenue in 2017/18 - 2018/19). Table 6-1 summarizes actual revenues for 2014, 2015/16 and 2016/17 and forecasts for 2017/18 and 2018/19:

- Actual revenue from Saskatchewan electricity sales in 2016/17 was \$49.3 million or 2.1% less than forecast. Sales to residential and commercial customers in particular were lower - \$21.7 million (or 4.1%) and \$12.0 million (or 2.5%) respectively.
- Revenues from Saskatchewan electricity sales are forecast to increase by \$152 million in 2017/18 (6.7%) and \$137.9 million (5.7%) in 2018/19. These increases are a result of both increases in sales volumes and the requested rate increases.
- Revenues from other sources are forecast to increase by \$1.6 million (1.3%) in 2017/18 and \$3.6 million (2.8%) in 2018/19. SaskPower is not forecasting revenue from the Carbon Capture Test Facility in 2017/18 or 2018/19. Revenues from the facility were \$12.5 million in each of 2015/16 and 2016/17.

Table 6-1: Actual and Forecast Revenues (\$ millions)⁷⁰

	2014 Actuals	2015/16 Actuals	2016/17				2017/18			2018/19		
			Actual	Forecast	change over forecast		Forecast	change over 2016/17 actuals		Forecast	change over 2017/18 forecast	
					\$	%		\$	%		\$	%
Saskatchewan Sales												
Residential	490.4	484.9	513.8	535.5	(21.7)	(4.1%)	568.5	54.7	10.6%	605.5	37.0	6.5%
Farm	163.8	157.3	158.2	169.1	(10.9)	(6.4%)	178.3	20.1	12.7%	183.5	5.2	2.9%
Commercial	432.1	447.0	472.3	484.3	(12.0)	(2.5%)	510.6	38.3	8.1%	536.8	26.2	5.1%
Oilfields	323.5	329.6	356.9	358.3	(1.4)	(0.4%)	358.8	1.9	0.5%	380.9	22.1	6.2%
Power customers	545.9	624.1	681.0	679.8	1.2	0.2%	708.1	27.1	4.0%	750.6	42.5	6.0%
Reseller	87.1	89.3	94.5	99.0	(4.5)	(4.5%)	104.4	9.9	10.5%	109.3	4.9	4.7%
Total Saskatchewan												
Electricity Sales Revenue	\$ 2,042.8	\$ 2,132.2	\$ 2,276.7	\$ 2,326.0	(\$ 49.3)	(2.1%)	\$ 2,428.7	\$ 152.0	6.7%	\$ 2,566.6	\$ 137.9	5.7%
Non-Saskatchewan Sales												
Export sales	7.3	7.8	5.4	8.8	(3.4)	(38.6%)	9.2	3.8	70.4%	14.3	5.1	55.4%
Net Sales from trading	(1.6)	(1.8)	(2.8)	1.2	(4.0)	(333.3%)	0.5	3.3	(117.9%)	0.5	0.0	0.0%
Gas and electrical inspections	22.1	19.2	17.4	21.7	(4.3)	(19.8%)	19.2	1.8	10.3%	17.3	(1.9)	(9.9%)
Customer contributions	46.7	91.1	52.7	35.0	17.7	50.6%	54.1	1.4	2.7%	55.0	0.9	1.7%
CO ₂ sales	2.8	6.6	13.6	16.0	(2.4)	(15.0%)	14.2	0.6	4.4%	15.3	1.1	7.7%
CO ₂ test facility revenue		12.5	12.5	13.4	(0.9)	(6.7%)		(12.5)	(100.0%)			
MRM equity investment	2.0	1.2	1.1	1.5	(0.4)	(26.7%)	2.7	1.6	145.5%	1.5	(1.2)	(44.4%)
Miscellaneous revenue	35.5	35.0	25.9	25.9	0.0	0.0%	27.5	1.6	6.2%	27.1	(0.4)	(1.5%)
Total Non-Saskatchewan												
Sales Revenue	\$ 114.8	\$ 171.6	\$ 125.8	\$ 123.5	\$ 2.3	1.9%	\$ 127.4	\$ 1.6	1.3%	\$ 131.0	\$ 3.6	2.8%
Total Revenues	\$ 2,157.6	\$ 2,303.8	\$ 2,402.5	\$ 2,449.5	(\$ 47.0)	(1.9%)	2,556.1	153.6	6.4%	2,697.6	141.5	5.5%

6.1 DOMESTIC SALES REVENUE

Domestic sales revenues include revenues from customer charges, demand charges and energy charges. SaskPower's domestic sales revenues are based on the load forecast as described in Section 3 and the

⁷⁰ 2016 and 2017 Rate Application, page 21-26; 2016 and 2017 Mid-Application Update, page 2-4; 2018 Rate Application, page 26-31.

rates proposed in the application. Domestic sales revenues represent 95% of total revenues in 2017/18 and 2018/19. Revenues from sales to Power Class customers are the largest category of revenues at approximately 28% of total revenues. Revenues from sales to residential customers represent about 22% of total forecast revenues. Sales to commercial customers comprise 20% of forecast revenues.

6.2 EXPORT REVENUE

SaskPower derives export revenues from sale of its surplus generation. SaskPower's export sales are made to Alberta, the Southwest Power Pool (Midwestern US including North and South Dakota) and the Midcontinent Independent System Operator (Midwestern states and provinces including Manitoba and Minnesota). SaskPower has transmission rights on export paths within Saskatchewan of 15 MW to Alberta (scheduled to become 153 MW in 2018) and 150 MW to the United States (has been limited to 125 MW in 2017).⁷¹ The availability of export volumes are dependent on the availability of surplus generation in Saskatchewan and transmission availability. Export prices are determined based on market conditions in other jurisdictions. Table 6-2 summarizes actual export volumes and revenues for 2014, 2015/16 and 2016/17 as well as forecasts for 2017/18 and 2018/19.⁷²

A review of Table 6-2 indicates that SaskPower is forecasting export revenues of \$9.2 million (70.4% annual increase) in 2017/18 and further \$14.3 million (55.4%) in 2018/19. These additional revenues are a result of increases in sales volumes compared to previous years and somewhat higher average prices compared to 2016/17 actuals. SaskPower is forecasting the increased export volume for 2018/19 due to an expected recovery in Alberta electricity market price and growth in US markets. Factors contributing to an expected recovery in the Alberta market price include increased Alberta load growth, the retirement/mothballing of coal-fired generation units, and the evolution of Alberta's carbon tax and renewable energy policy. Growth in the US markets is a result of higher expected load growth, improved economic opportunity, and greater expected market participation.⁷³

Table 6-2: Actual and Forecast Exports⁷⁴

	2014 Actuals	2015/16 Actuals	2016/17				2017/18			2018/19		
			Actuals	Forecast	change over forecast		Forecast	change over 2016/17 actuals		Forecast	change over 2017/18 forecast	
					\$	%		\$	%		\$	%
Exports												
Revenues (\$ millions)	7.3	7.8	5.4	8.8	(3.4)	(38.6%)	9.2	3.8	70.4%	14.3	5.1	55.4%
Sales (GWh)	89.9	88.6	175.7	216.7	(41.0)	(18.9%)	187.5	11.8	6.7%	258.1	70.6	37.7%
Avg unit revenue (\$/MWh)	81.20	88.04	30.73	40.57	(9.8)	(24.2%)	49.07	18.3	59.6%	55.41	6.3	12.9%

SaskPower states that it anticipates additional wind generation will increase export sales volumes. Annual export sales will vary based on the timing of new wind project commissioning dates. The annual export sales forecast volatility will be minimal when no new wind installments occur. However, daily and monthly sales volumes will be more variable than annual sales volumes.⁷⁵

⁷¹ 1st round information request SRRP Q23.

⁷² 2018 Rate Application, page 30.

⁷³ 1st round information request SRRP Q24.

⁷⁴ 2016 and 2017 Rate Application, page 25; 2016 and 2017 Mid-Application Update, page 4; 2018 Rate Application, page 30.

⁷⁵ 1st round information request SRRP Q26.

6.3 ELECTRICITY TRADING

SaskPower's electricity trading activities include the purchase and resale of electricity and related commodities outside of Saskatchewan. Trading activities include real time, short-term and long-term physical and financial trades in the North American market. Net sales from trading is the net contribution of trading activities calculated as revenues less trading costs.⁷⁶

SaskPower forecasts net sales from trading by using various modeling software that help determine probabilistic future market prices and margins. The historic relationship between market price, margins, and net sales is applied to the forecasted market prices and margins to form the projected forecast of net sales from trading.⁷⁷

Table 6-3 summarizes the actual net sales from trading revenues for 2014 through 2016/17 and forecasts for 2017/18 and 2018/19. SaskPower is forecasting positive revenue from net sales trading in 2017/18 and 2018/19 despite having recent annual losses. SaskPower states that historically the Alberta market has been their highest volume market for trading activities and the Alberta market prices dropped 45% in 2016 (\$33/MWh in 2015, \$18/MWh in 2016).⁷⁸ The Alberta market price has averaged approximately \$19/MWh in the first quarter of 2017-18.⁷⁹ However market price forecasts indicate a rebound in 2018 due to the retirement of some generation and the coal generation that is currently being offered into the market at marginal cost by the Balancing Pool returning to the hands of the previous owners, which should result in a return to more strategic offer behaviour. NorthPoint has estimated a net trading profit of approximately \$1.5 million over the next three year period (2018–2020) based on forecasted prices for the Alberta market.⁸⁰

Table 6-3: Net Sales from Electricity Trading (\$ millions)⁸¹

	2014 Actual	2015/16 Actual	2016/17 Actual	2017/18 Forecast	2018/19 Forecast
Net Sales from Trading	(1.6)	(1.8)	(2.8)	0.5	0.5

⁷⁶ 2018 Rate Application, page 31.

⁷⁷ 1st round information request SRRP Q28.

⁷⁸ 1st round information request SRRP Q30.

⁷⁹ 1st round information request SRRP Q30.

⁸⁰ 1st round information request SRRP Q30.

⁸¹ 2016 and 2017 Rate Application, page 26; 2018 Rate Application, page 31.

6.4 OTHER REVENUE

Other revenues include non-electricity services such as gas and electrical inspection permit fees, meter reading fees, late payment charges and customer work charges. Table 6-4 summarizes actual other revenues for 2014, 2015/16 and 2016/17 and forecasts for 2017/18 and 2018/19.

Table 6-4: Actual and Forecast Other Revenues (\$ millions)⁸²

	2014 Actuals	2015/16 Actuals	2016/17				2017/18			2018/19		
			Actuals	Forecast	change over forecast		Forecast	change over 2016/17 actuals		Forecast	change over 2017/18 forecast	
					\$	%		\$	%		\$	%
Other Revenues												
Gas and electrical inspections	22.1	19.2	17.4	21.7	(4.3)	(19.8%)	19.2	1.8	10.3%	17.3	(1.9)	(9.9%)
Customer contributions	46.7	91.1	52.7	35.0	17.7	50.6%	54.1	1.4	2.7%	55.0	0.9	1.7%
CO2 sales	2.8	6.6	13.6	16.0	(2.4)	(15.0%)	14.2	0.6	4.4%	15.3	1.1	7.7%
CO2 test facility revenue		12.5	12.5	13.4	(0.9)	(6.7%)		(12.5)	(100.0%)			
MRM equity investment	2.0	1.2	1.1	1.5	(0.4)	(26.7%)	2.7	1.6	145.5%	1.5	(1.2)	(44.4%)
Miscellaneous revenue	35.5	35.0	25.9	25.9	0.0	0.0%	27.5	1.6	6.2%	27.1	(0.4)	(1.5%)
Total Other Revenues	\$ 109.1	\$ 165.6	\$ 123.2	\$ 113.5	\$ 9.7	8.5%	\$ 117.7	(\$ 5.5)	(4.5%)	\$ 116.2	(\$ 1.5)	(1.3%)

Other revenues make up a small portion of SaskPower's total revenues, approximately 5.0% in 2016/17. However, year-over-year variances can be large. For example, other revenues increased by \$56.5 million in 2015/16 compared to 2014 and then decreased by \$42.4 million in 2016/17 compared to 2015/16.

Customer contributions revenue is the largest and most variable category of other revenues. Customer contributions are funds received from customers related to the cost of service extensions. These contributions are recognized immediately in profit or loss as other revenue when the related property, plant and equipment are available for use. The higher customer contributions in 2015/16 were due to the completion of various large transmission and distribution projects.⁸³ SaskPower forecasts customer contribution revenues based on historic averages of actual revenues.⁸⁴

Gas and electrical inspection revenues are fees for permits, plan and code reviews, field approvals and inspections. These activities are undertaken on a full cost recovery basis with revenues of \$17.4 million in 2016/17 offset by expenses of \$15.1 million for net income of \$2.3 million.⁸⁵

Revenues in 2017/18 and 2018/19 from CO₂ sales are forecast to increase slightly compared to previous years. SaskPower indicates CO₂ sales revenue forecasts are prepared in accordance with contractual obligations of the off-taker and the forecasts do not assume SaskPower captures and sells the maximum amount of CO₂. The selling price of CO₂ is escalated in accordance with the agreement with the off-taker. Volumes of CO₂ may either increase or decrease depending upon operating days in a year as a result of maintenance schedules.⁸⁶

SaskPower is not forecasting revenue from the Carbon Capture Test Facility in 2017/18 or 2018/19. However, SaskPower states it is seeking to find new sources of revenue related to the facility. SaskPower has been touring prospective clients who could use the facility. In addition, the International CCS

⁸² 2016 and 2017 Rate Application, page 26; 2016 and 2017 Mid-Application Update, page 4; 2018 Rate Application, page 31.

⁸³ 1st round information request SRRP Q31.

⁸⁴ 1st round information request SRRP Q32.

⁸⁵ 1st round information request SRRP Q33.

⁸⁶ 1st round information request SRRP Q34.

Knowledge Centre has arranged for several prospective clients to tour both the Carbon Capture Test Facility and the carbon capture and storage facility at Boundary Dam Power Station.⁸⁷

Miscellaneous revenues include a variety of revenue sources such as late payment charges, joint use charges, flash revenues, meter reading and custom works. SaskPower states that the majority of the variance in miscellaneous revenues from 2015/16 to 2016/17 relates to the completion of the ten year Wind Power Production Incentive that was offered by the Government of Canada when the Centennial Wind Power and Cypress Wind Power Facilities were commissioned.⁸⁸

6.5 CONSULTANT OBSERVATIONS

The Consultant notes that 95% of SaskPower's total revenues in 2017/18 and 2018/19 are forecast to arise from sales to domestic customers in Saskatchewan. Other revenues make up approximately five percent of total revenues in 2017/18 and 2018/19. Many of these categories of revenues are difficult to forecast. The Consultant notes that while these revenue sources represent a small proportion of SaskPower's overall revenues, they can have noticeable impacts on SaskPower's net income when variations arise. The Consultant notes that in the mid-application update, SaskPower lowered its revenue forecasts for net sales from trading and other revenues by \$9.6 million in 2017/18 compared to the original application, offset by a forecast increase in export revenues of \$2.4 million for a net reduction of \$7.2 million. SaskPower's mid-application update also lowered the forecast for 2018/19 by \$8.1 million (\$2.7 million lower export revenues and \$5.4 million lower in other revenues).

⁸⁷ 1st round information request SRRP Q35.

⁸⁸ 1st round information request SRRP Q36.

7.0 REVENUE REQUIREMENT

A utility's revenue requirement includes all of the costs required to build, operate and maintain safe and reliable service to customers. SaskPower's revenue requirement includes the following components:

- Operating, maintenance and administration expense (2018/19 approximately 26.1% of total revenue requirement);
- Fuel and purchase power expense (2018/19 approximately 25.3% of total revenue requirement);
- Depreciation expense (2018/19 approximately 21.2% of total revenue requirement);
- Finance charges (2018/19 approximately 15.7% of total revenue requirement);
- Taxes (2018/19 approximately 2.9% of total revenue requirement);
- Other expenses (2018/19 approximately 1.1% of total revenue requirement); and
- Allowance for operating income or ROE (2018/19 approximately 7.8% of total revenue requirement).

Table 7-1 summarizes SaskPower's actual 2016/17 revenue requirement and forecasts for 2017/18 and 2018/19. Key observations from Table 7-1 include:

- 2016/17 actual revenue requirement was approximately \$79 million lower than forecast. This was primarily made up of lower than forecast domestic electricity sales and operating income.
- Forecast 2017/18 revenue requirement is higher than 2016/17 actuals by approximately \$154 million (6.4%). This increase is largely driven by higher operating income and depreciation expense.
- Forecast 2018/19 revenue requirement is higher than 2017/18 forecasts by approximately \$142 million (5.5%). This increase is largely driven by higher operating income, depreciation expense, and fuel and purchase power expense.

Table 7-1: Actual and Forecast Revenue Requirement (\$ millions)⁸⁹

	2016/17				2017/18			2018/19		
	Forecast	Actuals	actuals change over forecast		Forecast	change over 2016/17 actuals		Forecast	change over 2017/18 forecast	
			\$	%		\$	%		\$	%
Fuel and purchased power	646.6	661.4	14.8	2.3%	645.3	(16.1)	(2.4%)	681.6	36.3	5.6%
OM&A	682.1	674.8	(7.3)	(1.1%)	689.1	14.3	2.1%	703.2	14.1	2.0%
Depreciation	487.2	493.8	6.6	1.4%	542.3	48.5	9.8%	572.0	29.7	5.5%
Finance Charges	418.7	416.0	(2.7)	(0.6%)	417.0	1.0	0.2%	423.7	6.7	1.6%
Taxes	68.0	72.5	4.5	6.6%	72.5	0.0	0.0%	77.4	4.9	6.8%
Other	22.8	37.7	14.9	65.4%	30.0	(7.7)	(20.4%)	30.0	0.0	0.0%
Sub-total expenses	\$2,325.4	\$2,356.2	\$30.8	1.3%	\$2,396.2	\$40.0	1.7%	\$2,487.9	\$91.7	3.8%
Operating Income	\$155.9	\$46.3	(\$109.6)	(70.3%)	\$159.9	\$113.6	245.4%	\$209.7	\$49.8	31.1%
Total Revenue Requirement	\$2,481.3	\$2,402.5	(\$78.8)	(3.2%)	\$2,556.1	\$153.6	6.4%	\$2,697.6	\$141.5	5.5%

⁸⁹ 2018 Rate Application, page 26; 2016/17 forecast figures from 2016 and 2017 Rate Application, page 21 and 27.

The remainder of this section reviews each of the components of revenue requirement in more detail.

7.1 OPERATING, MAINTENANCE & ADMINISTRATION

Operations, maintenance and administration expense (OM&A) includes SaskPower's salaries and wages expense, materials and supplies, external contractor services and other expenses such as training and travel. OM&A represents approximately 26% of total revenue requirement in 2018/19. Table 7-2 shows actual and forecast OM&A per customer from 2012 through 2018/19. A review of the information in Table 7-2 indicates:

- Total actual OM&A increased from 2012 through 2016/17 by approximately 2.3% on average annually.
- The number of customer accounts increased over this time period by approximately 1.9% on average annually.
- OM&A per customer account increased over this time period by 0.4% on average annually.
- For 2017/18 total OM&A is forecast to increase by 2.1% over 2016/17 actuals. OM&A per customer is forecast to decrease by 0.4% over 2016/17 actuals.
- For 2018/19, total OM&A is forecast to increase by 2.0% over 2017/18 forecasts. OM&A per customer is forecast to increase by 0.5% over 2017/18 forecasts.

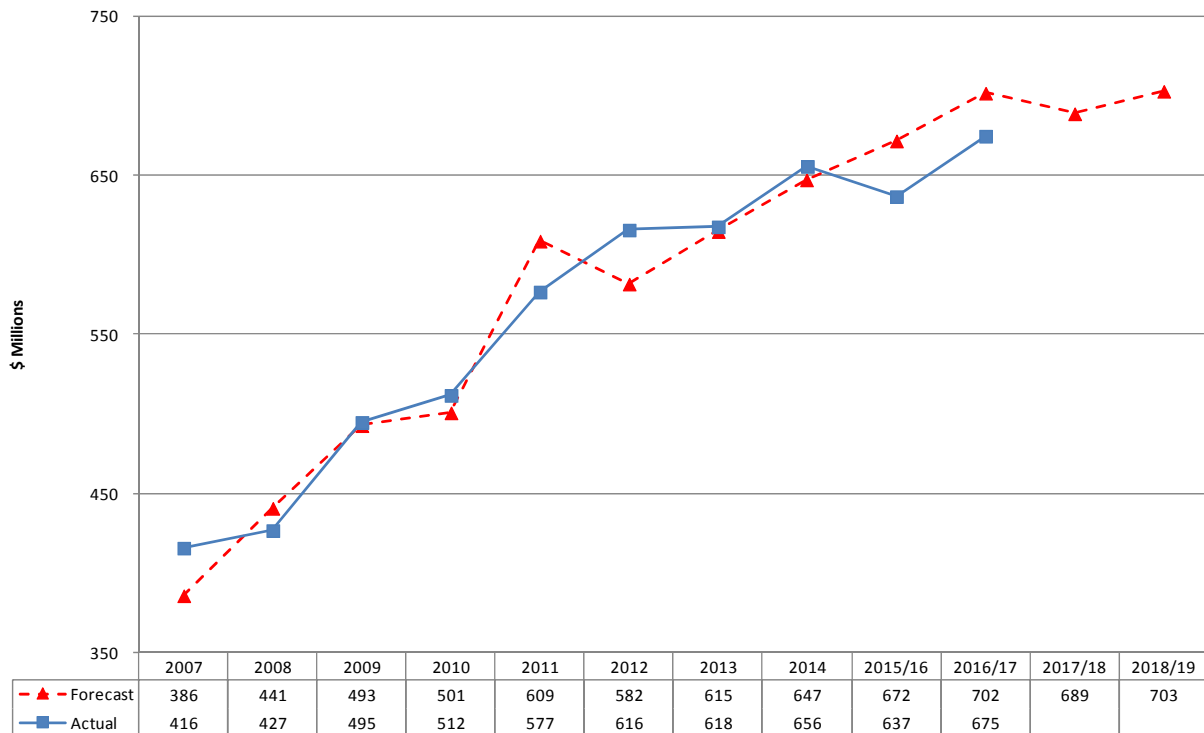
Table 7-2: Actual and Forecast Operations, Maintenance and Administration Expense per Customer (\$/customer)⁹⁰

	2012	2013	Actuals 2014	2015/16	2016/17	Average Annual 2012 - 2016/17	Forecast 2017/18	2018/19
Total OM&A (\$ millions)	616	618	656	637	675		689	703
Percent Change	6.8%	0.3%	6.1%	(2.9%)	5.9%	2.3%	2.1%	2.0%
Total Customer Accounts	486,298	495,745	506,410	516,843	524,902		537,825	546,126
Percent Change	1.8%	1.9%	2.2%	2.1%	1.6%	1.9%	2.5%	1.5%
OM&A/Customer (\$/Customer)	1,266.7	1,246.6	1,295.4	1,232.5	1,286.0		1,281.3	1,287.2
Percent Change	4.8%	(1.6%)	3.9%	(4.9%)	4.3%	0.4%	(0.4%)	0.5%

⁹⁰ 2nd round information request SRRP Q24 and 2018 Rate Application, page 38.

Figure 7-1 compares SaskPower’s forecast OM&A and actual OM&A from 2007 to 2018/19. In the 10 years for which actual data are shown, actual OM&A has been within 8% of forecasts. In 6 of the 10 years actual OM&A was higher than forecast. In the two most recent years for which actuals are available (2015/16 and 2016/17), OM&A has been lower than forecast. In 2015 the Crown Investments Corporation directed SaskPower to implement OM&A savings.⁹¹ SaskPower decreased its OM&A costs from 2014 to 2015/16 by 2.9%. Reductions occurred in the areas of salary rollbacks, short-term incentive reductions, reduced full-time equivalent (FTE) positions, training and travel reductions, consulting and advertising reductions, and plant overhaul deferral. This lower spending in the two most recent actual years is also reflected in forecasts for 2017/18 and 2018/19.

Figure 7-1: Actual and Forecast Operations, Maintenance and Administration (2007 to 2018/19) in Millions (\$)⁹²

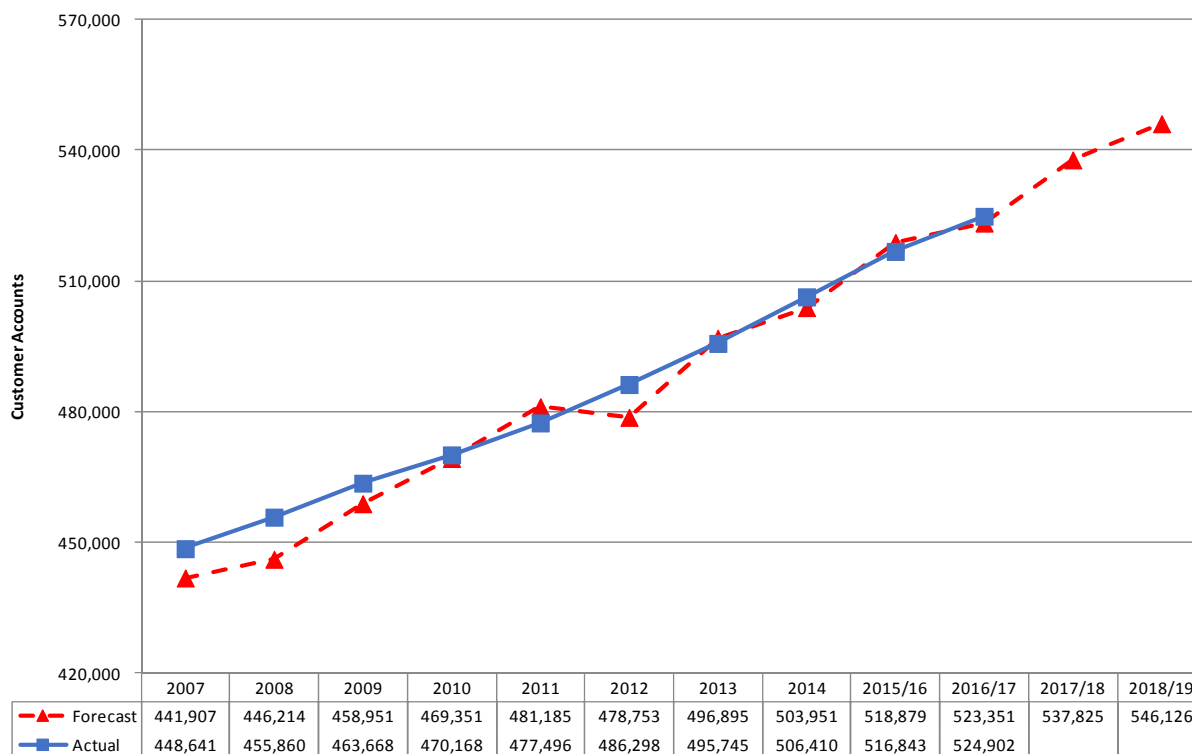


⁹¹ SRRP, Report to the Minister Responsible for Crown Investments Corporation of Saskatchewan, Regarding the SaskPower 2016 and 2017 Rate Application, Effective Dates July 1, 2016 and January 1 2017. Report submitted November 7, 2016, page, 11.

⁹² 2nd round information request SRRP Q24 and 2018 Rate Application, page 38.

Figure 7-2 compares SaskPower’s actual customer accounts to forecasts from 2007 to 2018/19. Over this time period actual customer accounts have been within approximately 2.0% of forecasts.⁹³ This variance has been reduced in recent years; since 2013 actuals have been within 0.5% of forecasts. For the period from 2007 to 2016/17 actuals were higher than forecasts in 7 out of 10 years.

Figure 7-2: Actual and Forecast Comparison of Total Customer Accounts (2007 to 2018/19)⁹⁴

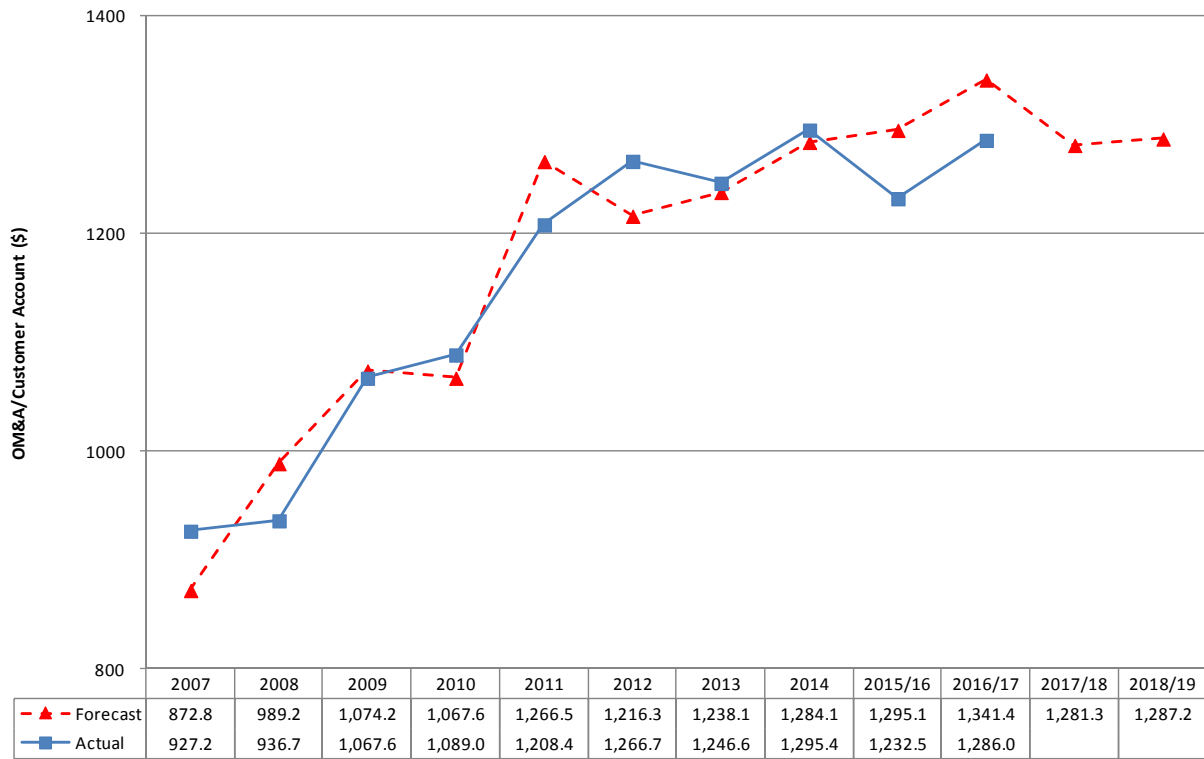


⁹³ 2nd round information request SRRP Q24 and 2018 Rate Application, page 38.

⁹⁴ 2nd round information request SRRP Q24 and 2018 Rate Application, page 38.

Figure 7-3 compares SaskPower’s forecast and actual OM&A per customer account from 2007 to 2018/19. Forecast OM&A per customer account has been within approximately 6.0% of actuals.⁹⁵ Actuals were higher than forecasts in 5 out of 10 years in the period from 2007 through 2016/17.

Figure 7-3: Actual and Forecast Comparison of OM&A per Customer Accounts (2007 to 2018/19)⁹⁶



⁹⁵ 2nd round information request SRRP Q24 and 2018 Rate Application, page 38.

⁹⁶ 2nd round information request SRRP Q24 and 2018 Rate Application, page 38.

At the conclusion of the 2016 and 2017 Rate Application, the SRRP recommended that SaskPower limit the growth in OM&A per customer account to half the rate of inflation.⁹⁷ SaskPower is forecasting growth in OM&A per customer account of less than one percent in 2017/18 through 2019/20. Based on these forecasts, SaskPower will achieve the target recommended by the SRRP in 2017/18, 2018/19, and 2019/20 (Table 7-3).

Table 7-3: OM&A per Customer Forecast Growth Rate (2016/17 to 2019/20)⁹⁸

	Actuals	Forecast		
	2016/17	2017/18	2018/19	2019/20
OM&A/Customer (\$/Customer)	1,286.0	1,281.3	1,287.2	1,296.5
Percent Change		(0.4%)	0.5%	0.7%
Inflation Rate Assumption		2.0%	2.0%	2.0%
Half the Rate of Inflation		1.0%	1.0%	1.0%

It should be noted that the customer accounts figure used to calculate OM&A per customer includes all types of accounts. Therefore the OM&A per customer is a corporate-wide number across all account types (from small residential up to large industrial customers). SaskPower provided information indicating the annual OM&A per residential customer (urban and rural) for 2017/18 is approximately \$536.

⁹⁷ SRRP, Report to the Minister Responsible for Crown Investments Corporation of Saskatchewan, Regarding the SaskPower 2016 and 2017 Rate Application, Effective Dates July 1, 2016 and January 1 2017. Report submitted November 7, 2016, page, 11.

⁹⁸ 2018 Rate Application, page 38.

Table 7-4 summarizes the actual and forecast OM&A expense by major category from 2014 through the 2018/19 forecasts.

Table 7-4: Actual and Forecast Operations, Maintenance and Administration Expense (\$ millions)⁹⁹

	2014 Actuals	2015/16 Actuals	2016/17 change over 2015/16 actuals			2017/18 change over 2016/17 actuals			2018/19 change over 2017/18 forecast		
			Actuals	\$	%	Forecast	\$	%	Forecast	\$	%
Salaries and Wages											
Salaries and Wages	304	302	317	15	5.0%	329	12	3.8%	336	7	2.1%
Premium Pay	53	39	37	(2)	(5.1%)	35	(2)	(5.4%)	36	1	2.9%
Benefits	66	70	66	(4)	(5.7%)	73	7	10.6%	74	1	1.4%
Labour Credits	(81)	(79)	(66)	13	(16.5%)	(72)	(6)	9.1%	(73)	(1)	1.4%
Subtotal Salaries and Wages	\$342	\$332	\$354	\$22	6.6%	\$365	\$11	3.1%	\$373	\$8	2.2%
Materials and Supplies	\$30	\$30	\$37	\$7	23.3%	\$35	(\$2)	(5.4%)	\$36	\$1	2.9%
External Services											
Contract Services	185	183	195	12	6.6%	202	7	3.6%	206	4	2.0%
Consulting Services	24	20	19	(1)	(5.0%)	17	(2)	(10.5%)	17	0	0.0%
Advertising	5	3	2	(1)	(33.3%)	3	1	50.0%	3	0	0.0%
Subtotal External Services	\$214	\$206	\$216	\$10	4.9%	\$222	\$6	2.8%	\$226	\$4	1.8%
Other											
Training	4	2	3	1	50.0%	3	0	0.0%	3	0	0.0%
Travel	14	12	11	(1)	(8.3%)	12	1	9.1%	12	0	0.0%
Administrative	21	23	21	(2)	(8.7%)	19	(2)	(9.5%)	20	1	5.3%
Insurance	5	5	5	0	0.0%	5	0	0.0%	5	0	0.0%
Bad Debt Expense	3	6	6	0	0.0%	6	0	0.0%	6	0	0.0%
Tools and Equipment	3	3	3	0	0.0%	2	(1)	(33.3%)	3	1	50.0%
Vehicle Expenses	12	9	9	0	0.0%	9	0	0.0%	9	0	0.0%
Property Expenses	8	9	10	1	11.1%	12	2	20.0%	12	0	0.0%
Subtotal Other	\$70	\$69	\$68	(\$1)	(1.4%)	\$68	\$0	0.0%	\$70	\$2	2.9%
Total OM&A	\$656	\$637	\$675	\$38	6.0%	\$690	\$15	2.2%	\$705	\$15	2.2%

Actual and forecast OM&A expense by major category from 2014 through the test year include salaries and wages, materials and supplies, external services, and other expenses.¹⁰⁰ Over this period, salaries and wages make up more than half of total OM&A expense (approximately 53%), external services make up approximately one third of total OM&A expenses (approximately 32%), and the remaining 15% of OM&A expenses is made up of materials and supplies and other expenses. The following sections describe the components of OM&A in more detail.

7.1.1 Labour Costs

Labour costs include salaries and wages, premium pay and benefits, offset by labour credits such as capitalized salaries. Together these costs comprise more than half of SaskPower's OM&A costs in 2017/18 and 2018/19. For 2016/17 labour costs was \$354 million, of that \$317 million was salaries and wages, \$37 million was premium pay, \$66 million was benefits, and labour costs were offset by labour credits by \$66 million. Approximately two thirds of SaskPower's employees are subject to one of two collective labour agreements.¹⁰¹ Both of SaskPower's collective agreements expired December 31, 2016.¹⁰²

⁹⁹ 1st round information request SRRP Q71.

¹⁰⁰ 1st round information request SRRP Q71.

¹⁰¹ SaskPower, SaskPower's Five Year Corporate Workforce Plan 2016-2020, Prepared by Talent Management, Learning, HR. Page 7.

¹⁰² 1st round information request SRRP Q75.

Total labour costs are forecast to increase by \$11 million in 2017/18 compared to 2016/17 (3.1% increase). A further \$8 million increase is forecast in 2018/19 (2.2% increase). A review of the information summarized in Table 7-4 indicates the main components of the increase in labour costs:

- Salaries and wages expenses are forecast to increase in 2017/18 by \$12 million (3.8%) compared to 2016/17. A further \$7 million increase (2.1%) is forecast for 2018/19.
- Labour credits are forecast to decrease by \$6 million (9.1% decrease) in 2017/18 compared to 2016/17.
- Premium pay is forecast to decrease by \$2 million (5.4% decrease) in 2017/18 compared to 2016/17.
- Benefits are forecast to increase by \$7 million (10.6%) in 2017/18 compared to 2016/17. A further \$1 million increase (1.4%) over 2017/18 is forecast for 2018/19.

Labour costs are also influenced by the total number of full-time equivalent positions (FTEs) and vacancy rates. Table 7-5 summarizes actual and forecast permanent FTEs and vacancy rates for 2014 through 2017/18.

Table 7-5: Actual and Forecast Vacancy Rates¹⁰³

	Actuals			Forecast
	2014	2015	2016/17	2017/18
Actual FTE's	3,091	3,125	3,162	3,137
Budgeted FTE's	3,282	3,268	3,347	3,366
Variance	(191)	(143)	(185)	(229)
Vacancy Rate	5.8%	4.4%	5.5%	6.8%

SaskPower indicates that, due to fiscal restraints, it is not forecasting increases to its FTE complement through calendar year 2020.¹⁰⁴ The forecast vacancy rates for 2017/18 are in line with actuals. SaskPower has developed a workforce strategy that identifies upcoming challenges with respect to the number of employees who are eligible for retirement in the near future, particularly with respect to employees in critical technical positions. To respond to these challenges, SaskPower is focusing on sourcing and recruiting qualified applicants and development and succession planning for critical positions.¹⁰⁵

7.1.2 External Services

External services include contract services, consulting services and advertising. Together these costs comprise approximately 32% of SaskPower's OM&A costs in 2017/18 and 2018/19.¹⁰⁶ For 2016/17 external services expense was \$216 million, of that \$195 million was contract services, \$19 million was consulting services, and \$2 million was advertising.

¹⁰³ 1st round information request SRRP Q73.

¹⁰⁴ SaskPower's Five Year Corporate Workforce Plan 2016-2020, page 11.

¹⁰⁵ SaskPower's Five Year Corporate Workforce Plan 2016-2020, page 14-15.

¹⁰⁶ 1st round information request SRRP Q71.

Total external service costs are forecast to increase by \$6 million in 2017/18 compared to 2016/17 (2.8% increase). A further \$4 million increase is forecast in 2018/19 (1.8% increase). Increases in contract services represent the largest portion of the increases.

7.1.3 Other

Other OM&A expenses include materials and supplies, travel and training, administrative expenses, vehicle expenses, tools and equipment, insurance and bad debt expenses. Collectively these forecast expenses total \$103 million of OM&A in 2017/18 and \$106 million in 2018/19 or approximately 15% of total OM&A expenses. 2016/17 other expenses totaled \$105 million.

7.1.4 Consultant Observations

OM&A is the largest component of SaskPower's revenue requirement in 2017/18 and 2018/19, approximately 26% of total revenue requirement. At the conclusion of the 2016 and 2017 Rate Application, the SRRP recommended that SaskPower limit the growth in OM&A per customer account to half the rate of inflation. The Consultant notes that SaskPower has been attentive to this matter and is on track to achieve this target in 2017/18, 2018/19, and 2019/20. In view of the magnitude of the proposed rate increases the Consultant believes continued diligence in constraining growth in OM&A spending is appropriate.

The Consultant completed a comparison of SaskPower's actual and forecast OM&A and customer accounts for the 10-year period from 2007 through 2016/17. Based on this review, the Consultant notes that there did not appear to be any consistent over- or under-forecasting in these areas. In some years actuals were higher than forecasts while in other years actuals were lower than forecasts.

SaskPower's FTE complement is forecast to decrease by 25 FTEs (0.8% decrease) in 2017/18 compared to 2016/17. SaskPower has indicated that, due to fiscal restraints, it is not forecasting increases to its FTE complement through calendar year 2020.¹⁰⁷ The Consultant is cognizant of the fact that labour costs represent more than half of SaskPower's total OM&A costs and should be managed carefully. In the Consultant's view, SaskPower has demonstrated diligence in managing its OM&A spending and its forecast salaries and wages costs appropriately reflect the recommendation of the Panel to focus on constraining OM&A spending increases.

7.1.5 Consultant Recommendations

The Consultant recommends that the Panel encourage SaskPower to continue to focus on limiting growth in OM&A per customer account to less than inflation and to continue to track and provide OM&A per residential customer for future rate applications.

7.2 FUEL AND PURCHASE POWER EXPENSE

SaskPower's fuel and purchased power (F&PP) expense includes fuel charges associated with SaskPower owned facilities, energy purchased from power purchase agreements (PPAs) and electricity imported from

¹⁰⁷ SaskPower's Five Year Corporate Workforce Plan 2016-2020, page 11.

other jurisdictions. F&PP costs can vary year to year as a result of changes in electricity sales and total generation requirements; the unit prices of different fuel sources and as a result of changes in the mix of generation sources. SaskPower manages its F&PP costs based on an hourly dispatch approach as described in Section 4.1.

Table 7-6 summarizes the actual F&PP expenses, volumes and average unit costs for 2014, 2015/16 and 2016/17 and forecasts for the 2017/18 and 2018/19 test years:

- Actual F&PP expenses in 2016/17 are \$14.5 million or 2.1% lower than forecast which is due to the favorable price for coal and lower total generation volume.
- Forecast F&PP expense for 2017/18 is lower (\$16 million) than 2016/17 actuals despite generation volumes being higher (574 GWh higher). The decrease is due to the favourable variances in fuel mix and prices. Natural gas generation costs are forecast to decrease from \$34.23/MWh in 2016-17 to \$32.81/MWh in 2017-18. SaskPower is also forecasting higher hydro generation volumes. These favourable variances are expected to be partially offset by increased generation (574 GWh) required to serve the higher domestic sales volumes (22,495 GWh in 2017/18 compared to 22,080 in 2016/17).¹⁰⁸

Table 7-6: Actual and Forecast Fuel and Purchased Power Expense (\$ millions)¹⁰⁹

Expense (\$ millions)	2014 Actuals	2015/16 Actuals	2016/17				2017/18			2018/19		
			Actuals	Forecast	change over forecast		Forecast	change over 2016/17 actuals		Forecast	change over 2017/18 forecast	
					\$	%		\$	%		\$	%
Gas	286.6	290.0	298.8	299.9	(1.1)	(0.4%)	260.4	(38.4)	(12.9%)	274.8	14.4	5.5%
Coal	246.8	286.4	275.0	284.1	(9.1)	(3.2%)	282.7	7.7	2.8%	300.1	17.4	6.2%
Wind	10.8	18.6	21.5	20.9	0.6	2.9%	22.0	0.5	2.3%	25.6	3.6	16.4%
Hydro	23.2	16.8	19.2	17.7	1.5	8.5%	25.7	6.5	33.9%	21.3	(4.4)	(17.1%)
Imports	38.5	22.4	28.0	28.8	(0.8)	(2.8%)	28.1	0.1	0.4%	31.0	2.9	10.3%
Other	31.7	18.0	18.9	24.5	(5.6)	(22.9%)	26.4	7.5	39.7%	28.8	2.4	9.1%
Total	\$ 637.7	\$ 652.2	\$ 661.4	\$ 675.9	(\$ 14.5)	(2.1%)	\$ 645.3	(\$ 16.1)	(2.4%)	\$ 681.6	\$ 36.3	5.6%
Volumes (GWh)												
Gas	6,883	8,379	8,729	9,031	(302)	(3.3%)	7,936	(793)	(9.1%)	8,616	680	8.6%
Coal	10,219	10,967	10,759	10,762	(3)	0.0%	10,918	159	1.5%	11,137	219	2.0%
Wind	636	682	740	734	6	0.8%	751	11	1.5%	803	52	6.9%
Hydro	4,706	3,213	3,525	3,234	291	9.0%	4,530	1,005	28.5%	3,634	(896)	(19.8%)
Imports	797	375	478	550	(72)	(13.1%)	637	159	33.3%	565	(72)	(11.3%)
Other	183	139	143	173	(30)	(17.3%)	176	33	23.1%	215	39	22.2%
Total	23,424	23,755	24,374	24,484	(110)	(0.4%)	24,948	574	2.4%	24,970	22	0.1%
Unit prices (\$/MWh)												
Gas	41.64	34.61	34.23	33.21	1.02	3.1%	32.81	(1.42)	(4.1%)	31.89	(0.92)	(2.8%)
Coal	24.15	26.11	25.56	26.40	(0.84)	(3.2%)	25.89	0.33	1.3%	26.95	1.05	4.1%
Wind*	88.22	96.93	98.79	N/A	N/A	N/A	99.10	0.31	0.3%	102.13	3.03	3.1%
Hydro	4.93	5.24	5.45	5.47	(0.03)	(0.5%)	5.67	0.23	4.2%	5.86	0.19	3.3%
Imports	48.33	59.70	58.27	52.36	5.91	11.3%	44.16	(14.11)	(24.2%)	54.87	10.71	24.2%
Weighted Avg	\$ 27.23	\$ 27.45	\$ 27.24	\$ 27.61	(\$ 0.37)	(1.3%)	\$ 25.87	(\$ 1.37)	(5.0%)	\$ 27.30	\$ 1.43	5.5%

*SaskPower did not provide generations unit cost forecast for 2016/17 in the Mid-Application Update for 2016 and 2017 Rate Application and the wind generation's unit cost cannot be calculated by dividing the generation's expense to its volume. Because the fuel cost for Independent Power Producers' wind is higher than SaskPower's wind because the Independent Power Producers price includes capital recovery and O&M costs, whereas SaskPower's price only reflects fuel.¹¹⁰

¹⁰⁸ 2018 Rate Application, page 34.

¹⁰⁹ 2016 and 2017 Rate Application, page 28; 2016 and 2017 Mid-Application Update, page 5-6; 2018 Rate Application, page 33-34.

¹¹⁰ 1st round information request SRRP Q44.

Natural Gas

SaskPower's natural gas generation includes 987 MW of capacity owned by SaskPower and an additional 837 MW of capacity through long-term PPAs.¹¹¹ Natural gas purchases from outside Saskatchewan have been increasing in recent years as Saskatchewan supply declines.¹¹² SaskPower contracts with TransGas to transport gas into and within Saskatchewan. SaskPower pays the tariff rates published by TransGas.¹¹³

SaskPower manages the price volatility associated with natural gas through long-term physical and financial hedges.¹¹⁴ SaskPower's Long-Term Natural Gas Exposure Management Policy was updated in December 2016, though the three main objectives of the policy (security of supply, maintain market access and price management) were not changed.¹¹⁵ In early 2017 SaskPower had hedged 64% of anticipated natural gas consumption for 2017/18 and 56% for 2018/19.¹¹⁶

SaskPower's reliance on natural gas generation is expected to increase in the 2016/17 and 2017/18 compared to previous years. SaskPower notes the following plans to address the price and volumetric volatility associated with increasing reliance on gas generation:

- Fully integrate the long-term hedge program into the on-going comprehensive strategic and resource planning efforts;
- Continue to improve the long-term hedge program;
- Continue to rebalance the supply, transmission and storage service portfolio as the supply plan evolves;
- Continue to collaborate with SaskEnergy and other market participants to optimize assets;
- Continue to enhance tools, analytics and reporting; and
- Continue to evaluate the long-term people, process, technology and governance requirements associated with SaskPower's changing natural gas requirements and impending paradigm shift from fossil fuels to renewables.¹¹⁷

Coal

SaskPower has three coal generation facilities with 1,530 MW of capacity. This includes 110 MW with carbon capture technology. In the test years coal is forecast to provide approximately 44% of total generation requirements. SaskPower's coal contracts are typically long-term in nature which helps support price and supply stability.¹¹⁸

Federal emissions regulations will eventually require the elimination of conventional coal generation. Coal generation will either be totally phased out or fitted with carbon capture technology.¹¹⁹ The federal

¹¹¹ 2018 Rate Application, page 35.

¹¹² 1st round information request SRRP Q49.

¹¹³ 1st round information request SRRP Q53.

¹¹⁴ 2018 Rate Application, page 35.

¹¹⁵ 1st round information request SRRP Q48.

¹¹⁶ 2018 Rate Application, page 35.

¹¹⁷ 1st round information request SRRP Q54.

¹¹⁸ 2018 Rate Application, page 36.

¹¹⁹ 2018 Rate Application, page 36.

regulations require that all traditional coal generating facilities must be retired by the earlier of 50 years of age and 2030. SaskPower is currently studying its options with respect to the future of its existing coal generating fleet. The next facilities that are due to reach 50 years of age are Units #4 and #5 at Boundary Dam Power Station which SaskPower is expected to make a formal decision on their future in early 2018. SaskPower indicates they have not included any capital costs in this rate application that relate to the conversion of these or any other additional units to carbon capture and storage.¹²⁰

Hydro

SaskPower has seven hydro facilities with a combined generation capacity of 864 MW and additionally PPA with Manitoba Hydro for 25 MW of hydro capacity. Hydro generation has a low marginal cost of generation, primarily related to water rentals paid to the Saskatchewan Water Security Agency. Hydro generation can vary year to year due to changes in water levels that can be difficult to forecast. For planning purposes SaskPower uses median hydro levels for the past 40 years. Variations from median flows can result in significant changes to F&PP expense (either higher or lower, depending on whether water levels are higher or lower than median).¹²¹

SaskPower had mentioned they were nearing completion of its review of the economic viability of proceeding with the Tazi Twé Hydroelectric Project as a result of reduced demand for power in the North which demand for electricity in this region has not materialized as expected, which will significantly impair the economics of the project.¹²² SaskPower confirmed that the decision has been made to defer development of the Tazi Twé Hydroelectric Project until there is a viable business case.¹²³

Wind

SaskPower owns two wind facilities with 161 MW of generation capacity and has PPAs for the supply of an additional 60 MW of wind generation. There is no marginal cost for wind generation owned by SaskPower and the cost of wind purchases is governed by long-term contracts. Wind generation is dependent on wind conditions and cannot be dispatched on a planned basis. Saskatchewan wind generation has relatively high annual capacity factor of over 40%, meaning annual wind generation averages 40% of nameplate generation. SaskPower states that a competitive process to add 200 MW of wind from independent power producers is underway and they are planning to increase its wind generation significantly, adding 100 to 200 MW every two years, to achieve the target of 50% renewable capacity.¹²⁴ SaskPower indicates that a decision regarding the future wind power generation ownership has not been made.¹²⁵

Imports

SaskPower has interconnections with Manitoba, Alberta and North Dakota. Import capabilities under normal operating conditions are currently 250 MW from Manitoba, 147 MW from Alberta and 80 MW from North Dakota. Import prices typically vary based on market prices. SaskPower has been negotiating with

¹²⁰ 1st round information request SRRP Q56.

¹²¹ 2018 Rate Application, page 36.

¹²² 1st round information request SRRP Q59.

¹²³ 2018 Mid-Application Update, page 1 and 8; 2nd round information request SRRP Q23.

¹²⁴ 2018 Rate Application, page 36.

¹²⁵ 1st round information request SRRP Q64.

Manitoba Hydro for firm capacity under long-term import contracts. SaskPower began importing 25 MW of firm capacity in 2015. A further 100 MW will be imported between 2020 to 2040.¹²⁶

Other

SaskPower has a small amount of generation provided from PPAs with flare gas, geothermal, heat recovery facilities and demand response programs. Currently these sources provide approximately 27 MW of capacity. The competitive process for Saskatchewan's first 10 MW utility-scale solar project has begun and SaskPower plans to add 60 MW of solar power to the province's power grid by 2021.¹²⁷

7.2.1 Unit Costs of Generation

SaskPower notes that fuel and purchased power unit costs (\$/MWh) are affected by various reasons depending on the generation resource. For example; coal unit costs increase based on contractual inflationary mechanisms; hydro unit costs increase in accordance with the Water Power Rental Regulations; gas unit costs change with the variations in the commodity price, the timing and volume of gas-based generation requirements, the impact of transacted hedges, the impact of acquiring increasing amounts of firm gas transmission capacity/related services to supply an expanding natural gas generation fleet; wind and other unit costs change with the weighted change in contracted capacity and contracted price; import unit costs change based on market prices and the timing and volume of imported electrical energy.

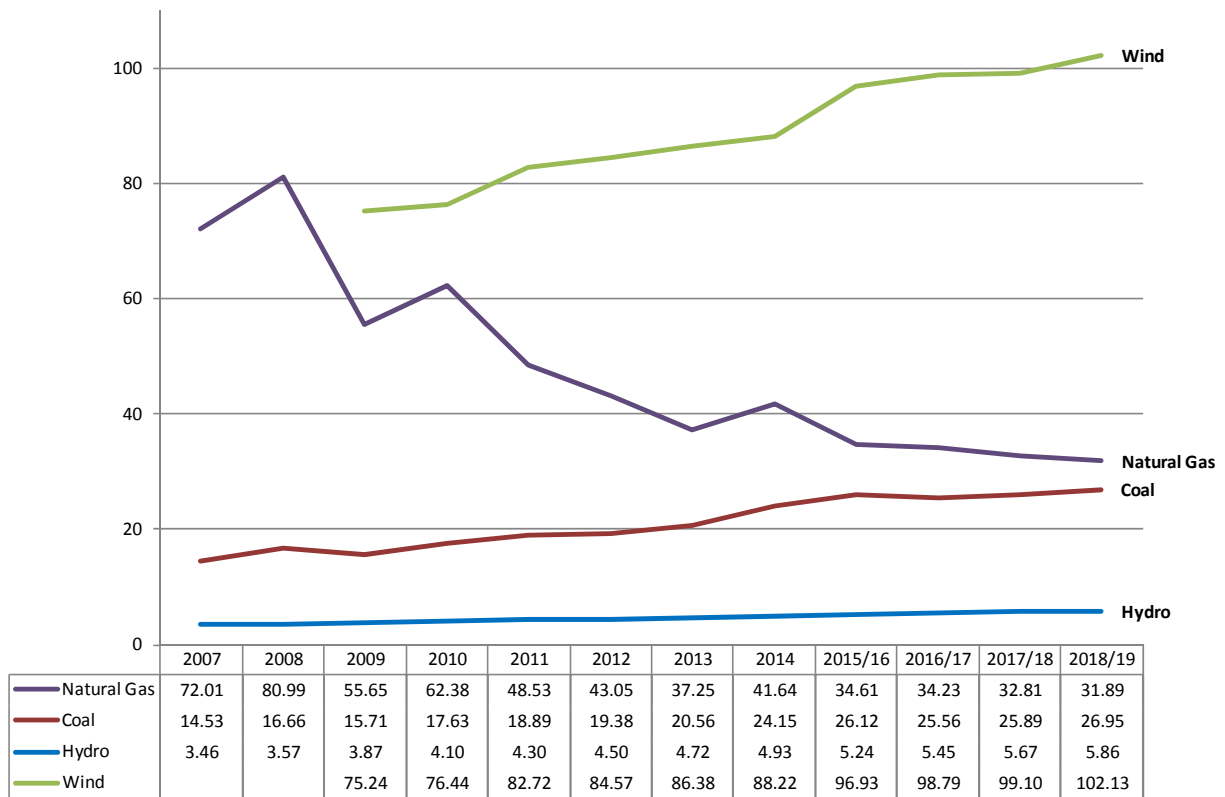
SaskPower's natural gas, coal and hydro generations are the main electricity producing sources that are average of 94% of total volume. SaskPower describes their fuel cost management as focusing on economic dispatch of the generation units where the units with the lowest marginal cost are brought on stream first. Hydro generation has the lowest unit cost and coal generation is after this, so these two generations loads are maximized, however hydro generation depends on water availability.

Figure 7-4 shows the changes in unit costs for SaskPower's major generation types for actuals from 2007 through 2016/17 and forecasts for 2017/18 and 2018/19. Figure 7-4 indicates that the variance in unit costs between natural gas generation and coal has decreased substantially since 2007.

¹²⁶ 2018 Rate Application, page 36-37.

¹²⁷ 2018 Rate Application, page 37.

Figure 7-4: Fuel and Purchased Power Unit Cost (\$/MWh)¹²⁸

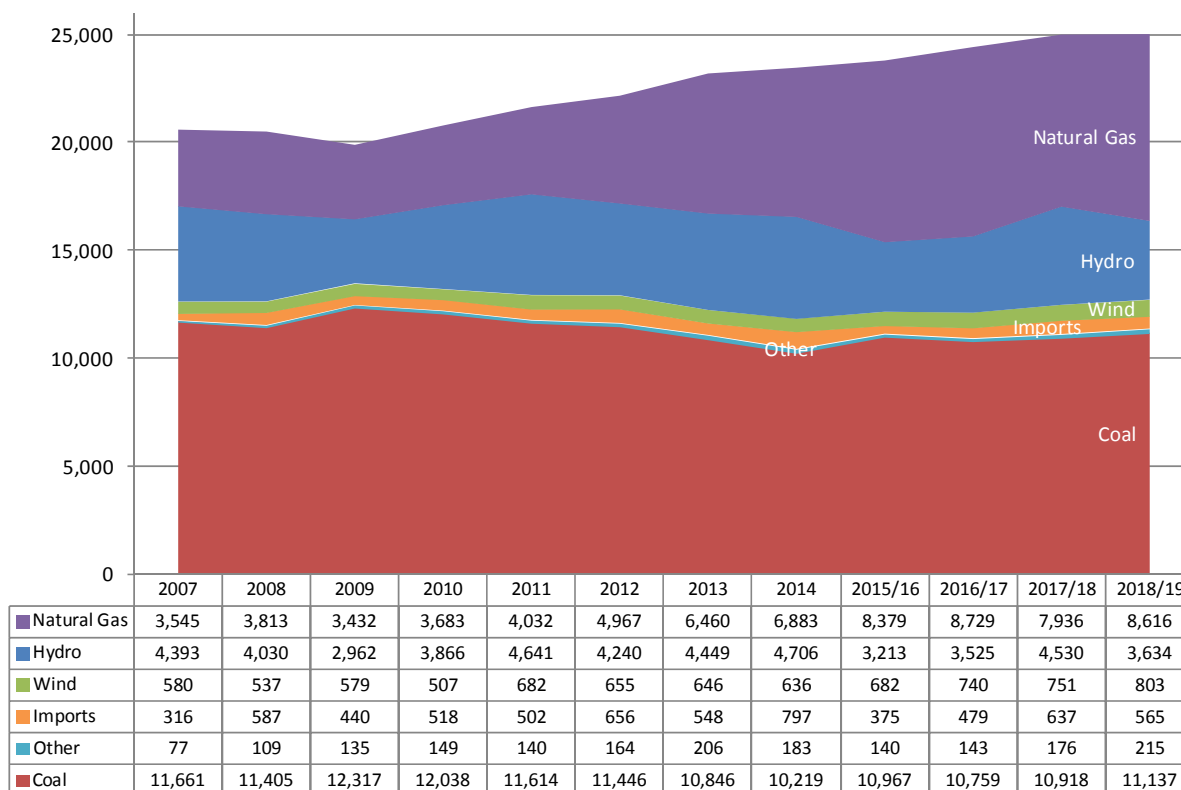


¹²⁸ 1st round information request SRRP Q41 and 2018 Rate Application, page 34.

7.2.2 Generation Volumes

Figure 7-5 shows SaskPower's actual electricity generation volumes for 2007 through 2016/17 and forecasts for 2017/18 and 2018/19. Total electricity generation increased by 3,804 GWh from 2007 to 2016/17 (18% increase). This increased generation has largely been sourced from natural gas generation. In 2007 natural gas was approximately 17% of total generation while in 2016/17 natural gas was 36% of total generation.

Figure 7-5: Generation Production Volumes (GWh)¹²⁹



7.2.3 Consultant Observations

SaskPower manages a generation portfolio that includes a mixture of coal, gas, hydro, wind, imports and other sources. These resources have different characteristics in terms of fuel prices and operating characteristics. In the Consultant's view, SaskPower's methods for managing the dispatch order of its different generation resources is prudent and consistent with good utility practice.

Natural gas represents approximately 35% of generation by volume (MWh) but approximately 44% of forecast F&PP expense in the test years as a result of the higher average unit costs of natural gas compared to other generation sources. The Consultant notes that SaskPower's reliance on natural gas is

¹²⁹ 1st round information request SRRP Q41 and 2018 Rate Application, page 33.

expected to increase beyond the test years as coal plants are phased out and this will increase SaskPower's exposure to fluctuations in natural gas prices.

SaskPower indicated that it has previously studied the option of implementing a fuel price stabilization account to address differences between forecast natural gas prices included in rates and actual natural gas prices. SaskPower retained an external consultant, who recommended that in the event such an account were established, that the province of Saskatchewan should create a quasi-judicial regulatory agency to review the account and the forecasts included in rates. As a result of the review and its own analysis, SaskPower did not proceed with the adoption of a stabilization account.¹³⁰ However, the Consultant notes SaskPower is focused on measures to manage its financial and operating risks related to increased natural gas supply, including its hedge program. The Consultant notes that the hedging program can often result in SaskPower's weighted average cost of gas being higher than the market price, however the hedging program substantially reduces SaskPower's exposure to volatility in natural gas prices and results in improved price stability.¹³¹

7.2.4 Consultant Recommendations

The Consultant recommends that the Panel request SaskPower continue to focus on appropriate methods and strategies for minimizing its exposure to variations in natural gas prices.

7.3 DEPRECIATION AND AMORTIZATION EXPENSE

Depreciation expense represents a charge to income for the capital expenditures of SaskPower. SaskPower's policy is to calculate depreciation on a straight-line basis over the estimated average service life (ASL) of the asset. This is sometimes referred to as the Average Group Life – Whole Life procedure. SaskPower's depreciation expense is calculated in accordance with International Financial Reporting Standards (IFRS).

In accordance with IFRS, SaskPower generally does not collect salvage or decommissioning costs for assets. A few exceptions exist, including where there is a positive salvage value (such as buildings, vehicles and mining surface rights) or when an Asset Retirement Obligation (ARO) is established. SaskPower currently has an ARO for the decommissioning of coal facilities of \$2.3 million per year.¹³² Gains or losses on retirement, occurring if an asset is over or under depreciated when terminally retired, are expensed to revenue requirement in the year incurred, per IFRS accounting practices.¹³³

SaskPower last conducted an external depreciation study in 2010.¹³⁴ The study was completed by the firm Gannett Fleming with rates implemented January 1, 2011. SaskPower's typical policy is to conduct an external depreciation study every 5 years. However SaskPower states the usual timeline has been deferred by management as a cost-cutting initiative. During the 2016 and 2017 Rate Application, SaskPower indicated it had plans to conduct its next external depreciation study in fiscal 2017/18.¹³⁵

¹³⁰ 1st round information request SRRP Q54(b).

¹³¹ Based on a review of the response to 1st round information request SRRP 51.

¹³² 2nd round information request SRRP Q12.

¹³³ 2nd round information request SRRP Q25(b).

¹³⁴ 1st round information request SRRP Q16 from the 2016 and 2017 Rate Application.

¹³⁵ 1st round information request SRRP Q16 from the 2016 and 2017 Rate Application.

During the review of the 2018 application, SaskPower stated it intends to internally review the estimated service lives and depreciation rates for generation, transmission and distribution assets in 2017/18.¹³⁶

In addition to periodic external reviews of depreciation methods, SaskPower annually conducts internal reviews of service lives to confirm their continued appropriateness and proposes adjustments when considered necessary. This review is conducted by the Finance department and is based on discussions with management and personnel from the operating areas.¹³⁷ SaskPower's depreciation reviews are prepared for IFRS financial reporting purposes and do not follow rate regulated accounting practices.¹³⁸ SaskPower's internal reviews do not include review of depreciation studies approved by regulators in other jurisdictions. However SaskPower notes it has appointed representation on the Canadian Electricity Association Finance and Accounting committee meetings, discussions and surveys, with topics including depreciation.¹³⁹ SaskPower's internal depreciation studies are reviewed by its external auditor, Deloitte and the Provincial Auditor of Saskatchewan. SaskPower states its external auditors have accepted the proposed changes to depreciation rates in the 2016-17 Depreciation Study.¹⁴⁰

Forecast depreciation expense is \$542.3 million in 2017/18 and \$572.0 million in 2018/19 as shown in Table 7-7. Depreciation expense has grown considerably since the last external depreciation study (implemented January 1, 2011) as shown in Figure 7-6.

Table 7-7: Actual and Forecast Depreciation Expense (\$ millions)¹⁴¹

Expense (\$ millions)	2016/17				2017/18			2018/19		
	2015/16 Actual	Actuals	change over 2015/16 actuals		Forecast	change over 2015/16 actuals		Forecast	change over 2015/16 actuals	
			\$	%		\$	%		\$	%
Depreciation Expense	409.3	437.5	28.2	6.9%	486.0	48.5	11.1%	514.5	28.5	5.9%
Capital Lease Amortization	56.3	56.3	0.0	0.0%	56.3	0.0	0.0%	57.5	1.2	2.1%
Total	\$465.6	\$493.8	\$28.2	6.1%	\$542.3	\$48.5	9.8%	\$572.0	\$29.7	5.5%

Based on the Net Book Value of SaskPower's assets as of March 31, 2018, of \$10.147 billion¹⁴² SaskPower's annual depreciation expense represents approximately 5% of SaskPower's total net Property, Plant & Equipment or an average service life remaining of 18.7 years.¹⁴³

¹³⁶ 1st round information request SRRP Q19.

¹³⁷ 1st round information request SRRP Q21.

¹³⁸ 2nd round information request SRRP Q11.

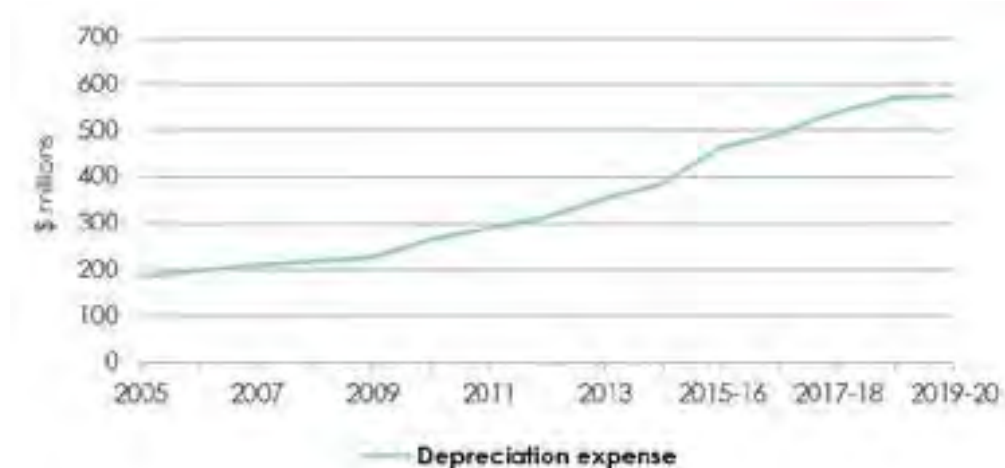
¹³⁹ 1st round information request SRRP Q20.

¹⁴⁰ 1st round information request SRRP Q21(b).

¹⁴¹ 2018 Rate Application, page 40.

¹⁴² 1st round information request SRRP Q4.

¹⁴³ Estimated based on net book value of \$10.147 billion divided by depreciation expense for 2017/18.

Figure 7-6: Increase in Depreciation Expense (\$millions)¹⁴⁴

Depreciation expense is impacted by a number of factors including asset additions, asset retirements and methodology changes. In the last decade depreciation expense has increased by approximately \$300 million cumulatively, due primarily to SaskPower's \$8.7 billion investment in electricity infrastructure during this time.¹⁴⁵ Methodology changes since the last external depreciation study have also increased depreciation expense by \$39.326 million related to the following changes:

- \$18.990 million cumulative annual impact from expediting the retirement dates of SaskPower's coal facilities and shortening the economic life of the Shand Carbon Capture Test Facility.
- \$20.335 million depreciation expense increase from decreases to asset average service lives (increasing the associated depreciation rate applied to net book value). This includes adjustments where new asset categories have been created to separate out assets that have shorter average life statistics (asset componentization).

Table 7-8 breaks down the cumulative annual impact of these changes by asset category. In the 2016 and 2017 Rate Application, SaskPower's internal depreciation review recommended a \$10.7 million increase to depreciation expense (\$5.58 million due to coal retirement date changes and \$5.13 million from useful life changes).¹⁴⁶ Comparatively, the incremental impact of the depreciation study in the 2018 application is \$34.2 million.¹⁴⁷

¹⁴⁴ 2018 Rate Application, page 39.

¹⁴⁵ 2018 Rate Application, page 41.

¹⁴⁶ 1st round information request SRRP Q13 from 2016 and 2017 Rate Application, SaskPower 2015 Depreciation Rate Review, February 8, 2016, Appendix B, page 8 of 8.

¹⁴⁷ 1st round information request SRRP Q21(a).

Table 7-8: Cumulative Annual Impact from Depreciation Methodology Changes since 2010 Study¹⁴⁸

Depreciation Property Group	Revised Retirement Date	Previous Retirement Date	Revised Depreciation Rate	Previous Depreciation Rate	Change	Cumulative Annual Impact (\$000)
Shand Carbon Capture Test Facility	2019	2020	30.07%	20.00%	10.07%	\$ 6,910
Boundary Dam Unit 4	2021	2021	12.38%	9.27%	3.11%	\$ 7,397
Boundary Dam Unit 5	2024	2022	6.34%	6.70%	(0.36%)	\$ 919
Boundary Dam Unit 6	2027	2023	4.74%	6.86%	(2.12%)	\$ (1,322)
Poplar River Unit 1	2029	2028	4.95%	4.96%	(0.01%)	\$ 899
Poplar River Unit 2	2029	2026	4.85%	5.61%	(0.76%)	\$ 19
Poplar River Common	2029	N/A	5.58%	3.33%	2.25%	\$ 3,647
Landis	2021	2020	7.03%	7.14%	(0.11%)	\$ 550
Meadow Lake	2021	2020	7.01%	7.15%	(0.14%)	\$ (4)
Queen Elizabeth Unit 3	2023	2022	13.11%	13.30%	(0.19%)	\$ (25)
Total						\$ 18,990

Depreciable Property Group	Revised Average Service Life (years)	Previous Average Service Life (years)	Revised Depreciation Rate	Previous Depreciation Rate	Change	Cumulative Annual Impact (\$000)
Gas Turbines Combuster and Compressor	5 - 25	15 - 25	4% - 20%	4% - 6.67%	0 - 13.33%	\$ 6,049
Anodes & Coating	15	45 - 50	6.67%	2% - 2.22%	4.45% - 4.67%	\$ 4,149
Stub & Treat Wood Poles	15	35	6.67%	2.86%	3.81%	\$ 3,023
Grid Automation	15	35	6.67%	2.86%	3.81%	\$ 855
Station Automation	15	20 - 35	6.67%	2.86 - 5%	1.67% - 3.81%	\$ 524
Transformer Automation	15	50	6.67%	2.00%	4.67%	\$ 178
Overhead Switching Station Conductors & Devices	25	40	4.00%	2.50%	1.50%	\$ 313
Surface Stone & Fencing	20	40	5.00%	2.50%	2.50%	\$ 115
Generation - Controls and Protection	15	25	6.67%	4.00%	2.67%	\$ 4,701
Vehicles - Power Operated	15	20	6.00%	4.50%	1.50%	\$ 164
Vehicles - Track Mounted	15	25	6.00%	3.60%	2.40%	\$ 264
Total						\$ 20,335

Retirement of the Shand Carbon Capture Test Facility

The Shand Carbon Capture Test Facility is currently used to perform tests with the goal of minimizing the cost of amine use in the existing carbon capture process at the Boundary Dam Integrated Carbon Capture & Storage Demonstration Project. SaskPower conducts these tests jointly with an external partner.¹⁴⁹ SaskPower is proposing to shorten the economic life and advance the retirement date of this Facility from 2020 to 2019, based on the joint agreement between SaskPower and its external partner.¹⁵⁰ The impact of this one life adjustment is an increase to revenue requirement of \$6.9 million in each of 2017/18 and 2018/19.¹⁵¹ SaskPower indicates it is still actively seeking new sources for the test facility and has had several prospective clients tour it for potential replacement when the existing partnership ends.¹⁵²

¹⁴⁸ 2nd round information request SRRP Q9.

¹⁴⁹ 2nd round information request SRRP Q10(b).

¹⁵⁰ 2nd round information request SRRP Q10(c).

¹⁵¹ 2nd round information request SRRP Q9.

¹⁵² 1st round information request SRRP Q35.

Terminal Retirement of Coal Facilities

SaskPower's depreciation expense for 2017/18 and 2018/19 includes an increase due to advancing the retirement of coal facilities. SaskPower states these changes reflect terms broadly set out in the Equivalency Agreement in Principle between the Saskatchewan Ministry of Environment and Environment and Climate Change Canada. The coal facilities have proposed terminal retirement dates starting in 2021. Due to uncertainty surrounding the Equivalency Agreement, these dates were determined through discussions with SaskPower's Asset Management department and reflect the current supply plan. SaskPower notes these retirement dates are subject to change.¹⁵³

The adjustments of these terminal retirement dates since the 2010 external depreciation study result in an increased depreciation expense of approximately \$12.1 million (or a rate increase of approximately 0.5%). Annual depreciation expense for coal assets includes a \$2.3 million charge for decommissioning costs, as estimated in a 2014 Asset Retirement Obligation/Decommissioning Study by KGS in 2014 and reviewed internally for reasonability on an annual basis.¹⁵⁴

SaskPower states it has not considered alternative financial treatments for the unamortized portion of coal generation assets that are nearing retirement, as financial statements (and the financial forecasts used to set rates) are prepared in accordance with IFRS. As such, SaskPower does not follow rate regulated accounting practices when considering depreciation expense forecasts for rate making purposes.¹⁵⁵

Changes to Asset Service Lives

SaskPower is proposing to reduce the average service life estimates for certain asset accounts including Surface Stone & Fencing, Anodes & Coating, and Stub & Treat Wood poles. These asset categories reflect new categories of assets previously included in other asset categories. SaskPower indicates that the reduced ASL rates for these asset categories is based on past experience and future expectations.¹⁵⁶ SaskPower states that the removal of these asset components does not affect the service life estimates of the remaining assets in the old category.¹⁵⁷

7.3.1 Consultant Observations

The Consultant notes that SaskPower's depreciation methods have not been reviewed externally since 2010. Since that time, depreciation expense has grown considerably and will continue to grow as capital expenditures increase. SaskPower has implemented or is proposing changes since the last external review that increase depreciation expense by approximately \$39.325 million (equivalent to an annualized rate increase of approximately 1.5%).¹⁵⁸ The Consultant notes these depreciation changes primarily reflect two types of changes:

- SaskPower's proposed treatment of coal assets reflects the following changes:

¹⁵³ 1st round information request SRRP Q21.

¹⁵⁴ 2nd round information request SRRP Q12.

¹⁵⁵ 2nd round information request SRRP Q11(c).

¹⁵⁶ 2nd round information request SRRP Q13.

¹⁵⁷ 2nd round information request SRRP Q13.

¹⁵⁸ \$39.325 million divided by approximately \$25 million increase in revenue of a 1% rate increase.

- The Shand Carbon Capture Test Facility potential retirement in 2019 resulting in an annual increase to depreciation expense of approximately \$7 million; and
- Adjustments to the terminal retirements of coal generation facilities reflect an increase of \$12 million.
- SaskPower's internal annual depreciation reviews have resulted in service life decreases (i.e. causing increases to depreciation expense). There have not been any changes made to increase life extensions that could help offset depreciation expense increases. The Consultant notes that life extensions where reasonable and supported either by the utility's own retirement data or comparisons with industry peers are commonly implemented as part of utility depreciation reviews in other jurisdictions and accepted under IFRS.

Costs Related to Terminal Retirement of Coal Facilities

The remaining Net Book Value at March 31, 2017 for SaskPower's coal facilities is substantial.¹⁵⁹ In the Consultant's view the treatment of retirement costs is a material issue for ratepayers that merits attention. In particular the Consultant is interested in whether the coal facility retirements could be considered a special case in terms of depreciation treatment for ratemaking purposes.

From a regulatory perspective, the acceleration of depreciation expense for coal asset retirements is not a matter of whether these facilities were a prudent investment. The Consultant notes that the circumstances leading to the proposed acceleration of depreciation rates is not something that could have been anticipated when SaskPower built the assets. The increased costs are primarily a result of regulatory regime changes outside of the control of either SaskPower or its customers. However, there is also no increased benefit to ratepayers associated with these increases in proposed costs. In the Consultant's view, the key regulatory issue is whether or not these cost increases relate to assets that are used and useful and are just and reasonable to include in rates charged to customers.

In a 2013 Decision on the tolls for the TransCanada Mainline, the National Energy Board reviewed issues related to regulatory standards for cost recovery noting that at times the standard of prudence and the used and useful standard can be in conflict.¹⁶⁰ At issue in that proceeding was whether the NEB must allow TransCanada to be compensated for assets that were prudently incurred, but may no longer be used and useful and whether it would be confiscatory to disallow costs in appropriate circumstances. In its decision the NEB referenced the Supreme Court of Canada's *Stores Block* decision stating:

In our view, this conclusion is consistent with the principles set out in *Stores Block*. That case places the ultimate risk of asset ownership on the pipeline company and not its customers. We recognize that *Stores Block* does not specify how a regulator must calculate rate base or determine tolls. However, the Court made clear that the benefits and risks of asset ownership, realized upon the disposition of an asset, rests with the utility. As Association of Power Producers of Ontario (APPrO) noted, if the Board or other regulators were compelled by law to allow recovery of costs associated with assets that are no longer used and useful in providing service, then it is highly unlikely that a utility

¹⁵⁹ 2nd round information request SRRP Q11 indicates remaining net book value of coal generation facilities excluding Boundary Dam unit #3 of approximately \$1 billion.

¹⁶⁰ NEB Decision RH-003-2011 regarding TransCanada Mainline, page 38, <https://apps.neb-one.gc.ca/REGDOCS/Item/View/939799>

would dispose of an asset at less than its book value and realize a loss – a potential event described by the Supreme Court of Canada in *Stores Block*. Instead, utilities would leave the asset in rate base and continue to earn a return on and of their investment in the asset.¹⁶¹

In determining whether to disallow costs and if so, at what level, in rates, the NEB used judgement informed by, among other things, a) current and expected asset use, b) the extent to which customers bear costs not associated with providing them service and c) current and expected competitiveness (though noting that for captive markets an assessment of the competitiveness of tolls would not be meaningful because they do not have reasonable competitive alternatives).¹⁶²

Other utilities and regulators have also dealt with issues related to material changes in asset lives; stranded assets or other issues related to whether an asset is used and useful in revenue requirement and have adopted alternative methods for depreciation in these circumstances:

- The Alberta Utilities Commission in the Asset Disposition Decision 2013-417 (following the 2006 Supreme Court of Canada *Stores Block* decision) places the risk (both positive and negative) of stranded assets onto the shareholder, as the residual claimant to a utility's profit. The decision states that ratepayers have only "the risk of a price change resulting from any (authorized) change in the cost of service. This change is determined only periodically in a tariff review by the regulator."¹⁶³ The Decision specifies 'extraordinary retirements' as retirements "not reasonably assumed to have been anticipated or contemplated in prior depreciation or amortization provisions".¹⁶⁴ In this manner, the shareholder who is allowed a return through rates also accepts full financial exposure to extraordinary retirements as they are not used for providing customers with service. The allowable ROE in rates and amount of equity are both relevant regulatory considerations in this approach.
- Manitoba Hydro, has had some depreciation specific costs disallowed for recovery in rates (including a method change from ASL to ELG that would result in increased costs to ratepayers). Manitoba Hydro has also noted it will be required to recognize \$380 million in costs related to the suspension of the Conawapa hydroelectric project for financial reporting purposes under IFRS. To minimize the impact on customers, Manitoba Hydro is proposing to defer these costs in a regulatory deferral balance and commence amortization over 30 years, subject to the PUB's endorsement following its review of Manitoba Hydro's 2017/18 and 2018/19 GRA.¹⁶⁵
- During unbundling of regulated utilities in the US to a competitive market structure, transitional issues arose for some utilities with higher cost generation assets (for example, nuclear generation). As these plants were unlikely to earn enough in the emerging competitive wholesale power market to repay the capital costs, many states imposed special surcharges on electricity prices to pay for the costs of stranded nuclear plants.¹⁶⁶ In some cases in the United States,

¹⁶¹ NEB Decision RH-003-2011 regarding TransCanada Mainline, page 41, <https://apps.neb-one.gc.ca/REGDOCS/Item/View/939799>

¹⁶² NEB Decision RH-003-2011 regarding TransCanada Mainline, page 43, <https://apps.neb-one.gc.ca/REGDOCS/Item/View/939799>

¹⁶³ AUC Decision 2013-417, page 14, http://www.auc.ab.ca/regulatory_documents/ProceedingDocuments/2013/2013-417.pdf

¹⁶⁴ AUC Decision 2013-417, page 77, Ibid.

¹⁶⁵ Manitoba Hydro 2017/18 & 2018/19 General Rate Application, response to PUB/MH I-22a-b, https://www.hydro.mb.ca/regulatory_affairs/pdf/electric/general_rate_application_2017/information_requests/round_1_pub_irs.pdf

¹⁶⁶ Gomez Ibanex, Jose A, (2006), Regulating Infrastructure: Monopoly, Contracts, and Discretion, pages 254 - 255

utilities were allowed to recover the cost of amortizing the stranded assets, but excluded the assets from the calculation of ratebase and return on equity.¹⁶⁷

The Consultant understands that SaskPower determines depreciation expense in adherence to IFRS requirements and likely is not eligible to take advantage of rate regulatory accounting options given the rate regulation framework in Saskatchewan. However, considering the magnitude of the impact on rates, the Consultant believes an exploration of other potential options is merited.

Shand Carbon Capture Test Facility

SaskPower uses the Shand Carbon Capture Test Facility, in conjunction with an external partner, to perform tests with the goal of minimizing the cost of amine use in the existing carbon capture process at the Boundary Dam Integrated Carbon Capture & Storage Demonstration Project.¹⁶⁸ In this application, SaskPower is proposing to advance the retirement date of this Facility from 2020 to 2019, based on the joint agreement between SaskPower and its external partner.¹⁶⁹ The impact of this adjustment is an increase to revenue requirement of \$7.8 million in each the 2017-18 test year and 2018-19 (or roughly a rate increase of 0.33%).

The Consultant notes SaskPower is still actively seeking new sources for the test facility and has had several prospective clients tour it for potential replacement when the existing partnership ends.¹⁷⁰ The Consultant is concerned about the magnitude of the depreciation expense increase, if there is still potential that the facility may be useful to SaskPower and its customers.

Review of Average Service Lives

The Consultant notes that depreciation expense will continue to increase in future years based on continued capital spending. SaskPower's forecast capital additions of \$1.341 billion in 2017/18 and \$1.073 billion in 2018/19¹⁷¹ equate to an increase in depreciation expense of approximately \$54 million and \$43 million respectively.¹⁷² This combined increase of \$97 million will be offset to a degree by amortization and retirements in that period but still represents a substantial net increase.

The Consultant is concerned that SaskPower's service lives have not undergone an external review since 2010 and that in that time, changes to service lives implemented by SaskPower have served only to increase depreciation expense by shortening service lives.

The Consultant reviewed the peer utility information from a 2016 study completed for Newfoundland Hydro¹⁷³ and peer utility information and recommendations from the 2010 study performed for

¹⁶⁷ Hempling, Scott. (2015) From streetcars to solar panels: Stranded cost policy in the United States. Energy Regulatory Quarterly. Available: <http://www.energyregulationquarterly.ca/articles/from-streetcars-to-solar-panels-stranded-cost-policy-in-the-united-states#sthash.YuVhibQN.dpbs>. Accessed November 25, 2017.

¹⁶⁸ 2nd round information request SRRP Q10(b).

¹⁶⁹ 2nd round information request SRRP Q10(c).

¹⁷⁰ 1st round information request SRRP Q35.

¹⁷¹ 1st round information request SRRP Q4.

¹⁷² 1st round information request SRRP Q99, using an average amortization period of 25 years to approximate annual depreciation expense.

¹⁷³ Exhibit 11: 2016 Depreciation Study in Newfoundland Hydro 2017 GRA (Volume II), <http://pub.nl.ca/applications/NLH2017GRA/applications/NLH%202017%20General%20Rate%20Application%20-%20Volume%202%20-%20Revision%203%20-%202017-10-27.PDF>

SaskPower. The Consultant noted several accounts where the peer utility comparisons or recommendations suggest there may be longer service lives being observed for other utilities in Canada, including:

- **Gas Turbine:** SaskPower's 2010 study recommended a service life of 15 years and noted the current estimate at the time of the study was 25 years;¹⁷⁴ the 2016 Newfoundland Hydro study describes a range of 30-55 years for gas turbines. This account represented 2% of SaskPower's depreciable plant in the 2010 study.¹⁷⁵
- **Transmission steel structures:** SaskPower's 2010 study included peer service lives of 45-85 years; the 2016 Newfoundland Hydro study describes a range of 55 to 85 years.¹⁷⁶ This account represented 3% of SaskPower's depreciable plant in the 2010 study.
- **Transmission wood structures:** SaskPower's 2010 study included peer service lives of 25-55 years; the 2016 Newfoundland Hydro study describes a range of 40 to 65 years.¹⁷⁷ This account represented 2% of SaskPower's depreciable plant in the 2010 study.

The Consultant understands that the peer comparison information is not the only relevant consideration when determining appropriate depreciation rates for SaskPower. The specific types of assets included in each account may also vary by utility. The Consultant also understands that SaskPower's depreciation adjustments are reviewed by its auditors. However, the Consultant believes that given the magnitude of the increase in depreciation expense and the time since the last external review, that a thorough review of depreciation rates is warranted. Such a review may assist in identifying areas where SaskPower's service lives could be extended, where supported by SaskPower's own retirement data as well as peer utility comparisons and other relevant considerations. However, the Consultant acknowledges that such a review may also identify areas where SaskPower's depreciation rates should be further shortened (increasing depreciation expense).

7.3.2 Consultant Recommendations

The Consultant recommends that the Panel request SaskPower complete an external review of its depreciation rates, including average service life estimates, before the end of 2018.

The Consultant recommends that the Panel request SaskPower consider whether there are other potential options to address the impact of the retirement of coal assets on ratepayers and report back to the Panel at the time of the next rate application.

7.4 FINANCE CHARGES

Finance charges reflect interest expense on SaskPower's long-term and short-term borrowings and capital leases offset by capitalized interest costs and debt retirement fund earnings. Table 7-9 summarizes SaskPower's actual interest expense for 2015/16 and 2016/17 as well as forecasts for 2017/18 and 2018/19. Interest expense is generally increasing due to increased capital spending. Total finance

¹⁷⁴ Page A-21 of the 2010 SaskPower study; Page II-11 of the 2016 Newfoundland Hydro study.

¹⁷⁵ The Consultant understands SaskPower currently uses a 25 year service life for both thermal and gas turbines.

¹⁷⁶ Page A-22 of the 2010 SaskPower study; Page II-19 of the 2016 Newfoundland Hydro study.

¹⁷⁷ Page A-24 of the 2010 SaskPower study; Page II-16 of the 2016 Newfoundland Hydro study.

charges are forecast to increase from \$384 million in 2015/16 to \$424 million in 2018/19 (\$40 million or 10.4% increase) due to increased interest on long-term debt. Finance expense changes both due to changes in SaskPower's overall debt level, as well as due to interest rates on short-term and long-term debt.

Table 7-9: Actual and Forecast Finance Charges (\$ millions)¹⁷⁸

Expense (\$ millions)	2016/17				2017/18			2018/19		
	2015/16 Actual	Actual	change over 2015/16 Actual		Forecast	change over 2016/17 Actual		Forecast	change over 2017/18 Forecast	
			\$	%		\$	%		\$	%
Interest on long-term debt	243.0	257.0	14.0	5.8%	268.0	11.0	4.3%	286.0	18.0	6.7%
Interest on finance lease	167.0	166.0	(1.0)	(0.6%)	163.0	(3.0)	(1.8%)	164.0	1.0	0.6%
Interest on short-term debt	5.0	6.0	1.0	20.0%	7.0	1.0	16.7%	9.0	2.0	28.6%
Accretion	4.0	5.0	1.0	25.0%	5.0	0.0	0.0%	5.0	0.0	0.0%
Capitalized Interest	(25.0)	(15.0)	10.0	(40.0%)	(23.0)	(8.0)	53.3%	(34.0)	(11.0)	47.8%
Amortization of debt premiums/discounts	(2.0)	(1.0)	1.0	(50.0%)	1.0	2.0	(200.0%)	(1.0)	(2.0)	(200.0%)
Interest on employee benefits	9.0	11.0	2.0	22.2%	9.0	(2.0)	(18.2%)	9.0	0.0	0.0%
Other interest and charges	1.0	0.0	(1.0)	(100.0%)	(1.0)	(1.0)	-	4.0	5.0	(500.0%)
Finance Expense	\$402.0	\$429.0	\$27.0	6.7%	\$430.0	\$1.0	0.2%	\$442.0	\$12.0	2.8%
Income (\$ millions)										
Debt retirement fund earnings	(17.0)	(13.0)	4.0	(23.5%)	(12.0)	1.0	(7.7%)	(17.0)	(5.0)	41.7%
Interest income	(1.0)	0.0	1.0		(1.0)	(1.0)		(1.0)	0.0	0.0%
Finance Income	(18.0)	(13.0)	5.0	(27.8%)	(13.0)	0.0	0.0%	(18.0)	(5.0)	38.5%
Total Finance Charges	\$384.0	\$416.0	\$32.0	8.3%	\$417.0	\$1.0	0.2%	\$424.0	\$7.0	1.7%

Table 7-10 shows SaskPower's actual debt for 2015/16 and 2016/17 as well as forecasts for 2017/18 and 2018/19. Total net debt is forecast to increase from \$6.7 billion in 2015/16 to \$7.8 billion in 2018/19. Gross long-term debt is forecast to increase from \$5.1 billion in 2015/16 to \$6.2 billion in 2018/19. This new debt is required to finance SaskPower's forecast capital spending. The current borrowing limit for SaskPower pursuant to the *Power Corporation Act* is \$10 billion. SaskPower is forecasting approximately \$2.7 billion of additional borrowing capacity remaining at the end of 2018/19.¹⁷⁹ SaskPower's gross debt at March 31, 2017 accounted for approximately 36% of the Province of Saskatchewan's total debt.¹⁸⁰

SaskPower currently has a strategy of maintaining up to 15% in ongoing floating rate debt as a percentage of total debt equivalent obligations (including capital leases). SaskPower can also carry up to \$800 million in temporary floating rate debt for bridge financing, credit support financing or for emergency requirements.¹⁸¹ Short-term debt interest rates are typically lower than long-term debt interest rates and can provide short-term savings and flexibility in financing. However there is a risk that short-term interest rates or long-term interest rates could increase making debt financing more costly in the long run.

¹⁷⁸ 1st round information request SRRP Q15.

¹⁷⁹ 1st round information request SRRP Q78.

¹⁸⁰ Calculated as \$6.448 billion divided by \$17.795 billion per 1st round information request SRRP Q13.

¹⁸¹ 1st round information request SRRP Q12.

Table 7-10: Actual and Forecast Net Debt (\$ millions)¹⁸²

Expense (\$ millions)	2016/17				2017/18			2018/19		
	2015/16 Actual	Actual	change over 2015/16 Actual		Forecast	change over 2016/17 Actual		Forecast	change over 2017/18 Forecast	
			\$	%		\$	%		\$	%
Gross long-term debt	5,130.0	5,559.0	429.0	8.4%	5,881.0	322.0	5.8%	6,224.0	343.0	5.8%
Finance lease obligation	1,133.0	1,126.0	(7.0)	(0.6%)	1,113.0	(13.0)	(1.2%)	1,131.0	18.0	1.6%
Short-term advances	981.0	900.0	(81.0)	(8.3%)	1,136.0	236.0	26.2%	1,213.0	77.0	6.8%
Debt retirement funds	(533.0)	(590.0)	(57.0)	10.7%	(668.0)	(78.0)	13.2%	(739.0)	(71.0)	10.6%
Cash and cash equivalents	(28.0)	(13.0)	15.0	(53.6%)	(5.0)	8.0	(61.5%)	(5.0)	0.0	0.0%
Total net debt level	\$6,683.0	\$6,982.0	\$299.0	4.5%	\$7,457.0	\$475.0	6.8%	\$7,824.0	\$367.0	4.9%
Percent Debt Ratio	75.7%	75.7%			75.8%			75.3%		

SaskPower is forecasting short-term interest rates of 0.8% in 2018/19 and long-term interest rates of 3.3% in 2018/19. This compares to current interest rates of 0.5% for short-term debt and 3.1% for long-term debt. SaskPower indicates these forecast increases add an additional \$4.35 million to interest expense in 2018/19, with the majority of that increase related to the forecast increase in short-term interest expense.¹⁸³

Figure 7-7 compares SaskPower's actual short-term debt rates to forecasts for the most recent 5 actual years.¹⁸⁴ Figure 7-8 compares SaskPower's actual long-term debt rates to forecasts for the most recent 5 actual years. A review of this information shows that since 2013, SaskPower's interest rate forecasts have been very close to the actual interest rates for the year. In 2012, SaskPower's short-term and long-term interest rate forecasts were somewhat higher than actuals. Since that time however the forecasts have been much closer to actual results.

¹⁸² 1st round information request SRRP Q10.

¹⁸³ 1st round information request SRRP Q18.

¹⁸⁴ 1st round information request SRRP Q14 indicates SaskPower did not include a budgeted short-term debt rate prior to 2011.

Figure 7-7: SaskPower Actual and Forecast Short-term Debt Interest Rates¹⁸⁵

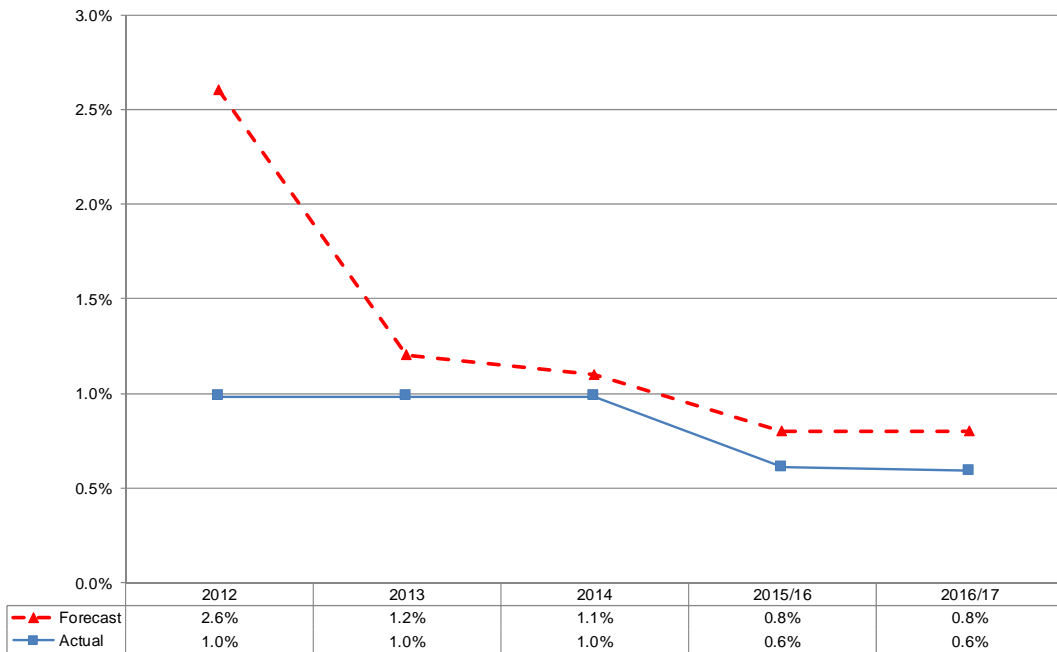
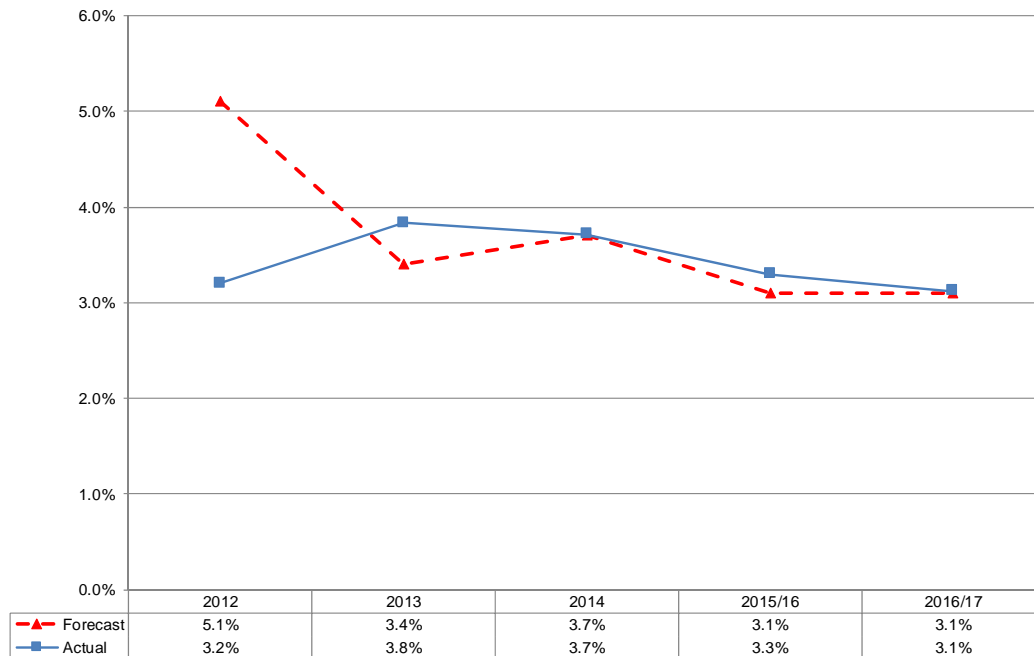


Figure 7-8: SaskPower Actual and Forecast Long-term Debt Interest Rates¹⁸⁶



¹⁸⁵ 1st round information request SRRP Q14. Actual interest rates in the figure reflect the mid-point of the ranges reported in the information request.

¹⁸⁶ 1st round information request SRRP Q14. Actual interest rates in the figure reflect the weighted average of the effective rates reported in the information request.

7.4.1 Consultant Observations

The Consultant notes that several factors influence the total finance charges including SaskPower's total debt requirements; the mixture of short-term and long-term debt; and the interest rate forecasts.

Total Debt Requirements

SaskPower's debt requirements are increasing in order to support its capital plan. The Minister's terms of reference to the Panel instruct the Panel to accept the budgeted capital allocation as given. The Consultant notes that capital spending is a major driver of the increase in finance charges in 2017/18 and 2018/19.

Debt Portfolio

The Consultant notes that SaskPower has a strategy of maintaining up to 15% of its debt as floating rate (or short-term) debt mix as a percentage of its total debt. The Consultant reviewed the proportion of short-term debt used by other Crown electric utilities in 2016 and found that 15% was within the range observed in the other crown electric utilities. Based on this review the Consultant concludes that SaskPower's short-term debt mixture appears reasonable for rate-making purposes.

Interest Rate Forecasts

The Consultant notes SaskPower is forecasting short-term interest rates of 0.8% in 2018/19 and long-term interest rates of 3.3% in 2018/19. This compares to current interest rates of 0.5% for short-term debt and 3.1% for long-term debt. These forecast increases add an additional \$4.35 million to interest expense in 2018/19, compared to current interest rates. A review of SaskPower's interest rate forecasts indicates that the forecasts have been quite reasonable compared to actual interest rates. The Consultant further notes that the Bank of Canada overnight rate target increased from 0.5% to 0.75% in July of 2017 and from 0.75% to 1.0% in September of 2017 and that SaskPower's short-term interest rate forecast is within this range.¹⁸⁷ On that basis, the Consultant concludes that SaskPower's interest rate forecasts appear reasonable for rate-making purposes.

7.5 TAX EXPENSE

SaskPower incurs tax expenses related to corporate capital tax obligations and grants in lieu of taxes. Tax expenses are forecast to be \$72.5 million in 2017/18 and \$77.4 million in 2018/19, as summarized in Table 7-11.

¹⁸⁷ Interest rate information from the Bank of Canada's website. Available: https://www.bankofcanada.ca/rates/interest-rates/canadian-interest-rates/?rangeType=dates&rangeValue=60&rangeWeeklyValue=20&rangeMonthlyValue=10&ByDate_frequency=daily&IP=lookup_canadian_interest.php&sR=2007-11-09&se=L_V39079-L_V39078-L_V80691310-L_V122530&dF=2017-05-09&dT=2017-11-09
Accessed November 9, 2017.

Table 7-11: Actual and Forecast Tax Expense (\$ millions)¹⁸⁸

Tax Expense	2016/17				2017/18			2018/19		
	Actual	Forecast	change over forecast		Forecast	change over 2016/17 actuals		Forecast	change over 2017/18 forecast	
			\$	%		\$	%		\$	%
Corporate capital tax	46.9	45.8	1.1	2.4%	46.3	(0.6)	(1.3%)	51.0	4.7	10.2%
Grants in lieu of taxes	25.6	25.0	0.6	2.4%	26.2	0.6	2.3%	26.4	0.2	0.8%
Sub-total	72.5	70.8	1.7	2.4%	72.5	0.0	0.0%	77.4	75.7	6.8%

SaskPower's Corporate Tax expense obligation is calculated based on SaskPower's paid-up capital. Increases in SaskPower's forecast taxable paid-up capital result in the higher corporate tax expense obligation in the test years. The tax rate remains unchanged. Table 7-12 provides the calculation of the corporate capital tax obligation for 2017/18 and 2018/19. The forecast increases are a result of increases in SaskPower's taxable paid-up capital.

Table 7-12: Calculation of Actual and Forecast Corporate Tax Expense (\$ millions)¹⁸⁹

	2017 Actual	Forecast	2017/18		2018/19			
			Forecast	change over 2017 actual		Forecast	change over 2017/18 forecast	
				\$	%		\$	%
Paid Up Capital								
Surpluses Earned	1,494.0	1,625.0	131.0	8.8%	1,814.0	189.0	11.6%	
Contributed	660.0	660.0	0.0	0.0%	660.0	0.0	0.0%	
Loans and Advances	908.0	1,127.0	219.0	24.1%	1,186.0	59.0	5.2%	
Reserves deducted from income	424.0	421.0	(3.0)	(0.7%)	427.0	6.0	1.4%	
Indebtedness	4,995.0	5,278.0	283.0	5.7%	5,609.0	331.0	6.3%	
Sub-total	\$ 8,481.0	\$ 9,111.0	\$ 630.0	7.4%	\$ 9,696.0	\$ 585.0	6.4%	
Excess of Net Book Value over Undepreciated Capital Cost	(1,345.0)	(1,320.0)	25.0	(1.9%)	(1,361.0)	(41.0)	3.1%	
Total Paid Up Capital	\$ 7,136.0	\$ 7,791.0	\$ 655.0	9.2%	\$ 8,335.0	\$ 544.0	7.0%	
Deduct Allowances								
Standard Exemption	10.0	10.0	0.0	0.0%	10.0	0.0	0.0%	
Additional Exemption	4.0	4.0	0.0	0.0%	4.0	0.0	0.0%	
Investment Allowances	13.0	24.0	11.0	84.6%	24.0	0.0	0.0%	
Sub-total	\$ 27.0	\$ 38.0	\$ 11.0	40.7%	\$ 38.0	\$ -	0.0%	
Taxable Paid Up Capital	\$ 7,109.0	\$ 7,753.0	\$ 644.0	9.1%	\$ 8,297.0	\$ 544.0	7.0%	
Tax Rate	0.6%	0.6%			0.6%			
Tax Payable	\$ 42.7	\$ 46.5	\$ 3.9	9.1%	\$ 49.8	\$ 3.3	7.0%	

SaskPower indicates that it expects it will be required to pay grants in lieu of taxes to the Government of Saskatchewan Ministry of Finance effective April 1, 2017. However, the amount paid to the Government of Saskatchewan will be capped to ensure no municipality incurs a reduction in municipal revenue sharing of more than 30%. Therefore SaskPower may still be required to pay a portion of grants in lieu of taxes

¹⁸⁸ 2018 Rate Application, page 40; 2016 and 2017 Mid-Application Update, page 8.

¹⁸⁹ 1st round information request SRRP Q84(a).

to municipalities.¹⁹⁰ SaskPower indicates it anticipates this will be a temporary payment to the province for one year only.¹⁹¹

Table 7-13 summarizes total actual payments from SaskPower to the province of Saskatchewan for 2015/16 and 2016/17 and forecasts for 2017/18 and 2018/19. Water rentals and coal royalties are included in SaskPower's fuel expense. Corporate capital tax and grants in lieu of taxes are included in tax expense. The forecast dividend in 2018/19 reflects a portion of SaskPower's forecast net income in that year. Table 7-13 indicates that total payments to the province are forecast to increase from \$97 million in 2016/17 to \$125 million in 2017/18 and \$128 million in 2018/19. These increases largely reflect the payment of a portion of grants in lieu of taxes to the province (in 2017/18) and the forecast dividend (in 2018/19).

Table 7-13: Payments to Saskatchewan (\$ millions)¹⁹²

	2015/16	2016/17	2017/18	2018/19
	Actual	Actual	Forecast	Forecast
Water rentals	17	19	26	21
Coal royalties	40	32	35	35
Corporate capital tax	39	46	46	50
Dividends	0	0	0	21
Grants in lieu of taxes	0	0	19	0
Total	\$96	\$97	\$125	\$128

7.5.1 Consultant Observations

The Consultant notes that corporate capital taxes and grants-in-lieu of taxes are legislated requirements. These types of charges are typically recovered through rates for electric utilities. The Consultant notes that as SaskPower's capital investment and sales revenues increase these tax obligations will continue to increase as well.

7.6 OTHER EXPENSES

SaskPower's other expenses category includes gains or losses on disposals and retirements as well as environmental and decommissioning expenses. Other expenses are forecast to decrease by approximately \$8 million in 2017/18 and 2018/19 compared to 2016/17 as shown in Table 7-14.

¹⁹⁰ 1st round information request SRRP Q84(b).

¹⁹¹ 2nd round information request SRRP Q4.

¹⁹² 2nd round information request SRRP Q4. Figures as provided by SaskPower. Totals may be affected by rounding.

Table 7-14: Other Expenses and Payments to Saskatchewan (\$ millions)¹⁹³

	2015/16 Actual	2016/17 Actual	Forecast	2017/18		Forecast	2018/19	
				change over 2016/17 Forecast			change over 2017/18 Forecast	
				\$	%		\$	%
Gain/Loss on asset retirement	24	26	8	(18)	(69.2%)	8	0	0.0%
Gain/Loss on asset disposal	3	6	5	(1)	(16.7%)	5	0	0.0%
Inventory adjustments	3	1	3	2	200.0%	3	0	0.0%
Environmental expense	7	5	14	9	180.0%	14	0	0.0%
Total	\$ 37	\$ 38	\$ 30	\$ (8)	(21.1%)	\$ 30	\$ 0	0.0%

SaskPower is forecasting increases in environmental expense in 2017/18 offset by lower losses on asset retirements. Other expenses are forecast to remain the same in 2018/19 as the 2017/18 forecasts.

7.6.1 Consultant Observations

The Consultant notes that the changes in other expenses are relatively small compared to SaskPower's total revenue requirement. The Consultant accepts SaskPower's forecasts as reasonable for rate-making purposes.

7.7 CAPITAL STRUCTURE, RATE BASE AND RETURN ON EQUITY

SaskPower lists return on equity and debt ratio as key financial indicators in its rate application. The list of key financial indicators also considers operating income, net income, OM&A/PP&E and dividends declared.¹⁹⁴

SaskPower states that in recent years it has requested rate increases that fell short of meeting financial targets to keep rate increases more manageable for customers and that it has not earned its long-term target ROE of 8.5% since 2011. SaskPower notes that now that its debt ratio has climbed to the top of the long-term target range of 60-75%, SaskPower must request rate increases that provide enough cash flow to prevent it from further exceeding the range.¹⁹⁵ SaskPower's proposed 5% rate increase effective March 1, 2018 results in a forecast return on equity (ROE) of 6.9% in 2017/18 and a return to the long-term target ROE of 8.5% in 2018/19.¹⁹⁶ SaskPower is forecasting a debt ratio of 75.3% and a net income of approximately \$210 million in 2018/19.

The calculation of SaskPower's actual and forecast debt ratios and net income are shown in Table 7-15. Note that the ROE calculated in Table 7-15 is based on net income, rather than operating income.

¹⁹³ 1st round information request SRRP Q77.

¹⁹⁴ 2018 Rate Application, page 45.

¹⁹⁵ 2018 Rate Application, page 3.

¹⁹⁶ 1st round information request SRRP Q3.

Table 7-15: Actual and Forecast Debit Ratio and Return on Equity Calculations (\$ millions)¹⁹⁷

	2014	2015/16	2016/17	2017/18	2018/19
Gross Long-Term Debt	4,355	5,130	5,559	5,881	6,224
Finance Lease Obligation	1,138	1,133	1,126	1,113	1,131
Short-term advances	890	981	900	1,136	1,213
Debt Retirement Funds	(457)	(533)	(590)	(668)	(739)
Cash and Cash Equivalent	2	(28)	(13)	(5)	(5)
Total Net Debt	\$ 5,928	\$ 6,683	\$ 6,982	\$ 7,457	\$ 7,824
Net Income (Loss)	60	(19)	56	160	210
Equity Advances	660	660	660	660	660
Retained Earnings	1,521	1,546	1,603	1,772	1,962
Accumulated OCI	(3)	(61)	(22)	(50)	(50)
Average Equity	\$ 2,201	\$ 2,162	\$ 2,193	\$ 2,312	\$ 2,477
ROE	2.70%	-0.90%	2.60%	6.90%	8.50%
Percent Debt Ratio	73.10%	75.70%	75.70%	75.80%	75.30%

The following sections provide more discussion on SaskPower's ROE, debt ratio and other financial indicators.

7.7.1 Return on Equity and Percent Debt Ratio

The debt ratio is a measure of total debt to total corporate financial structure expressed as a percentage.¹⁹⁸ It can be interpreted as the portion of SaskPower's asset base that is financed by debt and assists in managing the company's credit risk.¹⁹⁹ SaskPower's forecast debt ratio is 75.3% for 2018/19, assuming the requested rate increase is approved.

SaskPower states that its return on equity demonstrates financial sustainability and profitability, assisting SaskPower to evaluate its ability to continue to reinvest in its aging infrastructure.²⁰⁰ SaskPower notes that return on equity and per cent debt ratio are commonly used by other Canadian electric utilities and allow SaskPower to benchmark its profitability and long-term solvency against other utilities. SaskPower indicates they are also considered by counterparties with which SaskPower transacts and are a reporting requirement of CIC.²⁰¹

SaskPower has not earned its full ROE target of 8.5% since 2011.²⁰² The 2015 actual ROE for SaskPower was 1.8%, one of the lowest in a comparison of regulated Canadian utilities provided by SaskPower.²⁰³ Comparisons of actual ROEs can be impacted by a number of factors in any year including for example

¹⁹⁷ 1st round information request SRRP Q10. Note that net.

¹⁹⁸ 2018 Rate Application, page 19.

¹⁹⁹ 1st round information request SRRP Q9(a).

²⁰⁰ 1st round information request SRRP Q9(a).

²⁰¹ 1st round information request SRRP Q9(b).

²⁰² 2018 Rate Application, page 3.

²⁰³ 2018 Rate Application, page 19.

higher than forecast costs, lower than forecast revenues, changes to capital borrowing, or interest rate fluctuations. For rate setting purposes, regulators often consider allowed or target ROE.

A return helps protect the utility's financial position against risks and uncertainties. For SaskPower, the most significant identified financial risks in the short-term and medium-term include required capital expenditures (capital overruns and associated interest rate risks), approval of rate increases, electricity sales volumes, natural gas prices (and fuel mix), and hydro volumes. Further information on the magnitude of these risks to SaskPower's net income is provided in Section 7.9 of this report.

SaskPower indicates that sacrificing earnings by not requesting rate increases to achieve the full long-term target ROE has created additional upward pressure on the debt ratio. With the debt ratio at the top of the long-term target range of 60-75%, SaskPower is requesting rate increases that provide enough cash flow to prevent the company from further exceeding the target debt range.²⁰⁴

7.7.2 Other Financial Indicators

In addition to the ROE and debt ratio, SaskPower provided information on other financial indicators:

- Interest coverage ratio;
- Free cash flow; and
- Capital expenditure performance target.

The following sections provide further discussion on these financial indicators.

Interest Coverage

SaskPower currently calculates an interest coverage ratio based on EBIT (earnings before interest and taxes) as a financial performance measure. SaskPower calculates the indicator monthly and results are measured against targets established for both the current fiscal year (1.4 for 2017/18) and the long term (2.0). Results are provided to SaskPower's Executive, and are available to staff as part of SaskPower's internal monthly Key Indicator Report and Financial Summary. SaskPower also measures its interest coverage ratio against other electric utilities annually.²⁰⁵

SaskPower states it will replace the interest coverage ratio based on EBIT to an interest coverage ratio based on EBITDA (earnings before taxes, interest and depreciation and amortization), which SaskPower believes provides a better indicator of the Corporation's ability to cover interest obligations.²⁰⁶ The EBIT and EBITDA interest coverage ratios for actual years and forecasts for 2017/18 and 2018/19 (based on the current rate proposals) are provided in Table 7-16.

²⁰⁴ 2018 Rate Application, page 3.

²⁰⁵ 1st round information request SRRP Q9.

²⁰⁶ 1st round information request SRRP Q9.

Table 7-16: Actual and Forecast EBIT and EBITDA Interest Coverage Ratio²⁰⁷

Interest Coverage Ratio - EBIT	2018-19	2017-18	17-Mar	15-Dec	14-Dec	13-Dec	12-Dec
Operating Income	210	160	46	104	43	167	129
Finance Charges	424	417	416	362	326	262	205
Debt retirement fund earnings	(17)	(12)	(13)	(28)	(18)	(18)	(22)
Interest Income	(1)	(1)	0	(1)	0	0	0
Total EBIT	616	564	449	437	351	411	312
Interest on long-term debt	286	268	257	238	217	191	180
Interest on finance lease	164	163	166	165	165	119	55
Interest on short-term debt	9	7	6	6	7	8	5
Other interest & Charges	4	(1)	0	1	1	1	0
Total Interest Expense	463	437	429	410	390	319	240
Interest Coverage Ratio - EBIT	1.33	1.29	1.05	1.07	0.90	1.29	1.30

Interest Coverage Ratio - EBITDA	2018-19	2017-18	17-Mar	15-Dec	14-Dec	13-Dec	12-Dec
Operating Income	210	160	46	104	43	167	129
Finance Charges	424	417	416	362	326	262	205
Debt retirement fund earnings	(17)	(12)	(13)	(28)	(18)	(18)	(22)
Interest Income	(1)	(1)	0	(1)	0	0	0
Depreciation	572	542	494	452	389	355	316
Total EBITDA	1,188	1,106	943	889	740	766	628
Interest on long-term debt	286	268	257	238	217	191	180
Interest on finance lease	164	163	166	165	165	119	55
Interest on short-term debt	9	7	6	6	7	8	5
Other interest & Charges	4	(1)	0	1	1	1	0
Total Interest Expense	463	437	429	410	390	319	240
Interest Coverage Ratio - EBITDA	2.57	2.53	2.20	2.17	1.90	2.40	2.62

Free Cash Flow Metric

For 2018/19, SaskPower is implementing a free cash flow indicator calculated as operating cash flow/capital expenditures. The calculation of the free cash flow metric for 2017/18 and 2018/19 is provided in Table 7-17.

Table 7-17: Free Cash Flow Metric (\$ millions)²⁰⁸

\$ Millions	2017/18	2018/19
Operating Cash Flow	701.6	699.7
Capital Expenditures	1,059.2	928.4
Op CF/Cap Ex.	66.2%	75.4%

²⁰⁷ 2nd round information request SRRP Q6 for actuals, test years calculated from finance charges as provided in 1st round information request SRRP Q15.

²⁰⁸ 2nd round information request SRRP Q7.

Capital Expenditure Performance Target

SaskPower indicates it is implementing a capital expenditure financial target for the 2018/19 Business Plan called the Earned Value Management metric. The metric will measure the percentage of applicable projects with a result greater than or equal to 1 for 2 separate indices: the Cost Performance Index (CPI) and the Schedule Performance Index (SPI). A result of greater than or equal to 1 indicates the project is on track spending wise. This will be applied to all projects with approved spending equal to or over \$5 million, excluding programs. This metric will track project milestones against percentage completion to ensure scheduling is on track and costs are within budgeted levels.²⁰⁹

7.7.3 Consultant Observations

The Consultant notes that the Minister's Terms of Reference state the Panel is to consider as given the long-term ROE target of 8.5%. The Terms of Reference do not provide guidance on a specific annual ROE target.²¹⁰ SaskPower's application indicates a need for its proposed 5% rate increase based on being at the top end of its target debt ratio.

For rate setting purposes, there are a variety of approaches used to set rates and the level of return allowable in rates:²¹¹

- Rate of return model: Many utilities have rate regulated to provide the opportunity to achieve a ROE. This ROE may be set with reference to the utility's actual capital structure, or may use a deemed capital structure. This type of structure is common in Canada for investor-owned utilities and includes Alberta distribution and transmission utilities,²¹² FortisBC,²¹³ Ontario distribution and transmission²¹⁴ (and partial OPG generation²¹⁵), New Brunswick,²¹⁶ Newfoundland (both Newfoundland and Labrador Hydro and Newfoundland Power),²¹⁷ Nova Scotia Power,²¹⁸ Northwest Territories Power Corporation,²¹⁹ Yukon Energy Corporation,²²⁰ and Quebec distribution and transmission assets.²²¹ Allowed ROEs for these utilities have ranged recently from 8.5% - 9.25% with debt ratios in the range of 55% - 65% debt ratio.²²²

²⁰⁹ 2nd round information request SRRP Q7.

²¹⁰ Minister's Order, Schedule D: SaskPower Rate Change Proposal Terms of Reference, page 1.

²¹¹ 1st round information request SRRP Q9(b).

²¹² AUC 2016 Generic Cost of Capital Decision, page 2-3,

http://www.auc.ab.ca/regulatory_documents/ProceedingDocuments/2016/20622-D01-2016.pdf

²¹³ Annual Review for 2018 Rates, page 69,

https://www.fortisbc.com/About/RegulatoryAffairs/GasUtility/NatGasBCUCSubmissions/Documents/170810_FBC_Annual_Review_2018_Rates_Application_FF.pdf

²¹⁴ OEB Cost of Capital Parameter Updates for 2017 Cost of Service and Custom Incentive Rate-setting Applications,

https://www.oeb.ca/oeb/Documents/2017EDR/OEB_Ltr_Cost_of_Capital_Update_20161027.pdf

²¹⁵ Approved in EB-2013-0321, also as documented in OEB Staff report from 2016, https://www.oeb.ca/oeb/Documents/EB-2009-0084/OEB_Staff_Report_CostofCapital_Review_20160114.pdf

²¹⁶ New Brunswick Regulation No. 2013-67, <http://laws.gnb.ca/en/ShowPdf/cr/2013-67.pdf>

²¹⁷ Board Orders: <http://www.pub.nl.ca/orders/order2016/pu/PU49-2016.pdf> and <http://www.pub.nl.ca/orders/order2016/pu/PU18-2016.pdf>

²¹⁸ Board Decision No. 2012 NSUARB 227 M04972, https://nsuarb.novascotia.ca/sites/default/files/nsuarb-212090-v1-decision_-_nspi_2013_gra.pdf

²¹⁹ NTPC has applied for rates in a 2016/19 General Rate Application but no final decision has occurred in that proceeding as of the writing of this report.

²²⁰ Yukon Utilities Board Order 2013-01 on March 25, 2013, paragraph 202 and 230:

http://yukonutilitiesboard.yk.ca/pdf/Board_Orders_2010/Board_Order_2013-01_Appendix_A_-_Reasons_for_Decision.pdf

²²¹ Act respecting the Régie de l'énergie, Section 49, <http://legisquebec.gouv.qc.ca/en/ShowDoc/cs/R-6.01>

²²² Based on a review completed by the Consultant in autumn of 2017.

- Market based rates – Alberta generation, partial Ontario generation (other than OPG regulated assets), Quebec-Hydro generation over and above the heritage pool.²²³
- Long-term debt-to-equity and other financial targets – BC Hydro has a ten year rate plan set by Government that identifies the allowable rate increase each year while reducing the level of return to achieve a 60/40 debt/equity structure.²²⁴ Manitoba Hydro generally sets rates based on attaining a long-term debt/equity ratio of 75/25%.²²⁵

The Consultant notes that SaskPower's long-term targets of 8.5% ROE and 60-75% debt ratio are in line with industry practice. However, comparing the actual results of these utilities requires additional considerations. For example, SaskPower as a fully integrated electric utility (i.e. offering distribution, transmission and generation services to customers) will require a larger capital spending threshold (on a per customer basis) and have different considerations for managing its asset base compared to a utility that provides only distribution level service. Legislative differences are also relevant. For example, the Manitoba Hydro Act states the price of power shall reflect the cost of supplying power including sums required to fund reserves sufficient for insurance against losses and the stabilization of rates but do not explicitly include a return on equity,²²⁶ while regulations under the New Brunswick Electricity Act specify a particular return on equity and capital structure.²²⁷

The Consultant notes that adherence to the debt target range during SaskPower's period of major capital investment will continue to put upward pressure on rates. In a review of Manitoba Hydro, a KPMG report suggested that it may be desirable to maintain a minimum equity ratio near 15% during major capital expansions.²²⁸ In the Consultant's view, an EBITDA interest coverage ratio is also a reasonable metric for indicating the financial health of the utility in its ability to cover interest expenses in the short-term. The Consultant recognizes that SaskPower and Manitoba Hydro have different generation resources and different capital requirements over the next 10 years and that it is therefore reasonable for the utilities to have different financial planning targets..

In their submission to the Panel, SIECA raised concerns about the way SaskPower's return on ratebase and return on equity are reflected in the cost of service study. SIECA provided calculations estimating that the return on equity implied in SaskPower's cost of service study is approximately 14%.²²⁹ Based on that analysis SIECA suggested that SaskPower did not require a rate increase.

²²³ Act respecting the Régie de l'énergie, Section 52, <http://legisquebec.gouv.qc.ca/en/ShowDoc/cs/R-6.01>

²²⁴ BC Hydro 2017 – 2019 Revenue Requirement Application, page 1-15, <https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/regulatory-planning-documents/revenue-requirements/f17-f19-rra-20160728.pdf>

²²⁵ Manitoba Hydro 2017/18 & 2018/19 General Rate Application, Tab 2, page 26 – 28, https://www.hydro.mb.ca/regulatory_affairs/pdf/electric/general_rate_application_2017/02.0_tab_2_key_messages_and_reasons_for_a_rate_increase.pdf

²²⁶ Manitoba Hydro Act, Section 39(1), <http://web2.gov.mb.ca/laws/statutes/ccsm/h190e.php>

²²⁷ New Brunswick Electricity Act, Section 68(a)ii <http://laws.gnb.ca/en/ShowPdf/cs/2013-c.7.pdf> and New Brunswick Regulation No. 2013-67, <http://laws.gnb.ca/en/ShowPdf/cr/2013-67.pdf>

²²⁸ Manitoba Hydro 2017/18 & 2018/19 General Rate Application, Appendix 3.1, page 39, https://www.hydro.mb.ca/regulatory_affairs/pdf/electric/general_rate_application_2017/03.1_appendix_3.1_integrated_financial_forecast_iff16.pdf

²²⁹ Page 5, SIECA submission dated October 30, 2017.

In their response, SaskPower noted that SIECA's analysis understated SaskPower's cost of debt.²³⁰ However SaskPower acknowledged that using the numbers in Schedule 1 of the 2017/18 cost of service study would result in an estimated return on equity of approximately 11.5%. SaskPower attributed this to the fact that the 2017/18 cost of service study assumed the rates requested for March 1, 2018 were in place for the entire 2017/18 fiscal year (yielding total revenues from electricity rates of \$2.539 billion). In fact, those rates will only be in place for one month of the 2017/18 fiscal year. The revenues assumed in the business plan reflect only one month in 2017/18 of revenues with the requested 5% rate increase (business plan revenues are \$2.429 billion). SaskPower provided additional information on returns on equity for cost of service purposes for 2017/18 with the adjusted revenues. SaskPower also provided estimated revenues and revenue requirement for 2018/19 with the requested rate increases in place for a full fiscal year (2018/19).²³¹

The Consultant compared the cost-of-service information to information in SaskPower's business plan and rate application for 2017/18 and 2018/19. The results are shown in Table 7-18.

Table 7-18: Comparison of Return on Equity Calculations²³²

		2018F Cost of Service Study	Rate Application	Difference	2019F Cost of Service Study	Rate Application	Difference	Notes
1	Total Expenses	1,990.90	1,979.20	11.70	2,070.35	2,064.20	6.14	
2	Other revenues	123.90	127.40	(3.50)	131.00	131.00	0.00	
3	Electricity sales revenue	2,539.40	2,428.70	110.70	2,566.60	2,566.60	0.00	
4	Return on Ratebase	672.40	576.90	95.50	627.255	633.40	(6.14)	Line 3 + Line 2 - Line 1
5	Total Ratebase	9,399.10	9,399.10		9,745.48	9,745.48		
6	Debt	7,064.36	7,064.36		7,268.18	7,268.18		
7	Equity	2,334.74	2,334.74		2,477.30	2,477.30		
8	Return on Ratebase (%)	7.15%	6.14%		6.44%	6.50%		Line 4/ Line 5
9	Finance Charges	403.70	417.00	(13.30)	415.80	423.70	(7.90)	
10	Operating Income	268.70	159.90	108.80	211.46	209.70	1.76	Line 5 - Line 9
11	Return on Equity (%)	11.51%	6.85%		8.54%	8.46%		Line 10/ Line 7

In reviewing this information, the Consultant observes the following:

- The 2017/18 cost of service study is based on higher revenues than included in the business plan and the rate application. This difference arises from the cost of service revenue forecast assuming the March 1, 2018 rates are in place for the entire 2017/18 fiscal year, instead of only one month of the fiscal year. As a result, there is an implied return on equity in the cost of service study that is higher than 8.5%, if the higher rates were actually in place for all of 2017/18.

²³⁰ SIECA used a cost of debt of 4.87%, SaskPower's calculation indicated it should be 5.71%. Page 3 of SaskPower's response to SIECA's submission.

²³¹ Pages 3 through 5 of SaskPower's response to SIECA's submission.

²³² 2017/18 cost of service information from Schedule 1 of 2018F cost of service study. Rate application information from page 26 of 2018 rate application. 2018/19 cost of service information from page 4 of SaskPower's response to SIECA.

- Based on the revenues actually forecast to arise in 2017/18 (i.e. with only one month of the higher rates), SaskPower's forecast ROE in 2017/18 is lower than 8.5%. The Consultant calculates a ROE that is approximately the same as used by SaskPower of 6.85%. The Consultant was able to reconcile the two revenue forecasts for 2017/18 using information provided in the response to 1st round information request SRRP 22.
- The Consultant reviewed the 2018/19 ROE calculations using both cost of service information and the business plan information provided by SaskPower and confirmed the ROE included in 2018/19 forecasts is approximately 8.5%.
- The Consultant notes that using different revenues in the cost of service study than included in the business plan creates confusion, and a schedule reconciling the two sets of information may be useful.

7.7.4 Consultant Recommendations

The Consultant recommends the Panel request SaskPower provide information in future rate applications on other financial metrics including the EBITDA interest coverage ratio and consider such metrics in developing its overall rate proposals.

The Consultant recommends the Panel request SaskPower include a schedule in future rate applications that reconciles cost and revenue information included in the business plan and the rate application, with costs and revenues modelled in the cost of service study.

7.8 MID-APPLICATION UPDATE

SaskPower provided its Mid-Application update on October 20, 2017. The Mid-Application update compares the initial rate application submission to the most recently available financial forecasts as of September 30, 2017. Table 7-19 summarizes the changes to forecast 2017/18 and 2018/19 revenues and revenue requirements. Overall, forecast 2017/18 operating income is lower at \$146.3 million (a reduction of \$13.6 million) compared to the original application. This represents a 2017/18 operating ROE of 6.4% compared to the forecast of 6.9% in the original application. The 2018/19 forecasts ROE remains at 8.5%.

Revenues in 2017/18 are forecast to be \$23.2 million higher compared to the initial filing, reflecting the following:

- Increased sales to oilfield (\$26.5 million increase) and power customers (\$26.7 million increase) as a result of overall higher sales volumes.
- A small increase in forecast export revenues (\$2.4 million increase).

These increases are offset by decreases in the following revenue categories:

- Decreased sales to residential (\$7.8 million decrease), reseller (\$5.9 million decrease), farm (\$4.6 million decrease) and commercial customers (\$4.5 million decrease) related to lower sales volumes.
- Decreased CO2 sales revenue (\$4.8 million lower), customer contribution revenue (\$3.1 million lower) and net sales from trading (\$1.5 million lower).

Expenses in 2017/18 are forecast to increase by \$36.8 million reflecting the following:

- Increased other expenses of \$37.3 million largely related to the asset write-down of the Tazi Twé hydroelectric project. SaskPower indicates that it recognized a loss of approximately \$30 million the second quarter of 2017/18 as a result of the decision to defer development of the project until there is a viable business case.²³³
- Increased finance charges (\$3.3 million), depreciation (\$1.9 million) and taxes (\$1.0 million).

These increases are partially offset by decreases in other expense categories including:

- Decreased OM&A expense (\$6.3 million lower).
- Decreased fuel and purchase power expense (\$0.4 million lower). Despite increases in generation volumes (to support the increased forecast sales), fuel and purchase power expense is lower compared to the initial filing as a result of lower natural gas costs (from \$32.81/MWh to \$30.85/MWh) and decreases in hydro generation, import and other generation costs.

The Mid-Application update also notes that capital spending is forecast to decrease in 2017/18 by approximately \$114 million. This decrease reflects delays or deferrals in some large projects including the Pasqua to Swift Current 230 kV/138 kV transmission line; the Queen Elizabeth Transformer replacement 230 kV station, the B4P and PA4 138kV transmission line and reduced costs for the Kennedy to Tantallon 230 kV transmission line. 2018/19 capital spending is also expected to decrease by \$184 million compared to the initial application, largely reflecting the deferral of the Tazi Twé hydro project and timing differences in spending on the Chinook Power station.

²³³ 2nd round information request SRRP Q59.

Table 7-19: Mid-Application Update to Revenues and Revenue Requirement (\$ millions)²³⁴

	2017/18		change		2018/19		change	
	(Initial)	(Update)	\$	%	(Initial)	(Update)	\$	%
Revenue								
Residential	568.5	560.7	(7.8)	(1.4%)	605.5	597.9	(7.6)	(1.3%)
Farm	178.3	173.7	(4.6)	(2.6%)	183.5	174.4	(9.1)	(5.0%)
Commercial	510.6	506.1	(4.5)	(0.9%)	536.8	530.6	(6.2)	(1.2%)
Oilfield	358.8	385.5	26.7	7.4%	380.9	419.2	38.3	10.1%
Power	708.1	734.6	26.5	3.7%	750.6	763.4	12.8	1.7%
Reseller	104.4	98.5	(5.9)	(5.7%)	109.3	105.8	(3.5)	(3.2%)
Export	9.2	11.6	2.4	26.1%	14.3	11.6	(2.7)	(18.9%)
Net sales from trading	0.5	(1.0)	(1.5)	(300.0%)	0.5	0.5	0.0	0.0%
Other	117.7	109.6	(8.1)	(6.9%)	116.2	110.8	(5.4)	(4.6%)
Total	2,556.1	2,579.3	23.2	0.9%	2,697.6	2,714.2	16.6	0.6%
Expenses								
Gas	260.4	263.9	3.5	1.3%	274.8	287.9	13.1	4.8%
Coal	282.7	283.1	0.4	0.1%	300.1	289.0	(11.1)	(3.7%)
Wind	22.0	21.9	(0.1)	(0.5%)	25.6	22.3	(3.3)	(12.9%)
Hydro	25.7	24.0	(1.7)	(6.6%)	21.3	21.4	0.1	0.5%
Imports	28.1	27.5	(0.6)	(2.1%)	31.0	35.4	4.4	14.2%
Other fuel and purchase power	26.4	24.5	(1.9)	(7.2%)	28.8	28.9	0.1	0.3%
Operating, maintenance & admin	689.1	682.8	(6.3)	(0.9%)	703.2	703.2	0.0	0.0%
Depreciation	542.3	544.2	1.9	0.4%	572.0	576.8	4.8	0.8%
Finance charges	417.0	420.3	3.3	0.8%	423.7	425.6	1.9	0.4%
Taxes	72.5	73.5	1.0	1.4%	77.4	77.4	0.0	0.0%
Other expenses	30.0	67.3	37.3	124.3%	30.0	35.0	5.0	16.7%
Total	2,396.2	2,433.0	36.8	1.5%	2,487.9	2,502.9	15.0	0.6%
Operating Income	159.9	146.3	(13.6)	(8.5%)	209.7	211.3	1.6	0.8%
Return on Equity	6.9%	6.4%	(0.5%)		8.5%	8.5%	0.0%	

7.8.1 Consultant Observations

The revised forecasts in the Mid-Application update have a relatively small impact on the forecast operating income and return on equity for 2017/18 and 2018/19. SaskPower states that it continues to request approval of the rate increase included in the initial application. The Consultant notes that the rate increases requested by SaskPower would still allow SaskPower to achieve its long-term target return on equity of 8.5% in the 2018/19 fiscal year.

7.9 REVENUE REQUIREMENT SENSITIVITY

SaskPower identified the main financial risks it faces as the approval of its requested rate increases, domestic electricity sales, natural gas prices and hydro levels. Table 7-20 summarizes the estimated impacts on SaskPower's net income of certain variations from the assumptions included in the business plan. Key observations from a review of Table 7-20 include:

- A 1% decrease in the requested rate increase would reduce SaskPower's net income by \$24 to \$25 million annually.

²³⁴ 2018 Mid-Application Update.

- A \$1/GJ increase in natural gas prices would reduce SaskPower's net income by between \$24 to \$32 million.
- A 10% decrease in hydro generation would reduce SaskPower's net income by approximately \$13 million.
- A 1% increase in short-term interest rates would reduce SaskPower's net income by approximately \$11 million to \$12 million.
- A \$100 million reduction in capital spending would increase SaskPower's net income by \$7 million.

Table 7-20: SaskPower Business Plan Sensitivity Analysis²³⁵

	2017/18 Forecast	2018/19 Forecast	Sensitivity Analysis	2017/18 Net Income Impact (\$ millions)	2018/19 Net Income Impact (\$ millions)
Revenue					
Rate Increase (%)	5.0%	0.0%	1% change in rate increase	24	25
Domestic Sales Growth (%)	1.9%	1.2%	100 GWh change in Power Class	5	5
			100 GWh change in Residential Class	14	14
			0% Load Growth	31	20
			2% reduction in domestic sales	33	34
Export and Trading Margin (\$ millions)	5.0	7.0	\$10 million change in export sales	5	5
Fuel and Purchased Power					
Natural Gas Price (\$/GJ)	4.14	3.88	\$1/GJ in natural gas price	24	32
Hydro Generation (GWh)	4,530.0	3,634.0	10% change in hydro generation	13	13
Coal Generation (GWh)	10,918.0	11,138.0	10% change in coal generation	14	14
Capital					
Capital Spending (\$ millions)	1,121.0	1,112.0	\$100 million change in capital budget	7	7
Short-term interest rates	0.5%	0.8%	1% change in short-term interest rates	11	12
Long-term interest rates	3.1%	3.3%	1% change in long-term interest rates	4	4
Other					
Carbon tax			Federal pricing backstop July 2018	0	139
Loss of large industrial customer			Loss of 50,000 kVa, 70% LF industrial customer.	11	11

SaskPower also noted that the implementation of the federal government carbon pricing backstop program in July 2018 would reduce net income by an estimated \$139 million in 2018/19. However, SaskPower notes:

The implementation of a carbon tax is not part of this rate application. The Provincial government has given no indication that it will comply with any form of Federal carbon tax, including the Federal Carbon Backstop proposal. The Federal Carbon Pricing Backstop's assumed implementation date of July 2018 is purely speculative. The impact to net income is also speculative and could fluctuate significantly if any of the carbon tax revenue was reinvested in SaskPower to help it achieve its emissions targets.²³⁶

²³⁵ 2nd round information request SRRP Q5.

²³⁶ 2nd round information request SRRP Q5.

7.10 IMPLICATIONS OF POTENTIAL RATE CHANGES

During its review, the Panel canvassed the potential impact of changes to the requested rate increase. Table 7-21 summarizes the results of these scenarios. With respect to the original filing, a review of the information in Table 7-21 indicates the following:

- Reducing the 5% increase to 4% would:
 - Reduce SaskPower's net income by \$2.1 million in 2017/18 and \$23.3 million in 2018/19. The Consultant notes SaskPower provided updated information in SRRP second round information request SRRP R2 Q5 indicating the impact on net income of a 1% lower rate increase would be \$25 million in 2018/19;
 - Increase SaskPower's debt ratio by approximately 0.3% in 2018/19; and
 - Reduce SaskPower's ROE from 8.5% to 7.6% in 2018/19.
- Reducing the 5% increase to 2.5% would:
 - Reduce SaskPower's net income by \$5.1 million in 2017/18 and \$60.2 million in 2018/19;
 - Increase SaskPower's debt ratio by approximately 0.7% in 2018/19; and
 - Reduce SaskPower's ROE from 8.5% to 6.1% in 2018/19.
- Reducing the 5% increase to 1% would:
 - Reduce SaskPower's net income by \$8.2 million in 2017/18 and \$97.1 million in 2018/19;
 - Increase SaskPower's debt ratio by approximately 1.0% in 2018/19; and
 - Reduce SaskPower's ROE from 8.5% to 4.7% in 2018/19.
- Eliminating the 5% rate increase would:
 - Reduce SaskPower's net income by \$10.2 million in 2017/18 and \$121.7 million in 2018/19;
 - Increase SaskPower's debt ratio to 76.5% in 2018/19; and
 - Reduce SaskPower's ROE to 3.7% in 2018/19.

Table 7-21: Effect of Alternative Rate Proposals on SaskPower's Financial Results²³⁷

Rate Application	2017/18 Forecast	change compared to rate application	2018/19 Forecast	change compared to rate application
Avg customer rate increase	5.0%		0.0%	
Domestic sales revenue (millions \$)	2,428.7		2,566.6	
Operating net income (millions \$)	159.9		209.7	
Return on equity	6.9%		8.5%	
Debt ratio	75.8%		75.3%	
<u>4% rate increase March 1, 2018</u>				
Avg customer rate increase	4.0%	(1.0%)	0.0%	0.0%
Domestic sales revenue (millions \$)	2,423.9	(4.8)	2,543.3	(23.3)
Operating net income (millions \$)	157.8	(2.1)	186.4	(23.3)
Return on equity	6.8%	(0.1%)	7.6%	(0.9%)
Debt ratio	75.9%	0.1%	75.6%	0.3%
<u>2.5% rate increase March 1, 2018</u>				
Avg customer rate increase	2.5%	(2.5%)	0.0%	0.0%
Domestic sales revenue (millions \$)	2,420.8	(7.9)	2,506.4	(60.2)
Operating net income (millions \$)	154.8	(5.1)	149.5	(60.2)
Return on equity	6.7%	(0.2%)	6.1%	(2.4%)
Debt ratio	75.9%	0.1%	76.0%	0.7%
<u>1% rate increase March 1, 2018</u>				
Avg customer rate increase	1.0%	(4.0%)	0.0%	0.0%
Domestic sales revenue (millions \$)	2,417.8	(10.9)	2,469.5	(97.1)
Operating net income (millions \$)	151.7	(8.2)	112.6	(97.1)
Return on equity	6.6%	(0.3%)	4.7%	(3.8%)
Debt ratio	75.9%	0.1%	76.3%	1.0%
<u>0% rate increase March 1, 2018</u>				
Avg customer rate increase	0.0%	(5.0%)	0.0%	0.0%
Domestic sales revenue (millions \$)	2,415.7	(13.0)	2,444.9	(121.7)
Operating net income (millions \$)	149.7	(10.2)	88.0	(121.7)
Return on equity	6.5%	(0.4%)	3.7%	(4.8%)
Debt ratio	75.9%	0.1%	76.5%	1.2%

²³⁷ 1st round information request SRRP Q3.

7.10.1 Consultant Observations

The Consultant notes that the Panel's terms of reference require it to provide an opinion on the fairness and reasonableness of the proposed rate changes. In particular, the Consultant notes the following aspects of the terms of reference:

- The Panel shall consider the effect of the proposed rate change on the competitiveness of the Crown Corporation related to other jurisdictions.
- The Panel shall consider the reasonableness of the forecasted Cost of Service including fuel costs, hydro facilities availability; load forecast; planned maintenance programs; operating, administrative and maintenance expenses; depreciation and finance expense; and corporate capital tax.
- The future impact of the proposed rate change on different customer groups.
- The Panel is instructed to consider the targeted long-term ROE of 8.5% as given.

With respect to these considerations, the Consultant provides the following observations:

- Section 14 of this report compares bills for typical customers of SaskPower to other jurisdictions. SaskPower's bills for residential and commercial customers are noted to be higher than the average for thermal utilities in Canada.
- The Consultant has generally found that SaskPower's operations, maintenance and administration expense, fuel expense, finance expense, load forecast and corporate capital tax forecasts are reasonable for rate-making purposes.
- SaskPower is forecasting that its debt ratio will remain above 75% in 2018/19, even with the requested rate increases.
- SaskPower is forecasting a dividend payment to the province of \$21 million in 2018/19.²³⁸
- SaskPower indicates that a 1% change in the requested rate increase reduces net income by approximately \$25 million in 2018/19.²³⁹

7.10.2 Consultant Recommendations

With respect to the 5% rate increase requested for March 1, 2018, the Consultant recommends that the Panel consider the effects of reducing the requested rate increases on SaskPower's ability to achieve the long-term target ROE in 2018/19 and balance that considerations with the bill impacts on customers and the effects on competitiveness.

²³⁸ 2018 Rate Application, page 45.

²³⁹ 1st round information request SRRP Q7.

8.0 BUSINESS RENEWAL PROGRAM AND BUSINESS OPTIMIZATION INITIATIVE

8.1 BUSINESS RENEWAL PROGRAM

The business renewal program was established in the spring of 2010 with expected results in gains in productivity and reductions in costs. The program ended in 2016/17, although its initiatives will continue to be realized. Outcomes of the business renewal program include:

- SaskPower indicates it has realized gross benefits of more than \$588 million (2012 to 2016/17).²⁴⁰
- The benefit categories of the business renewal program include: productivity gains/capacity increase, cost reductions, cost avoidance, risk avoidance, satisfaction scores, and new revenue.²⁴¹
- Total gross benefits forecasted for 2016/17 is \$122.5 million and the net benefits are forecasted to be \$108.2 million in 2016/17.²⁴² The difference between gross and net benefits is a result of taking into account ongoing costs and the cost of implementation of initiatives. The realized decrease from gross benefits is \$14.3 million in 2016/17 – comprised primarily of asset management and IT&S.
- In 2016/17 gross benefits forecast total is \$122.5 million compared to original forecast at end of 2015/16 year of \$124.0 million. Decrease are mainly due to:²⁴³
 - Distribution services: schedule and dispatch. Decrease of \$7.1 million.
 - Finance: budget reductions to OM&A to date in 2016/17 have resulted in \$19.9 increase in benefits from original forecast.
 - Asset management: cable rejuvenation. Forecast benefit decreased from \$22.6 million to \$9.8 million in 2016/17.
- Multi-year initiatives that SaskPower indicates have contributed to gross benefits include:²⁴⁴
 - Reallocating a portion of borrowing to the short term to take advantage of low floating interest rates;
 - Extending the run time between power plant overhauls;
 - As units reach end of life, funding is optimized and the unit performance adjusted. Units are retired in a safe and reliable condition while providing what is evaluated as reasonable performance to avoid stranded investments. The

²⁴⁰ SaskPower, Business Renewal Program – 2016/17 Q2 Report, page 3.

²⁴¹ SaskPower, Business Renewal Program – 2016/17 Q2 Report, page 1.

²⁴² SaskPower, Business Renewal Program – 2016/17 Q2 Report, page 2.

²⁴³ SaskPower, Business Renewal Program – 2016/17 Q2 Report, page 2.

²⁴⁴ SaskPower, Business Renewal Program – 2016/17 Q2 Report, page 7 to 17.

overhaul maintenance program then follows an investment strategy including a reduction in performance (reduced funding) or an increase in performance (increased funding). Performance of the generation fleet has been steady based on boiler tube leak lost unit production (losses flat and within target, with exception of one year, for past several years) and fleet Equivalent Availability Factor (slightly below target for the past few years).²⁴⁵

- Optimizing purchase arrangements to provide cost savings;
- Implementing a number of initiatives to lower information technology costs;
- Developing customer connects process improvements including the introduction of standardized quick quotes, new expediter roles and improved crew efficiencies;
- Lowering office costs by standardizing designs and reducing workspace areas;
- Outsourcing head office caretaking activities;
- Implementing automated work scheduling and dispatching tools; and
 - Phase one of the dispatch program was successful. Phase two will include added crew functionality to be provided by a software upgrade scheduled to be implemented in November 2017.²⁴⁶
- Outsourcing line locating services to contractors;
- Accountability of the Project Delivery Office (PDO) to delivery on capital projects, including the implementation of the Transmission Project Delivery Transformation Plan;
- Logistics management through Materials Management;
- Redesign of cross-functional procurement processes to improve process efficiency and effectiveness; and
- The disposal of surplus property.

8.2 BUSINESS OPTIMIZATION INITIATIVE

During 2016/17, SaskPower started the business optimization initiative. The initiative is focused on streamlining, refining, and prioritizing SaskPower's operations, as well as improving SaskPower's ability to evolve along with the ever-changing regulatory requirements, technological standards, and service expectations inherent in industry.²⁴⁷

The business optimization initiative was launched with the intent of identifying sustainable process improvements and cost reductions that will provide benefits to both SaskPower and the Province of Saskatchewan over the long-term. SaskPower notes the business optimization initiative is not a direct result of the Government of Saskatchewan's Transformation Change Initiative or the Saskatchewan Plan

²⁴⁵ 1st round information request SRRP Q87.

²⁴⁶ 1st round information request SRRP Q86.

²⁴⁷ 2018 Rate Application, page 17.

for Growth; however, the intent around the streamlining and prioritizing work is similar.²⁴⁸ Through a combination of restraint measures and optimization activities, SaskPower has realized \$73 million in budgeted OM&A savings over the past two years.²⁴⁹ SaskPower is projecting additional OM&A reductions through the business optimization initiative. In 2016/17 SaskPower realized \$27 million in OM&A savings largely from reduced wages and salaries costs that were achieved by extending the period between when a position is vacated and when it is filled, and where possible, leaving the position permanently vacant.²⁵⁰ Further business optimization initiative savings are anticipated to be achieved in a number of ways: continuing to manage and streamline workforce – both employees and contractors; prioritizing all requests for new initiative spending; and deferring projects to future years.²⁵¹

The goals of the business optimization initiative include:²⁵²

- Short-term (by March 31, 2017) – leaders will be engaged to identify opportunities resulting in 5% to 10% quantifiable savings or optimization with consideration of association risks.
- Long-term (beyond March 31, 2017);
 - Roadmap: detailed plan with an owner, deliverables and a timeline for each recommendation set in place for June 30, 2017;
 - Execute identified optimization strategies that focus on efficiency gains, cost reductions and organizational health at both the divisional and enterprise levels;
 - Accountability for status reporting and benefit realization; and
 - Enhance an organizational culture change that embraces continuous improvement.

8.3 CONSULTANT OBSERVATIONS

The Consultant notes that SaskPower implemented its business renewal program in response to the Panel's recommendations regarding the 2009 Rate Application. In its 2010 report to the Minister, the Panel stated that at a minimum, it expected SaskPower to achieve an annual efficiency gain of 2% in the OM&A cost category.²⁵³ The Consultant notes that SaskPower has continued to make progress in implementing its business renewal program. Annual net OM&A savings in 2016/17 were \$27 million.²⁵⁴ The Consultant notes that these savings reduce, but do not eliminate, the need for increases in OM&A spending and resulting rate increases. The Consultant is satisfied that SaskPower has placed appropriate emphasis on the business renewal program and finding efficiencies in operations.

The Consultant notes that the business optimization initiative was launched in 2016/17. The launch of business optimization initiative is particularly important in the environment of increased capital spending requirements and increased rates.

²⁴⁸ 1st round information request SRRP Q89.

²⁴⁹ 2016/17 SaskPower Annual Report, page 26.

²⁵⁰ 1st round information request SRRP Q88.

²⁵¹ 2016/17 SaskPower Annual Report, page 26.

²⁵² 1st round information request SRRP Q85.

²⁵³ Saskatchewan Rate Review Panel, Report to the Minister for Rates Effective August 1, 2010, page 15 and 16.

²⁵⁴ 1st round information request SRRP Q88.

9.0 CAPITAL PLANNING AND EXPENDITURES

9.1 SASKPOWER'S CAPITAL PLAN

SaskPower's capital plan is prepared on an annual basis and is updated quarterly.²⁵⁵ Capital investments are justified either through inclusion in an asset management plan or through a specific business case. Emergency capital investments to replace assets that fail are not subject to these requirements.²⁵⁶ SaskPower organizes its capital investments based on the following categories:²⁵⁷

- Growth and compliance investments;
- Core sustainment investments; and
- Strategic and other investments.

SaskPower states the initial allocation of the capital projects into the three envelopes takes place through a peer evaluation process that includes representatives from various business areas. The size of the capital budget and the envelopes assigned to each category are developed through a process that examines a number of factors, including historical capital spending, operational requirements, risk analysis, and financial targets and objectives.²⁵⁸ The final capital allocation is approved by the SaskPower Board of Directors and the Crown Investments Corporation of Saskatchewan Board of Directors.²⁵⁹

SaskPower notes that it has invested almost \$8.7 billion in Saskatchewan's electricity infrastructure over the past decade, compared to only \$2.8 billion spent in the decade before.²⁶⁰ A high rate of capital investment is needed in order to continue to maintain current levels of reliability while also meeting the growth in demand for electricity and substantial capital expenditures are expected to continue through both direct investment and strategic partnerships with IPPs that benefit SaskPower.²⁶¹ SaskPower has the second-largest service area, one of the biggest grids in Canada, and a relatively fewer rate payers in the province to share the cost burden required to maintain the electrical system, these factors complicate capital infrastructure investment.²⁶² Table 9-1 summarizes actual capital spending for 2015 (December yearend) and 2016/17 and forecasts for 2017/18 to 2019/20. Total capital spending is forecast at \$1,122 million in 2017/18 and \$1,112 million in 2018/19. Table 9-1 includes Tazi Twé in its capital plan, it should be noted in the second quarter of 2017/18 SaskPower recognized a \$30 million loss (recorded in Other Expenses) as a result of a decision to defer development of the Tazi Twé Hydroelectric Project until there is a viable business case and it is no longer proceeding as previously scheduled.²⁶³

²⁵⁵ 1st round information request SRRP Q92.

²⁵⁶ 1st round information request SRRP Q92.

²⁵⁷ 1st round information request SRRP Q92.

²⁵⁸ 1st round information request SRRP Q92.

²⁵⁹ 1st round information request SRRP Q92.

²⁶⁰ 2018 Rate Application, page 41.

²⁶¹ 2018 Rate Application, page 41.

²⁶² 2018 Rate Application, page 41.

²⁶³ 2nd round information request SRRP R2 Q23.

Table 9-1: Actual and Forecast Capital Spending (\$ millions)²⁶⁴

	2015*	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2017/18- 2026/27
Capital Sustainment Investment													
Transmission	79.8	87.9	88.0	89.8	91.6	93.4	95.3	97.2	99.1	101.1	103.1	105.2	963.8
Distribution	50.0	72.9	80.0	81.6	83.2	84.9	86.6	88.3	90.1	91.9	93.7	95.6	875.9
Generation	126.2	145.0	132.1	139.1	139.1	139.1	139.1	139.1	139.1	139.1	139.1	139.1	1384.0
IT&S	37.5	35.4	17.0	17.3	21.5	27.4	18.7	19.1	19.5	19.9	20.3	20.7	201.4
Building and Furniture	10.9	20.6	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	200.0
Mining Land	1.5	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	25.0
Meter Purchases	22.5	11.7	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	75.0
Vehicles	22.7	20.0	20.0	18.2	16.5	15.0	15.3	15.6	15.9	16.3	16.6	16.9	166.3
ICCS	44.8	28.0	37.0										37.0
Subtotal Sustainment Investment	\$395.9	\$424.1	\$404.1	\$376.0	\$381.9	\$389.8	\$385.0	\$389.3	\$393.7	\$398.3	\$402.8	\$407.5	\$3,928.4
Growth and Compliance Investment													
Transmission	163.8	124.2	170.0	173.4	176.9	180.4	184.0	187.7	191.4	195.3	199.2	203.2	1861.5
Distribution	80.3	23.7	24.2	24.7	25.2	25.7	26.2	26.7	27.2	27.8	28.3	28.9	264.9
Transmission Connects	45.1	20.6	30.0	30.6	31.2	31.8	32.5	33.1	33.8	34.5	35.1	35.9	328.5
Distribution Connects	125.1	119.4	100.0	102.0	104.0	106.1	108.2	110.4	112.6	114.9	117.2	119.5	1094.9
New Generation and Carbon Capture													
QE Expansion	167.5	5.0											584.4
Tazi Twe	4.9	7.0	11.7	218.4	290.4	63.9							540.5
Chinook Gas Plant		140.0	306.0	186.6	47.9								748.4
XCG2							142.1	364.2	205.2	36.9			
Subtotal Growth and Compliance Investment	\$586.7	\$439.9	\$641.9	\$735.7	\$675.6	\$407.9	\$493.0	\$722.1	\$570.2	\$409.4	\$379.8	\$387.5	\$5,423.1
Strategic and Other Investments	\$7.7	\$25.2	\$74.7	\$149.0	\$171.3	\$86.6	\$65.9	\$53.4	\$53.1	\$48.8	\$34.5	\$25.6	\$762.9
Total Capital Spending	\$990.3	\$889.2	\$1,120.7	\$1,260.7	\$1,228.8	\$884.3	\$943.9	\$1,164.8	\$1,017.0	\$856.5	\$817.1	\$820.6	\$10,114.4

*2015 December year-end

²⁶⁴ SaskPower 10 Year Capital Plan, 2017. Accessed November 15, 2017 at <http://www.saskratereview.ca/docs/saskpower2017/saskpower-10-year-capital-plan.pdf>.

Capital Sustainment Investment

Capital sustainment investments have a primary purpose of replacing or refurbishing existing assets in order to maintain or improve asset performance and capabilities.²⁶⁵ Core sustainment investments are prioritized through long-term risk based asset strategies in which the highest priority is assigned to the most critical equipment and facilities with the greatest risks associated with failure, obsolescence, safety or other factors.²⁶⁶ SaskPower's asset management group is responsible for prioritizing the capital investments needs for core assets – generation, transmission, and distribution, the asset management team is responsible for the quarterly review of this allocation, and reallocating dollars as circumstances change.²⁶⁷

Sustainment spending is forecast at \$404.1 in 2017/18 and \$376.0 in 2018/19. The ten year forecast for sustainment spending is \$3,928.4 million from 2017/18 to 2026/27. Major categories or programs of ongoing sustainment spending include:

- **Transmission Wood Pole Remediation:** This program involves extending the life of transmission wood poles. Poles are evaluated and replaced as necessary.²⁶⁸ SaskPower will spend approximately \$320 million in the next 5 years in this program area.²⁶⁹
- **Circuit Breaker and Relay Replacements:** This program involves replacing breakers and relays that are obsolete or at the end of their useful lives.²⁷⁰ Once breakers and relays are replaced, maintenance is substantially reduced and the quality of output increases. SaskPower will spend approximately \$38 million over the next 5 years in this program area.²⁷¹
- **Rural Distribution Rebuild and Improvement Program:** This program involves the strategic replacement of the aging rural electrical distribution system. The program replaces lines with poor reliability performance and facilitates removal of power lines from farm fields while taking into account safety considerations and the optimization of line loss savings.²⁷² SaskPower will spend approximately \$104 million over the next 5 years in this program area.²⁷³
- **Distribution Wood Pole Remediation:** This program involves the inspection, life extension, and replacement of aging distribution wood infrastructure.²⁷⁴ SaskPower will spend approximately \$150 million over the next 5 years in this program area.²⁷⁵
- **Island Falls Dam Rehabilitation:** This project will address deficiencies that impose major risks to the long-term integrity of the Island Falls Powerhouse and Main Dam and flow control

²⁶⁵ 1st round information request SRRP Q91.

²⁶⁶ 1st round information request SRRP Q91.

²⁶⁷ 1st round information request SRRP Q91.

²⁶⁸ 2018 Rate Application, page 42.

²⁶⁹ 2018 Rate Application, page 42.

²⁷⁰ 2018 Rate Application, page 42.

²⁷¹ 2018 Rate Application, page 42.

²⁷² 2018 Rate Application, page 42.

²⁷³ 2018 Rate Application, page 42.

²⁷⁴ 2018 Rate Application, page 42.

²⁷⁵ 2018 Rate Application, page 42.

equipment.²⁷⁶ The total cost of the project is expected to be \$45 million and in-service by 2021.²⁷⁷

- **E.B. Campbell Life Extension:** SaskPower is undertaking work to extend the life of units 1 through 6 at the E.B. Campbell Hydroelectric Station. The first six units were commissioned in 1963/64.²⁷⁸ The total expected cost of the project is \$300 million and it is planned to be in-service for 2025.²⁷⁹

Growth and Compliance Investment

Growth and compliance investments assist SaskPower in meeting electricity load growth or those which are required to meet environmental, safety, or other regulatory requirements.²⁸⁰ SaskPower states these projects cannot be deferred to future years without causing undue risk to SaskPower, including an inability to serve new load growth or meet regulatory compliance obligations.²⁸¹ Growth and compliance investments require independent business cases. The Integrated Resource Plan provides general guidance in the long-term strategy to meet the electrical demands of the Province. However, each investment decision requires the preparation of an independent business case.²⁸² There are certain exceptions, such as distribution customer connects that are approved on a program basis.

The focus of SaskPower's business cases for these projects is on the appropriate timing of the investment and ensuring the investment meets growth requirements, including total cost of ownership, regulatory requirements, environmental impacts, stakeholder concerns, public policy, capacity value, future growth, existing resource mix, and fuel availability.²⁸³ Growth and compliance spending is forecast at \$641.9 million in 2017/18 and \$735.7 million in 2018/19. The ten year forecast for growth and compliance spending is \$5,423.1 million from 2017/18 to 2026/27. Major categories or programs of ongoing sustainment spending include:

- **Regina Transmission Bypass Project:** This program involves the support of the expansion of the Regina area highway system where SaskPower is required to modify or move 13 transmission lines, 55-60 distribution lines, seven fibre communication lines and many street lighting services as part of the Saskatchewan Ministry of Highways and Infrastructure project.²⁸⁴ The total expected cost of the project is \$32 million and it is planned to be in-service for 2017-19.²⁸⁵
- **Kennedy to Tantallon Transmission Line:** This project involves a new 230 kV line, approximately 100 kilometres, and other facilities required to facilitate load growth and reinforcement due to new potash developments and expansions in the area.²⁸⁶

²⁷⁶ 2018 Rate Application, page 42.

²⁷⁷ 2018 Rate Application, page 42.

²⁷⁸ 2018 Rate Application, page 42.

²⁷⁹ 2018 Rate Application, page 42.

²⁸⁰ 1st round information request SRRP Q91.

²⁸¹ 1st round information request SRRP Q91.

²⁸² 1st round information request SRRP Q91.

²⁸³ 1st round information request SRRP Q91.

²⁸⁴ 2018 Rate Application, page 43.

²⁸⁵ 2018 Rate Application, page 43.

²⁸⁶ 2018 Rate Application, page 43.

- **Pasqua to Swift Current Transmission Line:** This project involves a new 230/138 kW double circuit line and other facilities required to facilitate transmission service from SaskPower's planned gas-fired power plant near Swift Current, supply expected load growth in Swift Current, and mitigate other lines' end-of-life issues.²⁸⁷ The total expected cost of the project is \$223 million and it is planned to be in-service for 2019.²⁸⁸
- **Auburnton to Kennedy Transmission Line:** This project involves a new 230 kV line between the Auburnton and Kennedy switching stations to provide transmission reinforcement and comply with system performance requirements.²⁸⁹ The line will be approximately 70 kilometres in length. The total expected cost of the project is \$61 million and it is planned to be in-service for 2021.²⁹⁰
- **Distribution Customer Connects:** This project is to provide for the connection of new electrical services to the SaskPower grid, as well as to upgrade existing customer services.²⁹¹ The distribution customer connects is an on-going program, the program is expected to cost approximately \$520 million over the next 5 years.²⁹²
- **Chinook Power Station:** This project involves building a new natural gas-fired combined cycle generating station with a capacity of up to 350 MW.²⁹³ The facility is required to meet growing electricity demand and to support intermittent renewable energy generation, and will be located near Swift Current. The total cost of the project is estimated at \$680.5 million (not including transmission costs) and it is planned to be in-service for October 1, 2019.²⁹⁴

Strategic and Other Investment

Strategic and other investments are implemented to further specific strategic priorities for SaskPower.²⁹⁵ Strategic investments require independent business cases. Strategic and other investments spending is forecast at \$74.7 million in 2017/18 and \$149.0 million in 2018/19. The ten year forecast for strategic and other investment spending is \$762.9 million from 2017/18 to 2026/27. Examples of strategic and other investments include grid modernization, the customer relations and billing module, outage management, and the Carbon Capture Test Facility.²⁹⁶

9.2 CONSULTANT OBSERVATIONS

The Consultant notes that the Minister's order instructs the Panel to consider the budgeted capital allocation as a given. However, as capital spending ultimately results in increases to revenue requirement through depreciation expense, finance expense, capital taxes, and ROE, the Consultant believes an understanding of the capital plan is necessary. The Consultant notes that SaskPower's average annual capital spending is anticipated to be approximately \$1 billion for the period from 2017/18 to 2026/27.

²⁸⁷ 2018 Rate Application, page 43.

²⁸⁸ 2018 Rate Application, page 43.

²⁸⁹ 2018 Rate Application, page 43.

²⁹⁰ 2018 Rate Application, page 43.

²⁹¹ 2018 Rate Application, page 43.

²⁹² 2018 Rate Application, page 43.

²⁹³ 2018 Rate Application, page 44.

²⁹⁴ 1st round information request SRRP Q98.

²⁹⁵ 1st round information request SRRP Q91.

²⁹⁶ 1st round information request SRRP Q91.

SaskPower notes that for every \$1 billion spent on capital, the company incurs a \$70 million increase in expense, this increase in expense would result in a rate increase of approximately 3%.²⁹⁷

SaskPower's capital program reflects the need to replace and refurbish existing utility infrastructure as well as plan for future load growth. The consultant notes that the capital investment is expected in order to continue to maintain current levels of reliability while also meeting the growth in demand for electricity.²⁹⁸ This will continue to put upward pressure on rates for the foreseeable future. The consultant notes that other regulators have addressed issues regarding the effects of capital plans on rates, including the Ontario Energy Board regarding the regulatory framework for distribution utilities in Ontario:

Pacing and prioritization of capital investments to promote predictability in rates and affordability for customers must be a primary goal in a distributor's capital plan. The Board recognizes that factors beyond a distributor's control may add complexity and uncertainty to any effort to estimate bill impacts on customers. However, a distributor must exercise control over the pace of its own capital spending, as this factor can be an important element in the total cost of electricity to customers. To aid distributors in this essential task, standardized methods and tools should be developed for use by distributors in preparation of their plans.²⁹⁹

In the Consultant's view, SaskPower has been attentive to the 'pacing and prioritization' concept in developing its capital plans, particularly with respect to sustaining capital.

²⁹⁷ 1st round information request SRRP Q6.

²⁹⁸ 2018 Rate Application, page 41.

²⁹⁹ Ontario Energy Board, Report of the Board, Renewed Regulatory Framework for Electricity Distributors; A Performance-Based Approach, October 18, 2012, page 37. Accessed November 15, 2017 at https://www.oeb.ca/sites/default/files/uploads/Report_Renewed_Regulatory_Framework_RRFE_20121018.pdf.

10.0 COST OF SERVICE STUDY

A cost of service study is an analytical tool used by utilities and regulators to determine a fair allocation of the utility's costs to its customer classes. Some of the uses of a cost of service study that are relevant for SaskPower include:

- To attribute a utility's costs to different categories of customers based on how those customers cause costs to be incurred.
- To determine how costs will be recovered from customers within each customer class.
- To calculate costs of individual types of services based on the costs each service requires the utility to expend.³⁰⁰

SaskPower's cost of service study is calculated on a prospective (or forward-looking) basis and uses test year forecast information. Inputs to the cost of service study include SaskPower's revenue requirement (operating expenses, fuel expense, depreciation expense, finance costs and a return on equity) for the test year and the load forecast including forecast energy sales, peak demand and customer forecasts. SaskPower's 2018 cost of service study analyses the annual cost to serve each of SaskPower's customer classes. SaskPower provides information based on revenues at rates effective March 1, 2018.

In the cost of service study, costs that are incurred to serve only one customer class are directly assigned to that class. Costs that are incurred jointly by several customer classes or that are common to all customer classes are allocated to the classes based on cost causation principles. While there are many potential allocation methods, the core objective is to allocate costs to the customer classes based on customer characteristics such as energy consumption and peak demand. There is no single industry-accepted allocation method as each utility's operating circumstances and cost drivers are different. The utility's operating circumstances also change over time, so that methods that may once have been appropriate should be revisited in light of new circumstances. In 2017, SaskPower commissioned an independent review of its cost of service study methods. This section provides an overview of the review process, highlights impacts on class revenue to revenue requirement ratios of adopting revisions to the cost of service study methods and provides observations and recommendations based on the review of the revised cost of service study.

10.1 OVERVIEW OF 2017 COST OF SERVICE REVIEW

In its report to the Minister on SaskPower's 2016 and 2017 Rate Application, the Panel recommended:

...that SaskPower provide stakeholders with the opportunity to provide meaningful input into the next cost of service methodologies review. This would include an issue identification process at the start of the review, the opportunity to review and ask questions about preliminary results before the report is drafted, and the ability to review and comment on a draft report before it is finalized. Participants should be able to test

³⁰⁰ Adapted from the National Association of Regulatory Utility Commissioners (NARUC), Electric Utility Cost Allocation Manual, January, 1992, page 12 – 13.

the reasonableness of SaskPower's proposed methods through publicly-available customer class level data, which is used as inputs for COS allocation purposes including the demand component of the CP load factor.³⁰¹

SaskPower retained an external consultant to undertake a review of its cost of service methods. Table 10-1 summarizes the timeline of the review.

Table 10-1: Cost of Service Review Timeline³⁰²

Milestone	Completion Date
Issue RFP	December 8, 2016
Selection of the technical consultant (Elenchus)	January 30, 2017
Technical consultant conducts a kick-off meeting with SaskPower and interested stakeholders to discuss issues and scope of review. Interested stakeholders had the opportunity to provide input into what they would like to see from the review.	February 8, 2018
Technical consultant conducts review of SaskPower's cost of service methods including surveying Canadian electric utilities on their methodologies.	February 28, 2017
Technical consultant presents preliminary update of review of SaskPower's cost of service methods to SaskPower, the Panel and stakeholders. Interested stakeholders were encouraged to provide feedback and submit written questions/submissions to SaskPower and Elenchus.	March 15, 2017
Technical consultant prepares and files draft report with SaskPower	April 30, 2017
Technical consultant presents draft report and its findings to stakeholders and the Panel. Interested stakeholders were encouraged to provide feedback and submit written questions/submissions to SaskPower and Elenchus.	May 15, 2017
Technical consultant and SaskPower provide written responses to stakeholder questions/submissions.	May 30, 2017
Stakeholders prepare and file written submissions on the draft report.	June 15, 2017
Technical consultant prepares and files a final report which includes responses to written stakeholder questions and submissions.	June 30, 2017
Technical consultant provides written responses to stakeholder submissions that were received after the final report was issued.	July 5, 2017
SaskPower prepares a final response to the Panel regarding the technical consultant's report indicating proposed actions resulting from the review.	Sept 29, 2017

³⁰¹ Page 12. Saskatchewan Rate Review Panel's Report to the Minister on SaskPower's 2016 Rate Application.

Available: <http://www.saskratereview.ca/docs/saskpower2016/srrp-2016-saskpower-review-final.pdf>. Accessed: October 10, 2017.

³⁰² 1st round information request SRRP Q114.

In their final report, Elenchus made three main recommended changes to SaskPower's cost of service methods:

- That SaskPower should implement the average and excess method for classifying generation costs. This is a change from the equivalent peaker method that SaskPower had previously used. Elenchus recommended moving away from the equivalent peaker method in part because the standard costing data for fossil fuel plants used to prepare the equivalent peaker analysis is no longer available.
- That SaskPower implement the minimum system method for classifying distribution lines and transformers. This is a change from the previous use of utility survey information.
- That SaskPower calculate the non-coincident peak loads used to allocate costs using the class maximum diversified demand (MDD) method. This is a change to the method previously used by SaskPower that used each individual customer's maximum demand to calculate the non-coincident peak load factor of the customer class.³⁰³

10.2 COST OF SERVICE METHOD CHANGES

Following the presentation of the final report from Elenchus, SaskPower provided a response to the report. In its response, SaskPower accepted the three main methodology changes recommended by Elenchus: using the average and excess method for generation classification; adopting the minimum system method for classifying certain distribution assets and using the class maximum diversified demand for calculating non-coincident peak allocators. Table 10-2 summarizes the impact on class revenue to revenue requirement ratios for each major rate class of adopting these changes to the cost of service study methods. Changing from the equivalent peaker method to the average and excess method for generation classification affects the costs allocated to all customer classes. The adoption of the minimum system method and the maximum diversified demand method affect only distribution level customers.

The combined effect of the method changes are increases to the costs allocated to streetlights (9.8%) and power customers (1.2%). All other customer classes see decreases to their allocated costs of about 1% or lower.

³⁰³ Summarized from chapter 6 of the final Elenchus report to SaskPower. Available: http://www.saskpower.com/wp-content/uploads/Final_Elenchus_report.pdf. Accessed October 10, 2017.

**Table 10-2: Effect of Cost of Service Changes on Class Revenue Requirements
(\$000s)³⁰⁴**

2015 Cost of Service	Original		Average & Excess Demand				Minimum System Method			
	Allocated Rev. Req.	Rev. to Rev. Req.	Allocated Rev. Req.	Change		Rev. to Rev. Req.	Allocated Rev. Req.	Change		Rev. to Rev. Req.
				\$	%			\$	%	
Residential	509,170.6	0.96	502,104.4	(7,066.2)	(1.4%)	0.98	519,046.0	9,875.4	1.9%	0.94
Farms	164,871.9	0.96	163,588.3	(1,283.6)	(0.8%)	0.97	166,419.5	1,547.6	0.9%	0.96
Commercial	420,907.2	1.03	420,441.1	(466.1)	(0.1%)	1.03	415,519.5	(5,387.7)	(1.3%)	1.04
Power	593,892.9	1.03	600,749.6	6,856.7	1.2%	1.01	593,892.9	0.0	0.0%	1.03
Oilfields	324,560.5	1.02	327,504.9	2,944.4	0.9%	1.02	317,028.6	(7,531.9)	(2.3%)	1.05
Streetlights	17,494.8	0.86	17,545.6	50.8	0.3%	0.85	18,991.5	1,496.7	8.6%	0.79
Reseller	96,845.1	0.93	95,809.1	(1,036.0)	(1.1%)	0.94	96,845.1	0.0	0.0%	0.93
Total	\$2,127,743.1	1.00	\$2,127,743.1	\$0.0	0.0%	1.00	\$2,127,743.1	\$0.0	0.0%	1.00

2015 Cost of Service	Original		Maximum Diversified Demand				Total Change			
	Allocated Rev. Req.	Rev. to Rev. Req.	Allocated Rev. Req.	Change		Rev. to Rev. Req.	Allocated Rev. Req.	Change		Rev. to Rev. Req.
				\$	%			\$	%	
Residential	509,170.6	0.96	502,551.4	(6,619.2)	(1.3%)	0.97	505,360.6	(3,810.0)	(0.7%)	0.97
Farms	164,871.9	0.96	164,432.3	(439.6)	(0.3%)	0.97	164,696.2	(175.7)	(0.1%)	0.97
Commercial	420,907.2	1.03	424,435.7	3,528.5	0.8%	1.02	418,581.9	(2,325.3)	(0.6%)	1.03
Power	593,892.9	1.03	593,892.9	0.0	0.0%	1.03	600,749.6	6,856.7	1.2%	1.01
Oilfields	324,560.5	1.02	327,919.0	3,358.5	1.0%	1.01	323,331.5	(1,229.1)	(0.4%)	1.03
Streetlights	17,494.8	0.86	17,666.7	171.9	1.0%	0.85	19,214.2	1,719.4	9.8%	0.78
Reseller	96,845.1	0.93	96,845.1	0.0	0.0%	0.93	95,809.1	(1,036.0)	(1.1%)	0.94
Total	\$2,127,743.1	1.00	\$2,127,743.1	\$0.0	0.0%	1.00	\$2,127,743.1	\$0.0	0.0%	1.00

10.3 CONSULTANT OBSERVATIONS

The Consultant's observations are based on the material provided by SaskPower, including information request responses to the Panel and other stakeholders. The Consultant focused on understanding the rationale and impacts of the proposed changes but did not independently confirm all of SaskPower's calculations.

Generation Classification Method

The Consultant notes that there is no single acceptable method for classifying generation costs in a cost of service study. In previous studies, SaskPower used the equivalent peaker method (EPM) to classify generation costs between demand and energy. However, SaskPower has identified the following issues with the continued use of the EPM in the cost of service study:

- Standard costing data for conventional coal plants is no longer available, therefore historical, inflation-adjusted data must be used.
- Required coal retrofitting regulations required significant capital investments, impacting the results.
- Generation assets are no longer typically dispatched for their original purpose (e.g., gas units are no longer dispatched exclusively for peaking).³⁰⁵

In its response to the 2017 Elenchus review of its cost of service methods, SaskPower accepted the Elenchus recommendation to change to the average and excess demand method (AED) for classifying generation costs. This method essentially classifies generation costs based on the utility's load factor. Adopting the AED approach for SaskPower shifts the generation classification ratio from 54.3% energy to

³⁰⁴ 1st round information request SRRP Q115.

³⁰⁵ SaskPower Response to Elenchus report dated September 2017, page 2.

78.3% energy.³⁰⁶ This reflects the relatively high system load factor in Saskatchewan. The change from the EPM to the AED approach increases the cost allocation to higher load factor customers (such as power and oilfields class customers) and away from lower load factor customers (such as residential customers).

The Consultant accepts SaskPower's concerns that data availability and quality issues make it difficult to continue to rely on the EPM for cost of service purposes. SaskPower also noted that the EPM introduced volatility into the classification ratios when new resources were added to the system. The Consultant notes that the AED approach is described in the NARUC manual as using an average demand or total energy allocator to allocate that portion of the utility's generating capacity that would be needed if all customers used energy a constant 100 percent load factor. The second component of each class's allocation factor uses the proportion of the difference between the sum of all classes' non-coincident peaks and the system average demand.³⁰⁷ The Elenchus report also noted that four of eight utilities included in its sample used a generation classification method related to the system load factor.³⁰⁸

The Consultant accepts SaskPower's recommendation to implement the AED method for cost of service study purposes as reasonable.

Distribution Classification Method

SaskPower's previous cost of service studies used survey data to classifying distribution transformers and urban and rural distribution line costs between customer and demand. Elenchus recommended using the minimum system method (MSM) to classify these assets. The MSM examines the ratio of costs for the smallest assets in use for the utility and the costs for all assets and uses that ratio as the basis for classifying costs between customer and demand. SaskPower notes that a common critique of the MSM is that the lowest cost assets also provide some demand benefits to customers. This concern can be addressed through the use of an adjustment for peak load carrying capacity (PLCC).

Implementing the MSM has a relatively minor effect on the classification of transformers, from 70% demand based on the existing survey method to 64.5% using the MSM. However for distribution lines, the change is more substantial, from 65% demand using the survey method to 31.5% using the MSM. SaskPower indicates this is not an uncommon result for a low density utility.³⁰⁹ The Consultant notes that a review of generic distribution classification ratios in Ontario recommended a classification of distribution lines of 40% demand for low density systems, closer to the results calculated by SaskPower's MSM.³¹⁰ The change generally increases the costs allocated to residential customers while decreasing costs allocated to commercial and oilfield customers.

The Consultant understands that the MSM is a method commonly used to classify distribution costs and accepts SaskPower's recommendation to adopt it for cost of service purposes as reasonable.

³⁰⁶ SaskPower Response to Elenchus report dated September 2017, page 3.

³⁰⁷ National Association of Regulatory Utility Commissioners Electric Utility Cost Allocation Manual, page 49.

³⁰⁸ Elenchus report, page 42. Available: http://www.saskpower.com/wp-content/uploads/Final_Elenchus_report.pdf

³⁰⁹ SaskPower Response to Elenchus report dated September 2017, page 6.

³¹⁰ 2005 Presentation on Generic Minimum System results. Available: https://www.oeb.ca/documents/cases/EB-2005-0317/genericminisystem_071105.pdf Accessed November 12, 2017.

Maximum Diversified Demand

SaskPower uses the non-coincident peak (NCP) demands to allocate the demand related portion of classified costs for distribution transformers. The current cost of service study aggregates each customer's individual demand to calculate the non-coincident peak load factors. Elenchus commented that SaskPower's approach resulted in higher demand values that did not appear consistent with experience in other jurisdictions. Elenchus recommended that SaskPower adopt the class maximum diversified demand (MDD) method at the rate class level (rather than an aggregation of all customers within the class). The adoption of the MDD approach reduces the costs allocated to residential customers and increases costs allocated to commercial and oilfields customers.³¹¹

The Consultant agrees that the MDD approach appears to be an improvement over SaskPower's previous approach and results in class load factors that are more consistent with experience in other jurisdictions.³¹² On that basis the Consultant accepts SaskPower's recommendation to adopt the MDD approach as reasonable.

10.4 CONSULTANT RECOMMENDATIONS

The Consultant recommends the Panel accept SaskPower's cost of service study with the revisions recommended by SaskPower as reasonable for rate-making purposes.

³¹¹ SaskPower Response to 2017 Elenchus report, page 8.

³¹² SaskPower compared the class load factors using the two different approaches on page 8 of its response to the Elenchus report.

11.0 RATE DESIGN

Rate design is the process that determines the rates to be charged to each customer class. Cost causation, as measured by a cost of service study, is an important input into the rate design process. However, rate design may also consider other criteria such as revenue stability, economic efficiency and administrative simplicity.

11.1 RATE DESIGN OVERVIEW

The Bonbright Criteria are often cited as key principles that provide guidance for utility rate design:

1. The related, "practical" attributes of simplicity, understandability, public acceptability, and feasibility of application.
2. Freedom from controversies as to proper interpretation.
3. Effectiveness in yielding total revenue requirements under the fair-return standard.
4. Revenue stability from year to year.
5. Stability of the rates themselves, with a minimum of unexpected changes seriously adverse to existing customers.
6. Fairness of the specific rates in the apportionment of total costs of service among the different consumers.
7. Avoidance of "undue discrimination" in rate relationships.
8. Efficiency of the rate classes and rate blocks in discouraging wasteful use of service while promoting all justified types and amounts of use:
 - a. In the control of the total amounts of service supplied by the company; and
 - b. In the control of the relative uses of alternative types of service.³¹³

Of these, Bonbright identifies three as "primary" criteria both because of their widespread acceptance and because most of the more detailed criteria are ancillary to these:

1. That rates return the revenue requirement, or the financial need objective.
2. The fair cost apportionment objective.
3. The optimum-use objective under which rates are designed to discourage wasteful use of services while promoting use that is economically justified.³¹⁴

³¹³ Principles of Public Utilities Rates. James C. Bonbright Criteria of a S. Columbia University Press. 1961, page 291.

³¹⁴ Principles of Public Utilities Rates. James C. Bonbright Criteria of a S. Columbia University Press. 1961, page 292.

SaskPower states that its key rate design objectives are:

1. **Meeting Revenue Requirement:** Meeting the revenue requirement suggests that SaskPower's customer rates are designed with the purpose to provide sufficient revenue in order to cover both the utility's forecasted annual costs and return on rate base.
2. **Fairness and Equity:** Fairness and equity implies that SaskPower's cost of service methodology and rate design is applied to the various customer classes, based on cost behaviour drivers and cost causality, while projecting no undue discrimination between customers.
3. **Economic Efficiency:** Economic efficiency refers to SaskPower's objective of utilizing assets and expenses in a manner that is operationally effective for developing a power system, while the rates charged for electrical service provide the appropriate price signals to customers that will allow SaskPower to maintain a power system that continues to be efficient over time.
4. **Conservation of Resources:** Conservation of resources relies on asset and cost allocations that provide appropriate price signals to consumers, so that they will utilize power in a reasonable manner while taking into account SaskPower's cost of providing power and the value placed on that power by the various customer classes.
5. **Simplicity and Administrative Ease:** Simplicity and administrative ease objectives for rate-making rely on concepts of allocation that are logical, transparent to stakeholders and customers, and easily implementable.
6. **Stability and Gradualism:** Stability and gradualism objectives aspire to employ cost allocations and rate-making standards that are steady over longer periods. Stability and gradualism goals avoid non-typical volatility of rates to any customer classes at any given time.³¹⁵

11.2 PROPOSED RATE ADJUSTMENTS AND CLASS REVENUES

SaskPower is proposing to implement its revenue requirement increase largely by equal percentage increases to all components of the rate structure. There are a few exceptions for a limited number of customers noted by SaskPower:

- Power contract customer rate increases are calculated according to the terms of each contract. The contract customer class is subject to an average rate increase of 4.1% and has a revenue to revenue requirement ratio of less than 1.00 due to an underperforming contract in that rate class. There are two customers in the power contract class and all contracts in the class will expire by December 31, 2019. The decision to convert existing contract customers to published rates will be dependent on negotiations with customers.³¹⁶
- SaskPower is proposing to adjust the calculation of recorded demand for commercial customers with time-of-day metering from the greater of the current month demand in the on-peak period or 80% of the maximum demand registered at any other time to the maximum demand in the

³¹⁵ SaskPower's 2018 Cost of service study, page 5 and 6.

³¹⁶ 1st round information request SRRP Q119.

on-peak period or 85% of the of the maximum demand registered at any other time. SaskPower indicates this reflects SaskPower's shifting of the time-of-day incentive from demand to energy.³¹⁷ This change applies fewer than 30 customers has a maximum effect on annual revenue from any one customer of 1% or less.³¹⁸

Table 11-1 summarizes the revenue to revenue requirement ratios following the rate increase requested in the application using SaskPower's current cost of service study.³¹⁹

Table 11-1: Class Revenue to Revenue Requirement Ratios Following Requested Rate Increase on March 1, 2018³²⁰

	Proposed Rate Increase	R/RR Ratio after rate increases (current COS methods)
Residential	5.1%	0.97
Farms	5.1%	0.97
Urban commercial	5.1%	1.02
Rural commercial	5.1%	1.00
Total Commercial	5.1%	1.02
Power - published rates	5.1%	1.03
Power - contract rates	4.1%	0.99
Total Power	4.8%	1.02
Oilfields	5.1%	1.03
Streetlights	5.1%	0.85
Reseller	5.1%	0.99

The only major class outside of the 0.95 to 1.05 revenue to revenue requirement range defined in the Minister's terms of reference is the streetlights class. SaskPower notes that due to their relatively small size, the streetlight class is very sensitive to fluctuations in their costs. SaskPower further notes that it is in the process of converting many of its light standards to more energy efficient LED technologies. It is anticipated the streetlight conversion will affect both costs of streetlights and also reduce energy consumption and contribution to system peak (which reduces the costs allocated to the streetlight class in the cost of service study).

³¹⁷ 2018 Rate Application, page 47.

³¹⁸ 1st round information request SRRP Q123.

³¹⁹ 1st round information request SRRP Q117(b).

³²⁰ 2018 Rate Application, page 47.

In response to an information request from the Panel, SaskPower prepared an alternative rate design scenario for review, see Table 11-2, that addressed the following:

- Fully implements the core recommendations in the 2017 Elenchus cost of service review.
- Amalgamates urban and rural rates for residential and commercial customers (rate simplification).
- Ensures all customer class R/RR ratios other than streetlights are within the 0.95 to 1.05 range.
- Holds the streetlight R/RR ratio constant until the impacts of the LED conversion program are known.
- Fully rebalances the reseller class due to changes in the cost of service methods from the 2012 review.

Table 11-2: Alternative Rate Scenario Revenue Requirement Ratios³²¹

	Alternative Rate Scenario	R/RR Ratio after rate increases
Residential	5.2%	0.99
Farms	5.2%	0.96
Small Commercial	5.9%	1.01
General Service	3.7%	1.01
Total Commercial	4.7%	1.01
Power - published rates	5.2%	1.01
Power - contract rates	4.2%	0.98
Total Power	4.9%	1.01
Oilfields	4.6%	1.01
Streetlights	8.1%	0.82
Reseller	6.0%	1.00

Differences in the rate increases in this alternative scenario compared to the rate application include:

- Increases for the streetlight class (8.1% compared to 5.1%), reseller class (6.0% compared to 5.1%) and small commercial class (5.9% compared to 5.1%).

³²¹ 1st round information request SRRP Q122(b).

- Decreases for the general service class (3.7% compared to 5.1%) and oilfields classes (4.6% compared to 5.1%).
- Small increases (about 0.1%) for other rate classes.

In response to a second round information request from the Panel, SaskPower provided an additional refinement to the alternative rate scenario that increased rates for the farm customer class to achieve a R/RR ratio of 0.98, and used the additional revenue to decrease rate proposals for customer classes with R/RR ratios of 1.01. The resulting scenario is summarized in Table 11-3 and indicates that rates for farm customers would need to increase by 7.2% to achieve a R/RR ratio of 0.98.

**Table 11-3: Alternative Rate Scenario Revenue Requirement Ratios
Farm Customers to 0.98 R/RR³²²**

	Alternative Rate Scenario	R/RR Ratio after rate increases
Residential	5.2%	0.99
Farms	7.2%	0.98
Small Commercial	5.6%	1.01
General Service	3.5%	1.01
Total Commercial	4.5%	1.01
Power - published rates	5.0%	1.01
Power - contract rates	4.0%	0.98
Total Power	4.7%	1.00
Oilfields	4.3%	1.01
Streetlights	8.1%	0.82
Reseller	6.0%	1.00

³²² 2nd round information request SRRP Q34(c).

11.3 PROPOSED RATES COMPARED TO UNIT COSTS

SaskPower is proposing to increase all components of the rate structure by equal percentages. SaskPower notes that it considers the following when designing rates:

- Limiting the maximum increase to any single customer or class to 15%, which includes any single component of the rate itself (i.e. basic monthly, energy and demand charges).
- Ensure the proposed rate structures are consistent with the ideal rates calculated within cost of service. SaskPower attempts to limit the variance of rate components between proposed and ideals to a maximum of 15%. SaskPower notes that it requires this flexibility due to the large degree of variability that can exist within rate codes due to the diversity of customer load characteristics.³²³

SaskPower provided information comparing the proposed 2018 rates to the unit costs calculated in the cost of service study (incorporating the method changes recommended by Elenchus) in the response to second round information request SRRP Q38 (b). A review of that information indicated the following instances where SaskPower's proposed 2018 rates varied by more than 15% from the unit costs calculated in the cost of service study:

- Rate code E10 – Customer Owned Transformation: Cost of service energy unit cost 7.197 cents/kWh compared to proposed rate of 5.786 cents/kWh. (24.4% variance).
- Rate code E12 – Customer Owned Transformation: Cost of service demand unit cost \$7.134/kVA compared to proposed rate of \$8.521/kVA (16.3% variance).

11.4 CUSTOMER SELF-GENERATION

SaskPower currently offers a net metering program that allows customers the opportunity to generate their own power using environmentally preferred technologies up to 100kW of capacity. Customers who generate more electricity than they consume can add the electricity to SaskPower's grid and 'bank' those kilowatt-hours as credits against future consumption for use within a 12-month period. The program offers customer a one-time rebate of 20% of eligible costs to a maximum of \$20,000. The rebate is available until November 30, 2018. SaskPower currently has approximately 975 net metering customers. SaskPower estimates the reduced revenue on net-metered electricity generation is approximately \$850,000. SaskPower acknowledges there are some challenges associated with the program. As more customers generate their own power, SaskPower's costs to maintain and operate the grid are spread over a smaller customer base. This has the effect of raising rates from the remaining customers, in particular to recover fixed costs of investment. SaskPower indicates it is undertaking an internal review of self-generation programs and that results should be available in early 2018.³²⁴

³²³ 2nd round information request SRRP Q38(b).

³²⁴ 2nd round information request SRRP Q40.

11.5 CONSULTANT OBSERVATIONS

In the Consultant's view, SaskPower's rate design objectives, as stated in the 2018 cost of service study are generally consistent with the Bonbright principles and Canadian utility industry practice.

The Consultant notes that the proposed equal percentage rate increases to all rates and customer do not address differences in class revenue to revenue requirement ratios. While most classes are within the 0.95 to 1.05 target revenue to revenue requirement range, the Consultant notes that the streetlight class revenue to revenue requirement ratio is substantially lower than 1.0. The Consultant understands SaskPower's explanation that the LED streetlight replacement program is anticipated to alter both the costs to serve that class of customers and also the contribution to annual energy requirements and coincident peaks. However, the Consultant believes that in future rate applications there should be attention paid to returning all rate classes to within the 0.95 to 1.05 revenue to revenue requirement target range. The Consultant reviewed two alternative rate design scenario provided by SaskPower that implement the results of the Elenchus cost of service review and make some progress toward reducing the range of revenue to revenue requirement ratios between the customer classes.

The Consultant reviewed SaskPower's unit costs of demand, energy and customer to proposed rates. The Consultant appreciates that some variation between cost of service unit costs and rates is unavoidable and can serve other reasonable rate design criteria including rate stability, gradualism and providing effective price signals to customers. The Consultant also understands that timelines for the current application may have required a more simplified approach to rate design, particularly given the 2017 cost of service study review. However, the Consultant considers that where there is substantial variation between unit costs and rates, attention could be paid to future rate adjustments that would narrow the gap between rates and unit costs. Otherwise, the linkage between rates and costs may erode.

The Consultant notes a concern with respect to the power contract rates that result in a lower than average rate increase to these customers, despite them having a revenue to revenue requirement ratio of less than 1.0. The Consultant understands that SaskPower's current contracts with these customers are set to expire by the end of 2019. The Consultant considers that in fairness to other customers, attention should be paid to adjusting future contracts to address this issue.

The Consultant notes SaskPower currently has a net metering program in place. The Consultant share's SaskPower's concern that as subscription to that program grows, it may place additional upward rate pressure on customers who cannot afford to install their own generation. The Consultant believes SaskPower's review of self-generation program options is timely and should include consideration of mechanisms, such as a feed-in tariff, that may reduce the adverse rate impacts on other customers.

11.6 CONSULTANT RECOMMENDATIONS

The Consultant recommends that the Panel encourage SaskPower to address rate rebalancing between customer classes. In the Consultant's view there may be merit in undertaking some degree of rate rebalancing as part of the March 2018 rate adjustment. At a minimum, the Consultant recommends that the Panel encourage SaskPower in its next rate application to address differences in class revenue to

revenue requirement ratios, particularly where a class is outside of the revenue to revenue requirement target range of 0.95 to 1.05.

The Consultant recommends that the Panel encourage SaskPower in its next rate application to consider rebalancing rates between demand charges, energy and customer charges based on the average unit costs calculated in SaskPower's cost of service study, particularly where rates vary from unit costs by more than 15%.

The Consultant recommends that the Panel encourage SaskPower to consider adjustments to future power class customer contracts to address the current issue of lower than average rate increases for these customers when their revenue to revenue requirement ratios are less than 1.0.

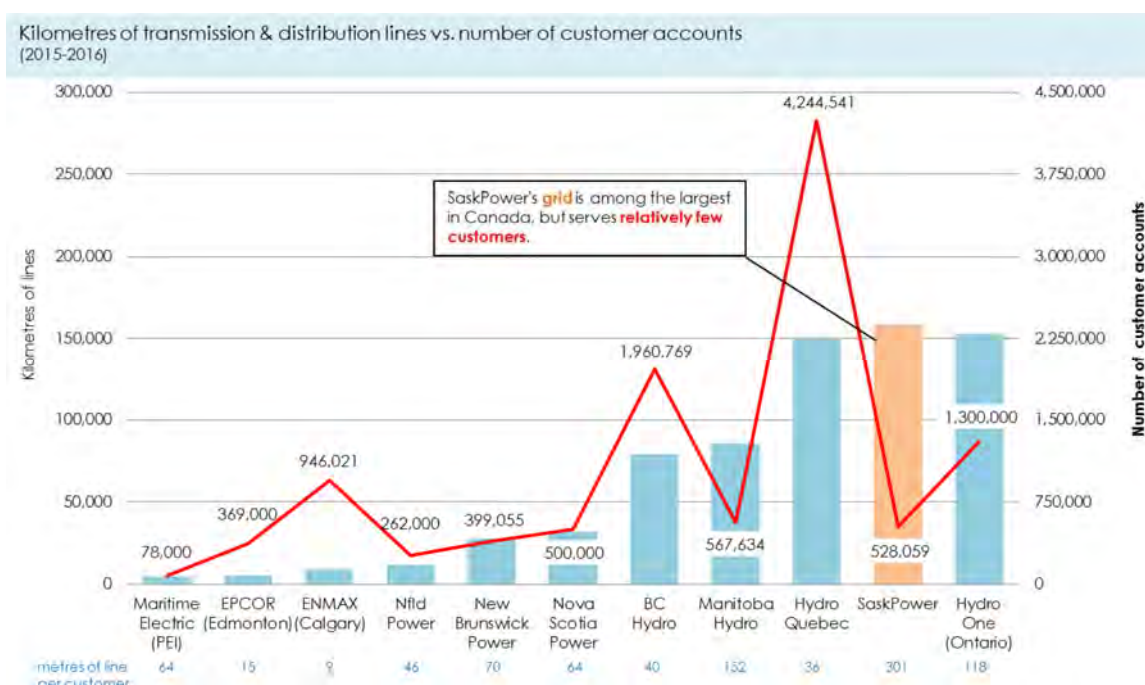
The Consultant recommends that the Panel request SaskPower provide a copy of the review of self-generation options to the Panel as part of the next rate application, including identifying any next steps SaskPower believes are appropriate following the review.

12.0 SAFETY AND RELIABILITY

12.1 RELIABILITY

SaskPower's system includes over 14,000 kilometres of transmission lines, more than 144,000 kilometres of distribution lines,³²⁵ and more than 524,000 customer accounts³²⁶ over a geographic region of approximately 588,000 square kilometres.³²⁷ Figure 12-1 compares the number of customer accounts and total kilometres of transmission and distribution lines for a number of Canadian Utilities. SaskPower states that it maintains one of the largest transmission and distribution systems but has relatively few customer accounts.

Figure 12-1: Kilometres of Transmission and Distribution Lines vs. Number of Customer Accounts³²⁸



SaskPower measures transmission and distribution reliability using two industry standard metrics: the System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI). SAIDI tracks performance on the duration of outages and restoring service in response to outages, while SAIFI represents the number of outages that an average customer experiences in one

³²⁵ 1st round information request SRRP Q126.

³²⁶ 2nd round information request SRRP Q24.

³²⁷ Statistics Canada. 2017. *Saskatchewan [Province] and Canada [Country]* (table). *Census Profile*. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released October 25, 2017.

<http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E> (accessed November 2, 2017).

³²⁸ 2018 Rate Application, page 23.

year.³²⁹ In general, SAIDI and SAIFI will increase as a grid ages. SaskPower states its SAIDI short-term targets are determined using five-year historical data, factoring in a downward trend resulting from infrastructure renewal initiatives, improved technology, and improved maintenance programs.³³⁰ SAIDI long-term target is determined as the five-year historical average adjusted to improve the performance of components currently underperforming on design to current design criteria.³³¹ SAIFI short-term targets are based on historical data, factoring in a downward trend to reflect infrastructure renewal and sustainment initiatives.³³² SAIFI long-term target is based on industry averages.³³³ SaskPower's 2018/19 outage targets for distribution are a SAIDI (duration) target of 5.5 minutes and a SAIFI (frequency) target of 2.4 outages.³³⁴ SaskPower's transmission outage targets for 2018/19 are a SAIDI (duration) outage target of 190 minutes and a SAIFI (frequency) of 2.4 outages.³³⁵

SaskPower informs customers of planned transmission and distribution outages using a variety of channels; including the SaskPower App for mobile devices, local radio advertisements, mailed notifications, a dedicated 24-hour outage reporting number, and social media, including SaskPower.com, subscriptions to an RSS feed, Twitter, and Facebook.³³⁶

12.1.1 Distribution Reliability

Figure 12-2 shows SaskPower's distribution SAIDI (duration minutes) from 2011 to 2016/17 compared to the Canadian Average for 2011 to 2015 (Canadian Average for 2016/17 not available at the time this report was prepared). The Canadian averages used in distribution and transmission SAIDI and SAIFI comparisons are reported by the Canadian Electricity Association (CEA). The methodology used by the CEA to calculate Canadian averages weight the results from each included utility by the size of that utility's customer base.³³⁷ Due to individual confidentiality the numbers are only provided as a Canadian average.³³⁸ Figure 12-2 shows that SaskPower distribution SAIDI performance was lower than the Canadian average in 2 of the 5 years reported.

³²⁹ 2018 Rate Application, page 11.

³³⁰ 1st round information request SRRP Q132.

³³¹ 1st round information request SRRP Q132.

³³² 1st round information request SRRP Q132.

³³³ 1st round information request SRRP Q132.

³³⁴ SaskPower's 2016/17 Annual Report, page 32.

³³⁵ SaskPower's 2016/17 Annual Report, page 32 and 33.

³³⁶ 2nd round information request SRRP Q35.

³³⁷ 1st round information request SRRP Q130.

³³⁸ The 2016/17 Canadian averages were not available when SaskPower reported SAIDI and SAIFI comparisons.

Figure 12-2: Distribution SAIDI (Minutes) Comparison of SaskPower (2011 to 2016/17) and Canadian Average (2011 to 2015)³³⁹



In 2016/17 SaskPower’s actual distribution SAIDI was 5.1 and the target for 2016/17 was 5.9.³⁴⁰ SaskPower’s distribution SAIDI performance was better than target for 2016/17 reflecting increased efforts and spending to improve reliability.³⁴¹ SaskPower notes that outage duration has improved for 2016/17, however planned outages have increased in order to replace and renew aging infrastructure.

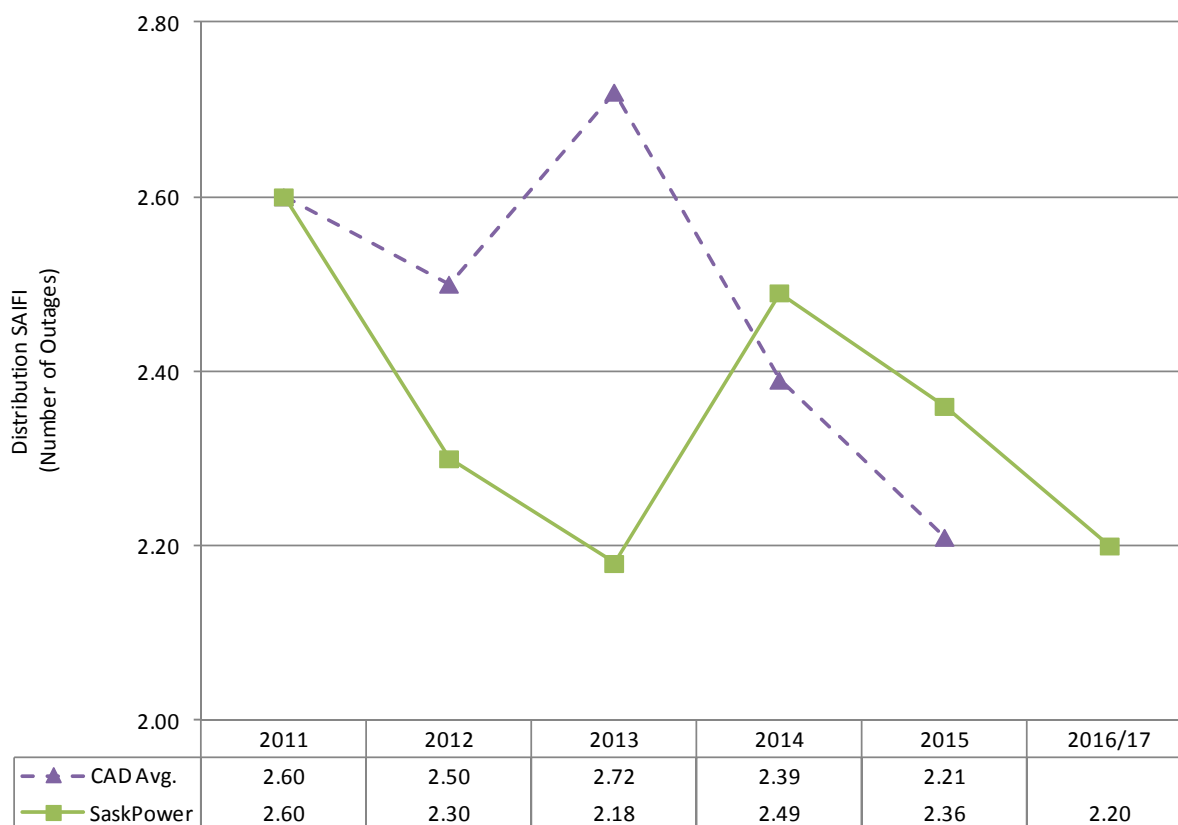
Figure 12-3 shows SaskPower’s distribution SAIFI (number of outages) from 2011 to 2016/17 compared to the Canadian Average for 2011 to 2015 (Canadian Average for 2016/17 not available at the time this report was prepared). SaskPower distribution SAIFI performance was the same as or better than the Canadian average in 3 of the 5 years reported.

³³⁹ 2011 and 2012 data from 2016 and 2017 Rate Application, 1st round information request SRRP Q136; 2013, 2014, and 2015 data from 2018 Rate Application, 1st round information request SRRP Q130. 2016/17 data from SaskPower’s 2016/17 Annual Report, page 32.

³⁴⁰ SaskPower’s 2016/17 Annual Report, page 32.

³⁴¹ SaskPower’s 2016/17 Annual Report, page 32.

Figure 12-3: Distribution SAIFI (Number of Outages) Comparison of SaskPower (2011 to 2016/17) and Canadian Average (2011 to 2015) ³⁴²



In 2016/17 SaskPower's actual distribution SAIFI was 2.2 and the target for 2016/17 was 2.4.³⁴³ SaskPower's distribution SAIFI performance was slightly better than target for 2016/17 due to increased efforts to renew infrastructure.³⁴⁴

The most common causes of distribution outages reported by SaskPower from 2012 through 2016/17 include:

- Planned outages were approximately 24% of total outages and 20% of hours.³⁴⁵
- Faulty equipment was the second most common cause for distribution outages and interruptions and accounted for approximately 17% of outages and 17% of hours.³⁴⁶

³⁴² 2011 and 2012 data from 2016 and 2017 Rate Application, 1st round information request SRRP Q136; 2013, 2014, and 2015 data from 2018 Rate Application, 1st round information request SRRP Q130. 2016/17 data from SaskPower's 2016/17 Annual Report, page 32.

³⁴³ SaskPower's 2016/17 Annual Report, page 32.

³⁴⁴ SaskPower's 2016/17 Annual Report, page 32.

³⁴⁵ 1st round information request SRRP Q131.

³⁴⁶ 1st round information request SRRP Q131.

SaskPower notes that the majority of its rural distribution system was built between 1950 and 1965 and was designed to minimize construction costs. Nearly 70% of more than one million distribution poles were installed prior to 1990, and have an average age of approximately 38 years. SaskPower states it would need to replace 36,000 poles per year for 10 years to reach an industry standard average age of 25 years. A 10-year wood pole replacement program is ongoing, where approximately 10% of poles are systematically inspected annually so that a decision to life extend or replace the pole can be made.³⁴⁷ The total expected cost of the Distribution Wood Pole Remediation program expected for the next 5 years is \$150 million.³⁴⁸ SaskPower also notes its underground distribution system is aging. As a result, SaskPower is investing in the Rural Rebuild and Improvement Program, which focuses on the strategic replacement of aging rural electrical distribution system. It replaces lines with poor reliability performance and facilitates removal of power lines from farm fields while taking into account safety considerations and the optimization of line loss savings. The Rural Rebuild and Improvement Program is expected to cost \$104 million over the next 5 years.³⁴⁹ SaskPower notes it has the ability to, and works to, control/mitigate/prevent distribution outages due to:³⁵⁰

- Trees and other vegetation – through its Vegetation Management Program;
- Lightning – through the installation of lightning arrestors;
- Faulty equipment – through regular maintenance activities and sustainment investments;
- Vandalism – through security and restricted access;
- Accidental external (beyond the control of the utility, such as vehicle accidents, dig-ins, or overhead line contacts) – through media campaigns communicating safety around electricity; and
- Accidental internal (caused by SaskPower staff) – through employee training and development, as well as safety procedures.

SaskPower states that other distribution outages, due to causes such as adverse weather, icing, and contamination, are typically not preventable or controllable.³⁵¹ In 2016/17 adverse weather, icing, and contamination accounted for a combined total of 14.8% of total interruptions and 10.2% of hours of outages. Over the five year period 2012 to 2016/17 adverse weather, icing, and contamination accounted for a combined total of 9.2% of total interruptions and 11.2% of hours of outages.³⁵²

12.1.2 Transmission Reliability

Figure 12-4 shows SaskPower's transmission SAIDI (duration minutes) from 2011 to 2016/17 compared to the Canadian average for 2011 to 2015 (Canadian Average for 2016/17 not available at the time of this report). SaskPower's transmission SAIDI performance was similar or better than the Canadian average in 3 of the 5 years reported. The difference between SaskPower and the Canadian average in

³⁴⁷ 2018 Rate Application, page 11.

³⁴⁸ 2018 Rate Application, page 42.

³⁴⁹ 2018 Rate Application, page 42.

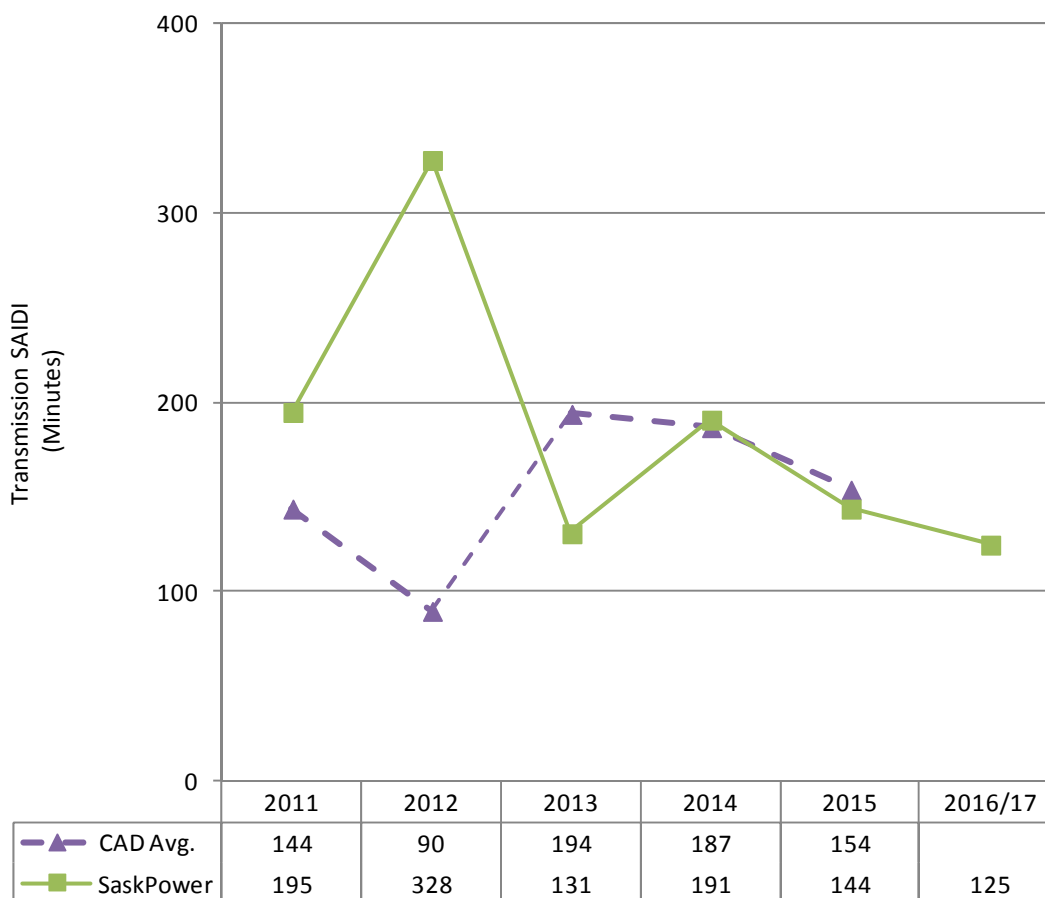
³⁵⁰ 2nd round information request SRRP Q35.

³⁵¹ 2nd round information request SRRP Q35.

³⁵² 1st round information request SRRP Q131.

2012 is largely due to adverse weather.³⁵³ SaskPower notes that transmission SAIDI and SAIFI tend to vary to a much greater extent than distribution results, as one major transmission event during a year can have a significant impact.³⁵⁴

Figure 12-4: Transmission SAIDI (Minutes) Comparison of SaskPower (2011 to 2016/17) and Canadian Average (2011 to 2015)³⁵⁵



In 2016/17 SaskPower actual transmission SAIDI was 125 and the target for 2016/17 was 200.³⁵⁶ SaskPower's performed better than its 2016/17 transmission SAIDI target due to continued improvements in contingency planning for critical assets and the targeted implementation of transmission asset sustainment programs.³⁵⁷

³⁵³ 1st round information request SRRP Q131.

³⁵⁴ 1st round information request SRRP Q130.

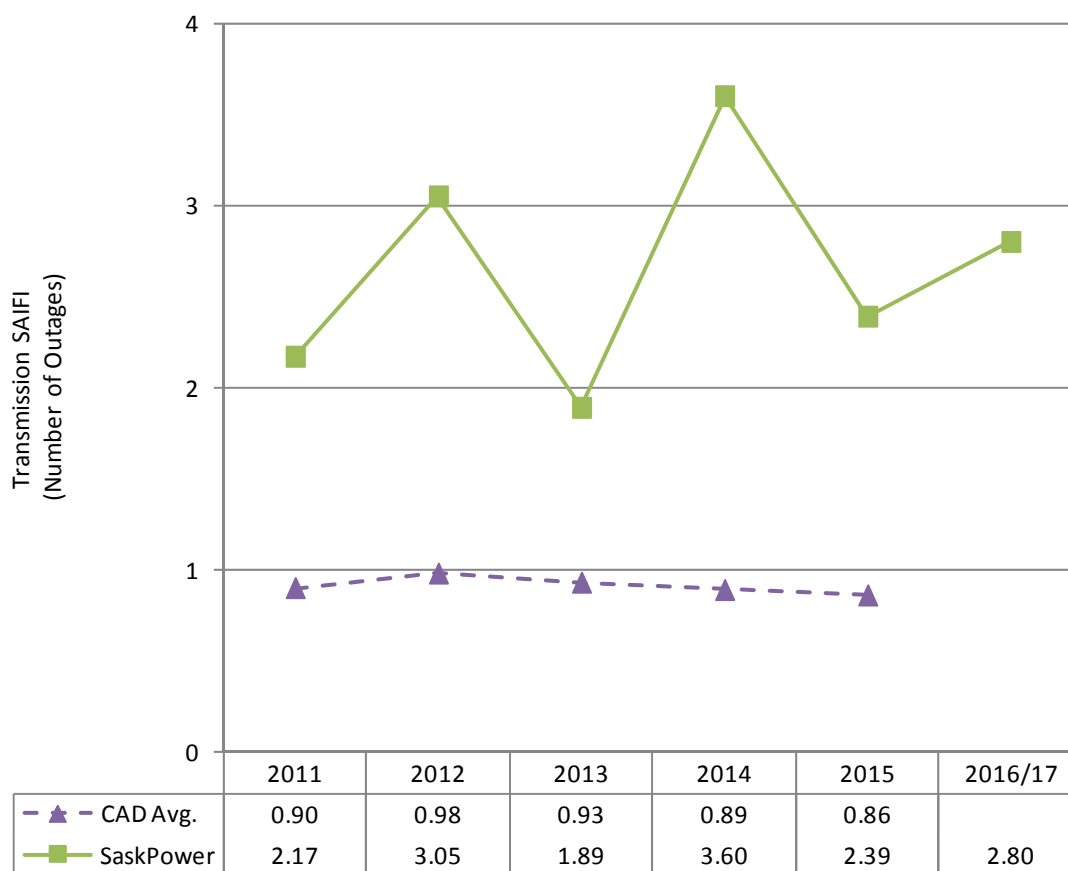
³⁵⁵ 2011 and 2012 data from 2016 and 2017 Rate Application, 1st round information request SRRP Q136; 2012, 2013, and 2015 data from 2018 Rate Application, 1st round information request SRRP Q130. 2016/17 data from SaskPower's 2016/17 Annual Report, page 32.

³⁵⁶ SaskPower's 2016/17 Annual Report, page 32.

³⁵⁷ SaskPower's 2016/17 Annual Report, page 32.

Figure 12-5 shows SaskPower's transmission SAIFI (number of outages) from 2011 to 2016/17 compared to the Canadian Average for 2011 to 2015 (Canadian Average for 2016/17 not available at the time this report was prepared). SaskPower transmission SAIFI was worse than the Canadian average for all years reported, largely due to adverse weather.³⁵⁸

Figure 12-5: Transmission SAIFI (Number of Outages) Comparison of SaskPower (2011 to 2016/17) and Canadian Average (2011 to 2015)³⁵⁹



In 2016/17 SaskPower's actual transmission SAIFI was 2.8 and the target for 2016/17 was 2.4.³⁶⁰ SaskPower did not achieve its transmission SAIFI target in 2016/17, mainly due to increased outages related to adverse weather.³⁶¹

³⁵⁸ 1st round information request SRRP Q131.

³⁵⁹ 2011 and 2012 data from 2016 and 2017 Rate Application, 1st round information request SRRP Q136; 2013, 2014, and 2015 data from 2018 Rate Application, 1st round information request SRRP Q130. 2016/17 data from SaskPower's 2016/17 Annual Report, page 33.

³⁶⁰ SaskPower's 2016/17 Annual Report, page 33.

³⁶¹ SaskPower's 2016/17 Annual Report, page 33.

The most common causes of transmission outages from 2012 to 2016/17 reported by SaskPower include:³⁶²

- Adverse weather was approximately 41.4% of number of interruptions and 43.9% of duration of interruptions;
- Unknown causes were approximately 20.2% of number of interruptions and 7.5% of duration of interruptions;
- System conditions were approximately 18.5% of number of interruptions and 13.5% of duration of interruptions; and
- Defective equipment was approximately 11.2% of number of interruptions and 25.8% of duration of interruptions.

SaskPower notes that it is investing in two major transmission capital programs, the Transmission Wood Pole Remediation program and the Circuit Breaker and Relay Replacements program. The Transmission Wood Pole Remediation program utilizes assessment and treatments to life extend transmission wood poles. Poles are evaluated and then treated or replaced as necessary. Cross-arm and spar replacement are also included as part of this program. The Transmission Wood Pole Remediation program is expected to cost \$320 million over the next 5 years.³⁶³ The Circuit Breaker and Relay Replacements program replaces breakers and relays that are obsolete or at the end of their useful lives. Once breakers and relays are replaced, maintenance is substantially reduced and the quality of output increases. The Circuit Breaker and Relay Replacements program is expected to cost \$38 million over the next 5 years.³⁶⁴ The transmission data provided by SaskPower only includes forced (unplanned) outages and approximately one third of SaskPower's total transmission outages are planned.³⁶⁵

SaskPower states it has not historically assessed transmission outages to determine if they were preventable or controllable.³⁶⁶ However, SaskPower notes that it is likely the majority of human element and defective equipment, as well as a small portion of foreign interference and adverse environment, that may be preventable or controllable. Non-preventable or non-controllable outages include adverse weather, system conditions, and system configuration.³⁶⁷ When SaskPower fails to achieve transmission reliability targets, transmissions staff review if assets perform as designed and perform root cause analysis where there is a variance.³⁶⁸ A comprehensive grid renewal program has been underway for a number of years to maintain reliability, but significant work will continue to be needed in the future.³⁶⁹

³⁶² 1st round information request SRRP Q131.

³⁶³ 2018 Rate Application, page 42.

³⁶⁴ 2018 Rate Application, page 42.

³⁶⁵ 1st round information request SRRP Q130.

³⁶⁶ 2nd round information request SRRP Q35.

³⁶⁷ 2nd round information request SRRP Q35.

³⁶⁸ 1st round information request SRRP Q132.

³⁶⁹ 2018 Rate Application, page 11.

SaskPower considers reliability results when prioritizing SaskPower's capital plan. SaskPower's strategic priorities and business values, which include reliability and performance of the Business Unit, are used to score and rank business risks associated with a capital project.³⁷⁰

12.1.3 Generation Reliability

SaskPower's generation reliability targets are based on the Equivalent Availability Factor (EAF) and are commonly used in the utility industry. The EAF is a measure that represents the percentage of time that a generating unit is capable of producing electricity, adjusting for any temporary reductions in generating capability due to equipment failures, maintenance, or other causes.³⁷¹ SaskPower notes the system average EAF target is a weighted average, based on capacity, of individual EAF targets for each generation unit.³⁷² Individual targets are determined using five years of historical data, anticipated equipment problems, plans for capital and/or OM&A spending to resolve historical problems, and scheduled unit outages.³⁷³ SaskPower's 2018/19 test year EAF target for generation is 87.7%. At December 31, 2015 SaskPower's actual EAF was 86.2% and the target was 86.8%. At December 31, 2016 SaskPower's actual EAF was 85.5% and the target was 87.6%.³⁷⁴ SaskPower's EAF performance fell short for both December 31, 2015 and December 31, 2016, largely due to decreased hydroelectric availability. The Coteau Creek Hydroelectric Station Unit #1 suffered a transformer malfunction, E.B. Campbell Hydroelectric Station Unit #8 required generator stator realignment, and Nipawin Hydroelectric Station Unit #2 experienced a rotor rim failure.³⁷⁵ Additionally, coal availability was slightly lower than planned due to a 21-day extension of the overhaul of Boundary Dam Power Station Unit #6. Forecasted major capital sustainment spending includes the Island Falls Dam Rehabilitation and the E.B. Campbell Life Extension. The Island Falls Dam Rehabilitation will address deficiencies that impose major risks to the long-term integrity of the Island Falls Powerhouse and Main Dam and flow control equipment. The total cost of the project is expected to be \$45 million and in-service by 2021.³⁷⁶ The E.B. Campbell Life Extension program is life-extending Units #1 through #6. E.B. Campbell has a net capacity of 289 MW. The total expected cost of the project is \$300 million and it is planned to be in-service for 2025.³⁷⁷

12.2 SAFETY

In 2016/17, SaskPower reorganized its Health and Safety Division. The Health and Safety Division has been refocused into three lines of business: support and communication with leaders while providing enhanced training with the right mix of coaching and accountability; monitor compliance of work and investigate incidents; and measure performance and implement standards and programs that apply best management practices.³⁷⁸

³⁷⁰ 1st round information request SRRP Q132.

³⁷¹ SaskPower 2016/17 Annual Report, page 31.

³⁷² 1st round information request SRRP Q132.

³⁷³ 1st round information request SRRP Q132.

³⁷⁴ SaskPower 2016/17 Annual Report, page 31.

³⁷⁵ SaskPower 2016/17 Annual Report, page 31.

³⁷⁶ 2018 Rate Application, page 42.

³⁷⁷ 2018 Rate Application, page 42.

³⁷⁸ SaskPower 2016/17 Annual Report, page 24.

In spring 2016, the Safety Improvement Program (SIP) was launched, based on recommendations from the Safety Improvement Working Group with a goal of finding solutions to SaskPower's safety challenges. SaskPower has made improvements to safety expectations and performance through a variety of SIP initiatives, such as:³⁷⁹

- Adopting Safety Moments – when the safety of people, families, and public are the first topic of every meeting;
- Defining and educating every employee on the non-negotiable safety rules – SaskPower's Safety Absolutes;
- Working on 30 action plan initiatives to improve compliance with the Standard Protection Code;
- Enhancing the Incident Investigation Process, with improved ownership of safety by the business and a focus on learning and prevention;
- Instituting Injury and Serious Injury Exposure conference call process to enact immediate learning, with leaders demonstrating openness in communication and accountability; and
- Completing the High Risk Leader Validation Study to identify the safety-related behavioural requirements to perform and supervise high-rise work.

SaskPower is also working on additional initiatives in the areas of learning and capabilities; leadership; safety excellence; and safety absolutes. These initiatives will be completed and transitioned into the business in 2017/18.³⁸⁰

SaskPower monitors its safety performance using a Safety Index, which is made up of a combination of leading and lagging indicators. Leading indicators measure proactive activities that identify hazards, and assess, eliminate, minimize, and control risks. Leading indicators include the 4 safety measures of:³⁸¹

- Safety objectives;
- Safety training;
- Safety audits; and
- Work observations.

Lagging indicators record safety performance related to the occurrence of safety incidents. Lagging indicators include the 4 safety measures of:

- Lost-time injury frequency;
- Lost-time injury severity;
- Recordable injury frequency; and
- Recordable licensed fleet motor vehicle frequency.

³⁷⁹ SaskPower 2016/17 Annual Report, page 25.

³⁸⁰ SaskPower 2016/17 Annual Report, page 25.

³⁸¹ SaskPower 2016/17 Annual Report, page 25.

For 2016/17, SaskPower's Safety Index performance of 90.7% exceeded the target performance of 85.0%.³⁸² Of the four leading indicators, only safety objectives exceeded a performance of 85%. Safety objectives, safety audits, and work observations had decreased performance from the prior year, while safety training performance was almost 78% for its first year of inclusion in the Safety Index. All four lagging indicators met their individual targets, which resulted in 100% performance.³⁸³ SaskPower's targets include 87.0% for 2017/18, 89.0% for 2018/19, and a long-term target of 100.0%.³⁸⁴

12.3 CONSULTANT OBSERVATIONS

The Consultant recognizes that SaskPower has a unique operating environment due to its large service territory; relatively low customer density and extreme weather that can occur throughout the province. These conditions can understandably create reliability challenges. The Consultant notes that SaskPower's actual 2016/17 performance on distribution SAIDI and SAIFI and transmission SAIDI reliability indicators met or exceeded the target for that year. SaskPower did not meet its SAIFI transmission reliability indicator target mainly due to increased outages related to adverse weather.³⁸⁵ Further, generation reliability targets, or EAF, for December 31, 2016 was 87.6%, while actual EAF was 85.5%.³⁸⁶ SaskPower's EAF performance fell short in 2016 due to decreased hydroelectric availability. The Consultant further notes that SaskPower has identified several capital sustainment spending program areas that are intended to improve transmission, distribution, and generation reliability performance.

The Consultant notes that SaskPower has initiated the Safety Improvement Program in spring 2016. The Consultant reviewed SaskPower's safety performance metrics and is of the view that they represent an appropriate mix of proactive, forward looking activities and evaluations of recent actual safety events.

³⁸² SaskPower 2016/17 Annual Report, page 25.

³⁸³ SaskPower 2016/17 Annual Report, page 25.

³⁸⁴ SaskPower 2016/17 Annual Report, page 25.

³⁸⁵ SaskPower 2016/17 Annual Report, page 33.

³⁸⁶ SaskPower 2016/17 Annual Report, page 31.

13.0 CUSTOMER BILL IMPACTS

SaskPower is proposing to increase most components of its existing rate structure by approximately 5% on March 1, 2018. As a result of the equal percentage increases customers will see approximately the same percentage increases in their bills. Table 13-1 provides a summary of estimated bill increases for typical customers in major customer classes before taxes. It should be noted that taxes and surcharges increase as the base monthly bills increase.

Table 13-1: SaskPower Monthly Bill with Rate Increase Before Taxes³⁸⁷

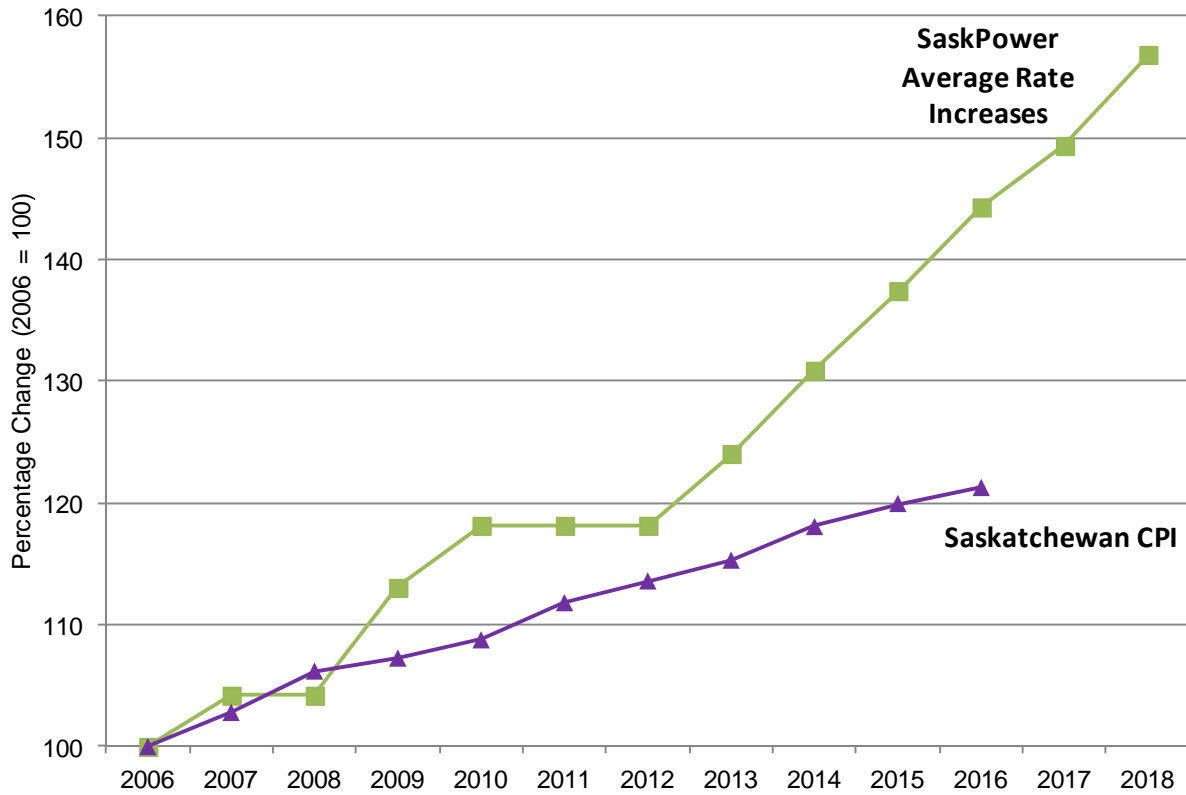
Customer Class	SaskPower Monthly Bill in CAD\$		
	Current Monthly Bill	March 1, 2018 (5% Increase) Monthly Bill	March 1, 2018 (5% Increase) Bill Increase
Urban Residential 625 kWh	107.89	113.37	5.48
Urban Small Commercial 14 kW & 2,000 kWh	294.07	309.00	14.93
Urban Standard Commercial 100 kW & 25,000 kWh	3,525.30	3,704.32	179.02
Large Industrial 10,000 kW & 5,760,000 kWh	431,402.73	453,329.87	21,927.14

- A SaskPower urban residential customer using 625 kWh in a month will see a monthly bill increase of \$5.48 at March 1, 2018.
- A SaskPower urban commercial customer using 14 kW & 2,000 kWh in a month will see a monthly bill increase of \$14.93 at March 1, 2018.
- A SaskPower urban standard commercial customer using 100 kW & 25,000 kWh per month will see a monthly bill increase of \$179.02 at March 1, 2018.
- A SaskPower large industrial customer using 10,000 kW & 5,760,000 kWh per month will see a monthly bill increase of \$21,927.14 at March 1, 2018.

Since 2006 SaskPower's average annual rate increases have exceeded the increase in the Saskatchewan Consumer Price Index (CPI). Figure 13-1 shows the change in average 2006 electricity prices (where 2006 prices are indexed to 100) compared to the change in the Saskatchewan CPI during the same period. The average annual increase in the CPI from 2006 to 2016 was 1.95% while the yearly average SaskPower rate increase for the same period was 3.74%.

³⁸⁷ Calculated based on Appendix C of 2018 Rate Application, page 68-90.

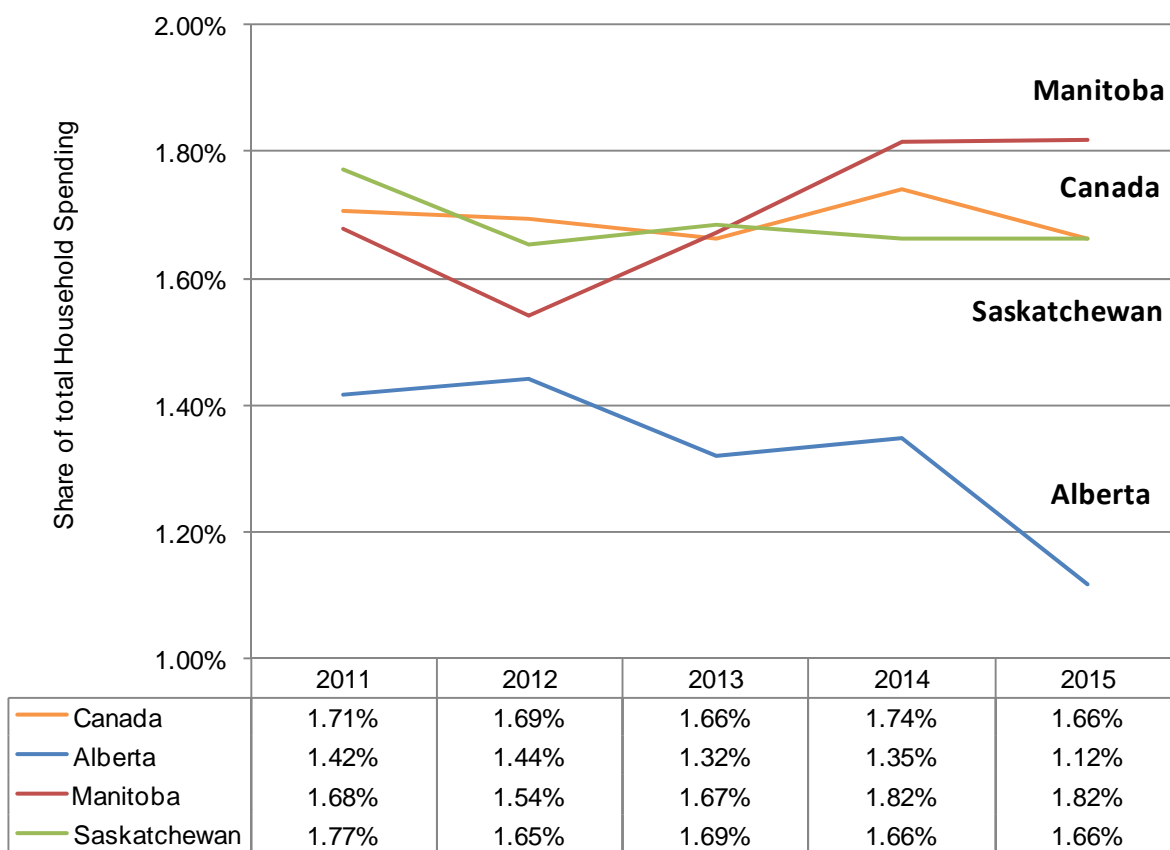
Figure 13-1: SaskPower Average Rate Increases Compared to Saskatchewan CPI Since 2006³⁸⁸



³⁸⁸CPI from Statistics Canada: CANSIM table 326-0021. Rate increases from SaskPower 2010 Rate Application, page 6; 2013 Rate Application, page 8, and 2018 Rate Application, page 20.

Figure 13-2 compares electricity costs as a proportion of total household spending for Manitoba, Saskatchewan, Alberta and Canada from 2011 to 2015. The Saskatchewan average during 2011-2015 is 1.69% in average which is the same with average per cent in all provinces of Canada (Figure 13-2).

Figure 13-2: Share of Expenses of Electricity in Total Household Spending in 2011-2015³⁸⁹



The percentages in Saskatchewan and the average in Canada have been about in the same level between 2011 and 2015. In Alberta, electricity costs as a proportion of household spending has decreased since 2011. In Manitoba, the proportion of household spending on electricity has increased. It should be noted that in Manitoba the proportion is higher than in Saskatchewan because total household spending is lower compared Saskatchewan. In 2015, average electricity expense per household in Manitoba was \$1,401 compared to \$77,043 total household spending (1.8%) while average electricity expense per household in Saskatchewan was \$1,496 compared to \$89,938 total household spending (1.7%).

The data in Figure 13-2 can be affected both by increasing electricity prices and increases in household expenditures. From 2011 to 2015 annual household expenditures in Saskatchewan increased from \$71,310 to \$89,938 in 2015 (a 26.1% increase). Therefore, despite electricity rate increases in Saskatchewan during this time, electricity costs as a proportion of total household spending did not

³⁸⁹ Statistics Canada: CANSIM table 203-0021. Canada-level statistics include 10 provinces only.

increase, because household income and expenditures were also increasing. If household spending and incomes do not continue to increase, it is likely that the currently proposed rate increases will lead to increases in the proportion of total household spending that is made up of electricity spending.

The National Energy Board notes that outside of Northern Canada, Saskatchewan and the Atlantic provinces have the highest incidence of fuel poverty, defined as a situation where a household spends more than 10% of its total income on electricity, natural gas and heating oil. In 2015, fuel poverty affected 10% of households in Saskatchewan, compared to 8% on average nationally.³⁹⁰

13.1 CONSULTANT OBSERVATIONS

The Consultant notes that the bill increases are material for all customer classes, particularly in the context of the recent series of rate increases. The ability of each type of customer (residential, commercial, industrial) to adapt or respond to these bill increases is different. Some customers will be able to absorb the increases, others will reduce their consumption to offset the rate increases. The Consultant notes that a recent report prepared for the Manitoba Public Utilities Board provided estimates that short-term electricity price elasticities are on the order of -0.1. This means that for every 10% increase in prices, customers will respond by decreasing consumption by 1%. In the longer-term, price elasticities of -0.35 for residential customers and -0.50 for industrial customers were cited. This indicates that in the longer-term, industrial customer would be expected to reduce their loads to a greater degree than residential and commercial customers.³⁹¹

³⁹⁰ National Energy Board. Fuel Poverty in Canada. Released August 2017. Available: <https://www.nerb-one.gc.ca/nrg/ntgrtd/mrkt/snpsht/2017/08-05flpvrt-eng.html?=&wbdisable=true>. Accessed November 25, 2017.

³⁹¹ Testimony of Dr. Adonis Yatchew before the Manitoba Hydro Public Utilities Board with respect to Manitoba Hydro's 2017/18 and 2018/19 General Rate Application. November 2017.

14.0 COMPETITIVENESS

The Minister's terms of reference requires the Panel to consider, among other factors, the effect of the proposed rate change on the competitiveness of the Crown Corporation related to other jurisdictions.³⁹² SaskPower's application provides information on rates for typical customers in Saskatchewan compared to other jurisdictions. SaskPower also provides information on its capital structure and ROE targets compared to other Canadian electric utilities.

14.1 RATE COMPARISON WITH OTHER JURISDICTIONS

SaskPower notes that it is difficult to draw meaningful conclusions by simply comparing rates from jurisdiction to jurisdiction. Comparisons with some jurisdictions – such as Ontario and Alberta – are difficult because their markets are deregulated where competing entities provide generation, transmission, and distribution services with varying pricing and service options. Even within similarly structured markets direct comparisons are difficult as some utilities use deferral accounts and rate riders to smooth out rate adjustments or address variances from forecasts. SaskPower does not use deferral accounts or rate riders. Further complicating comparisons, utilities are inconsistent across Canada with respect to acceptable levels of debt, return on equity and other financial targets for rate setting purposes. Also, each province has natural advantages and disadvantages, including generation options, service area size, population and regulatory environment.

However, comparisons with other jurisdictions can provide some useful context in considering the effects of proposed rate increases on competitiveness. In this section, comparisons are shown based on Hydro Quebec's Comparison of Electricity Prices in Major North American Cities at April 1 from 2010 to 2017 before taxes. This is a standard reference document used by electric utilities and analysts to compare rates and bills with other jurisdictions.³⁹³ SaskPower provided the 2016 Hydro Quebec information as part of its filing. The 2017 version of the report became available after SaskPower prepared its mid-application update. This section references reports from 2010 to 2017. SaskPower's 2018 proposed rate increase is also included for additional context.

14.1.1 Comparisons by Generation Source

This section compares SaskPower's rates to rates in other jurisdictions by generation type. The following utility groupings are also used:

- Thermal Utility average includes Canadian jurisdictions Calgary, Edmonton, Regina, Toronto, Ottawa, Moncton, Halifax, Charlottetown, and St. John's.³⁹⁴
- Hydro Utility average includes Montreal, Winnipeg, and Vancouver, jurisdictions with primarily hydro generation.

³⁹² Schedule D to the Minister's Order to the Saskatchewan Rate Review Panel dated August 15, 2017.

³⁹³ Hydro Quebec report 2010 to 2017 are available at <http://www.hydroquebec.com/publications/en/corporate-documents/comparaison-electricity-prices.html>

³⁹⁴ Thermal Utilities defined in 1st round information request SRRP Q147.

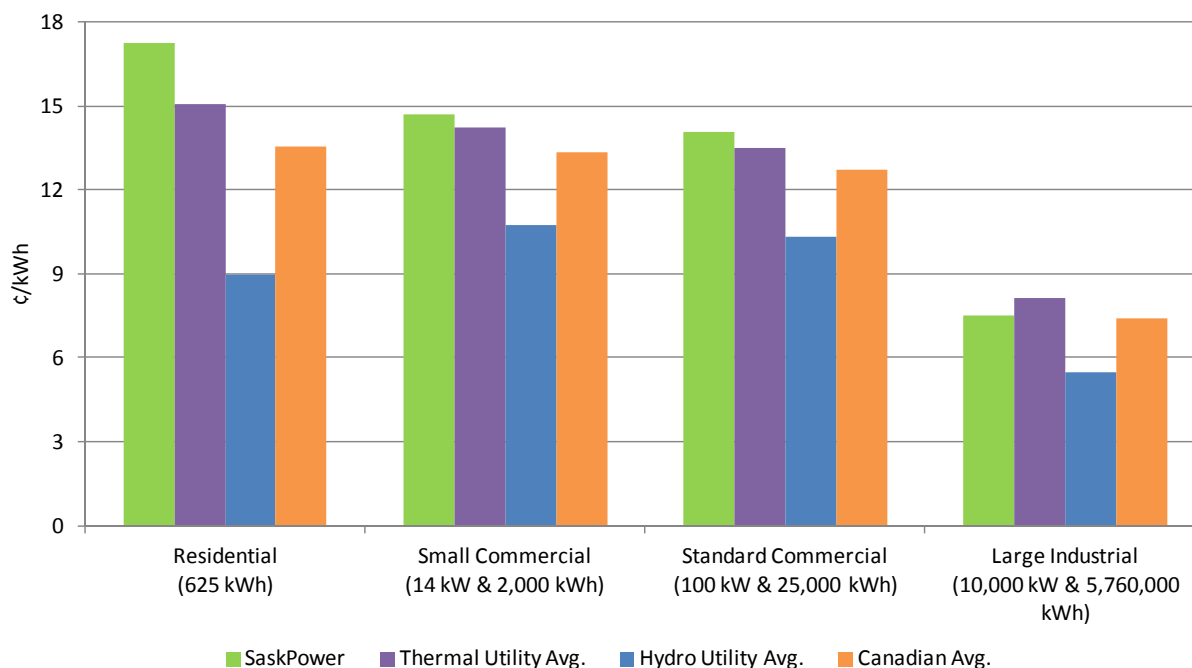
- All utilities average includes all utilities referenced in the Thermal Utility average and Hydro Utility average.

Figure 14-1 compares SaskPower’s rates effective April 1, 2017 before taxes (and before the requested rate increase for March 1, 2018) with these groups of utilities. It should be noted that taxes and surcharges increase as the base bills increase. A review of Figure 14-1 indicates:

- SaskPower’s average residential, small commercial, and standard commercial rates were higher than the average for the thermal utilities and all utilities average in the survey.
- SaskPower’s average large industrial rates were lower than the average for thermal utilities and higher for all utilities average in the survey.

Further information on the results for individual customer categories is provided in the following sections. Comparisons are made for customers using the same amount of energy and demand, including fixed charges for customer related costs as applied in each jurisdiction.

Figure 14-1: Rate Comparison to Utility Averages at April 1, 2017 Average Cents/kWh Before Taxes³⁹⁵



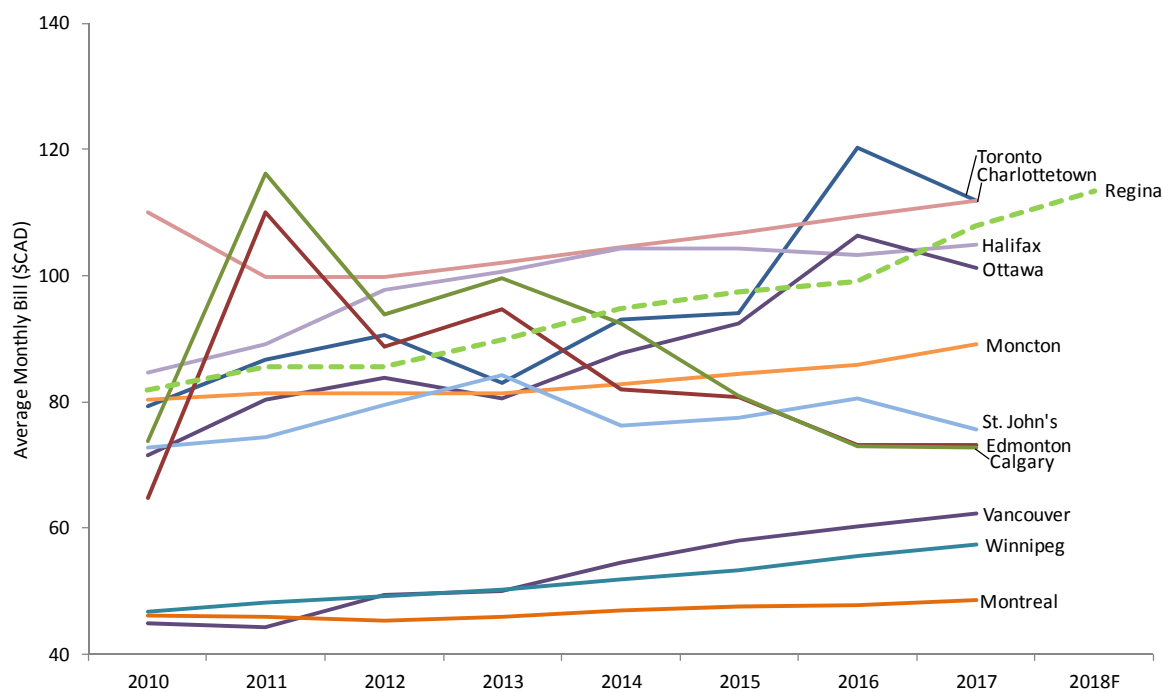
14.1.2 Residential

Figure 14-2 compares the monthly bill for residential customers using 625 kWh/month over the time period 2010 to 2017 (and SaskPower 2018 proposed rate increase) before taxes. 625 kWh is approximately the mid-point of average monthly consumption for SaskPower’s urban residential

³⁹⁵ Hydro Quebec Report 2017, page 34, 40, and 52.

customers.³⁹⁶ It is noted that rankings across utilities may change at different consumption levels due to the magnitude of the customer charge and the influence of multiple energy rate blocks. It is also noted that taxes and surcharges increase as the base monthly bills increase. SaskPower monthly bill comparison for 2018 includes the proposed 5.1% rate increase effective March 1, 2018.

Figure 14-2: Residential Monthly Bill Comparison Rates in place April 1, 2010 to 2017 625 kWh/month Before Taxes³⁹⁷



A review of the information in Figure 14-2 indicates the following:

- As of April 1, 2017 SaskPower is the third highest of the utilities in Figure 14-2, behind Charlottetown and Toronto. SaskPower had a monthly bill of \$107.89 as of April 1, 2017 for a residential customer using 625 kWh/month. With the proposed rate, SaskPower's bill would increase to \$113.37/month for a residential customer using 625 kWh/month. As of April 1, 2017 Toronto and Charlottetown had monthly bills of \$111.95 and \$111.82, respectively, for a residential customer using 625 kWh/month.
- Toronto, the highest 625 kWh residential average monthly bill, saw a decreased bill from 2016 to 2017.³⁹⁸

³⁹⁶ Page 68 (Appendix C) of SaskPower's 2018 Rate Application shows approximately 56% of SaskPower's urban residential customers use 600 kWh/month or less.

³⁹⁷ Hydro Quebec Report 2010 to 2016 (page 31 for each year) and 2017 (page 33).

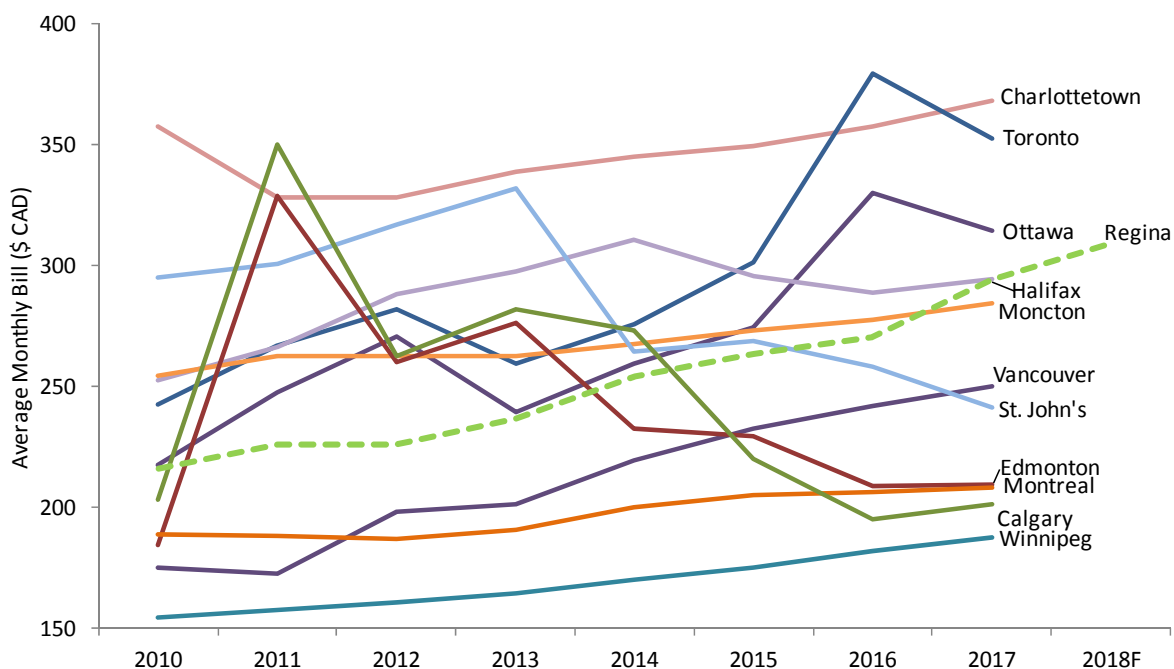
³⁹⁸ The Government of Ontario announced it will provide rebates on January 1, 2017 for electricity bills to urban and rural residents and small businesses to help offset high electricity rates, with an intention to implement new measures for commercial and industrial rate payers in the near future. Ontario residents will receive a rebate that is equal to the provincial portion (8%) of the 13% harmonized sales tax.

- The hydro utilities (Vancouver, Winnipeg and Montreal) saw the lowest average monthly bills of all jurisdictions.
- The deregulated markets in Alberta saw some of the largest changes to monthly bills over the time period 2010 to 2017. Edmonton, for example, saw an average monthly bill of \$110.12/month in 2011 and \$73.29/month in 2017.

14.1.3 Urban Small Commercial

Figure 14-3 compares the monthly bill for small commercial customers using 14 kW & 2,000 kWh/month over the time period 2010 to 2017 (and SaskPower's 2018 proposed rate increase) before taxes. 14 kW & 2,000 kWh/month is approximately the mid-point of average monthly consumption for SaskPower's urban small commercial customers.³⁹⁹ It is noted that rankings across utilities may change at different consumption levels due to the magnitude of the customer charge and the influence of multiple energy rate blocks. It is also noted that taxes and surcharges increase as the base monthly bills increase. SaskPower monthly bill comparison for 2018 includes the proposed 5.1% rate increase effective March 1, 2018.

Figure 14-3: Small Commercial Monthly Bill Comparison Rates in Place April 1, 2010 to 2017 14 kW & 2,000 kWh/month Before Taxes⁴⁰⁰



³⁹⁹ Page 79 (Appendix C) of SaskPower's 2018 Rate Application shows approximately 67% of SaskPower's urban small commercial customers use 2,000 kWh/month or less.

⁴⁰⁰ Hydro Quebec Report 2010 to 2016 (page 37 for each year) and 2017 (page 39).

A review of the information in Figure 14-3 indicates the following:

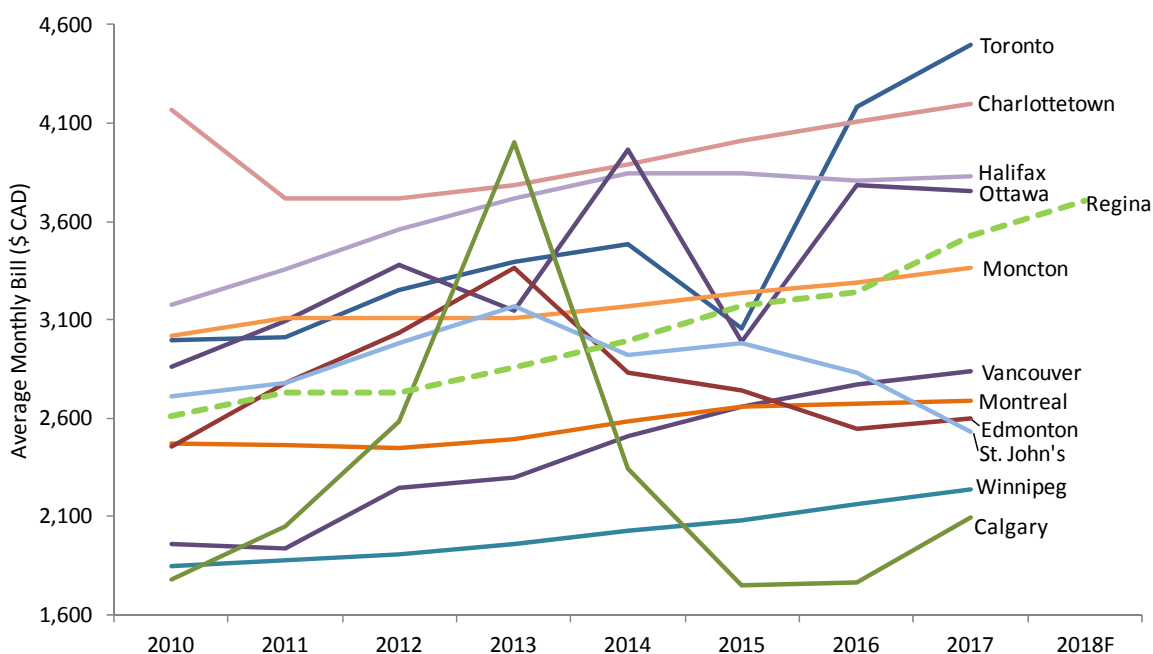
- At April 1, 2017 SaskPower has the fifth highest monthly bill of the utilities in Figure 14-3, behind Charlottetown, Toronto, Ottawa, and Halifax. SaskPower had a monthly bill of \$294.07 as of April 1, 2017 for a small commercial customer using 14 kW & 2,000 kWh/month. With the proposed rate, SaskPower's bill would increase to \$309.00/month for a small commercial customer using 14 kW & 2,000 kWh/month. As of April 1, 2017 Charlottetown had a monthly bill of \$367.97, Toronto had a monthly bill of \$352.77, Ottawa had a monthly bill of \$314.59, and Halifax had a monthly bill of \$294.14 for a small commercial customer using 14 kW & 2,000 kWh/month.
- Toronto, Ottawa, and St. John's have seen decreased monthly bills in recent years.⁴⁰¹

14.1.4 Standard Commercial

Figure 14-4 compares the monthly bill for standard commercial customers using 100 kW & 25,000 kWh/month over the time period 2010 to 2017 (and SaskPower's 2018 proposed rate increase) before taxes. It is noted that rankings across utilities may change at different consumption levels due to the magnitude of the customer charge and the influence of multiple energy rate blocks. It is also noted that taxes and surcharges increase as the base monthly bills increase. SaskPower monthly bill comparison for 2018 includes the proposed 5.1% rate increase effective March 1, 2018.

⁴⁰¹ Toronto and Ottawa have seen reduced electricity bills as the Government of Ontario announced it will provide rebates on January 1, 2017 for electricity bills to urban and rural residents and small businesses to help offset high electricity rates, with an intention to implement new measures for commercial and industrial rate payers in the near future. Ontario residents will receive a rebate that is equal to the provincial portion (8%) of the 13% harmonized sales tax. St. John's have seen reduced electricity bills due to the Rate Stabilization Plan that allows for refunds to residential, commercial, and street & area lighting electricity accounts.

Figure 14-4: Standard Commercial Monthly Bill Comparison Rates in Place April 1, 2010 to 2017 100 kW & 25,000 kWh/month Before Taxes⁴⁰²



A review of the information in Figure 14-4 indicates the following:

- At April 1, 2017 SaskPower has the fifth highest monthly bill of the utilities in Figure 14-4, behind Toronto, Charlottetown, Halifax, and Ottawa. SaskPower had a monthly bill of \$3,525.30 as of April 1, 2017 for a standard commercial customer using 100 kW & 25,000 kWh/month. With the proposed rate, SaskPower's bill would increase to \$3,704.32/month for a standard commercial customer using 100 kW & 25,000 kWh/month. As of April 1, 2017 Toronto had a monthly bill of \$4,498.43, Charlottetown had a monthly bill of \$4,195.47, Halifax had a monthly bill of \$3,831.75, and Ottawa had a monthly bill of \$3,757.29 for a small commercial customer using 14 kW & 2,000 kWh/month.
- The deregulated Alberta market (Edmonton and Calgary) and St. John's, as of 2017, have monthly bills comparable to hydro utilities.⁴⁰³ Of particular note, Calgary had the lowest monthly electricity bills of all standard commercial customers in 2015, 2016, and 2017.

14.1.5 Large Industrial

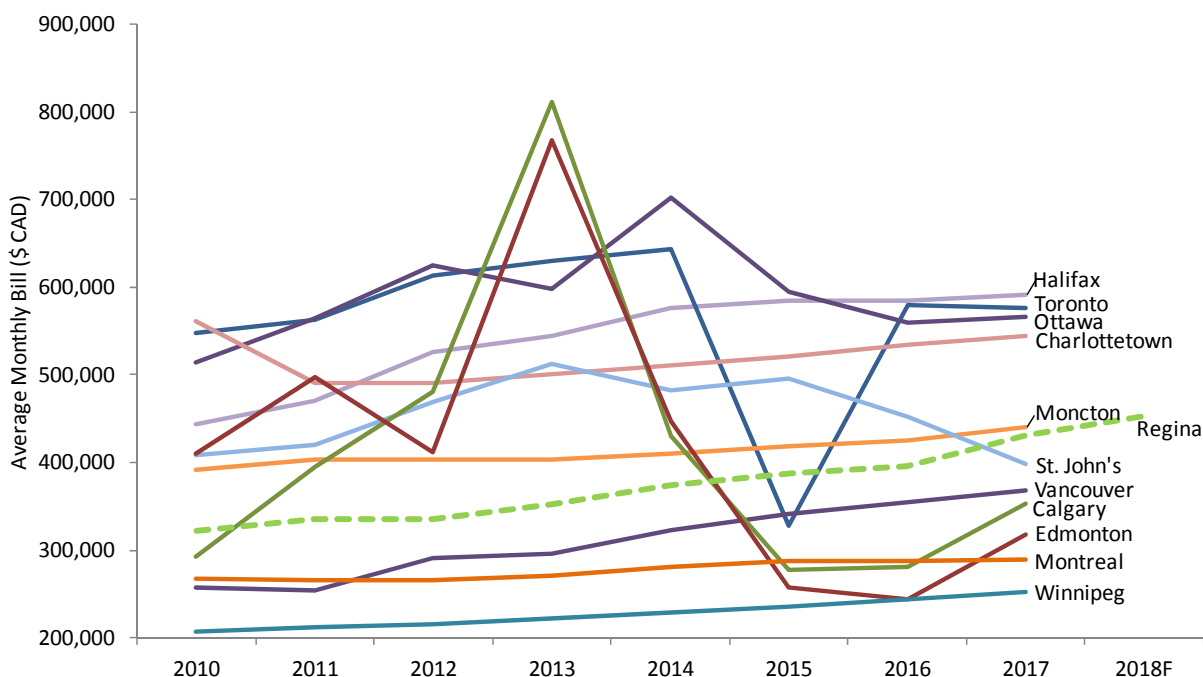
Figure 14-5 compares the monthly bill for large industrial customers using 10,000 kW & 5,760,000 kWh/month over the time period 2010 to 2017 (including SaskPower's 2018 proposed rate increase) before taxes. It is noted that rankings across utilities may change at different consumption levels due to

⁴⁰² Hydro Quebec Report 2010 to 2016 (page 37 for each year) and 2017 (page 39).

⁴⁰³ The deregulated Alberta market have seen low electricity bills due to depressed prices for both natural gas and coal and current economic conditions. St. John's have seen reduced electricity bills due to the Rate Stabilization Plan that allows for refunds to residential, commercial, and street & area lighting electricity accounts.

the magnitude of the customer charge and the influence of multiple energy rate blocks. It is also noted that taxes and surcharges increase as the base monthly bills increase. SaskPower monthly bill comparison for 2018 includes the proposed 5.1% rate increase effective March 1, 2018.

Figure 14-5: Large Industrial Monthly Bill Comparison Rates in Place April 1, 2010 to 2017 10,000 kW & 5,760,000 kWh/month Before Taxes⁴⁰⁴



A review of the information in Figure 14-5 indicates the following:

- At April 1, 2017 SaskPower was in the middle of the utilities in Figure 14-5, five utilities had higher bills, while six had lower bills. SaskPower had a monthly bill of \$ 431,402.73 as of April 1, 2017 for a large industrial customer using 10,000 kW & 5,760,000 kWh/month. With the proposed rate, SaskPower's bill would increase to \$453,329.87/month for a large industrial customer using 10,000 kW & 5,760,000 kWh/month.
- Alberta markets (Edmonton and Calgary) as of 2015, have monthly bills comparable to hydro utilities.⁴⁰⁵ Of particular note, Edmonton had the lowest monthly hydro bills of all large industrial customers in 2016.

14.1.6 Future Rate Directions in Other Jurisdictions

SaskPower is a thermal utility as it relies primarily on non-hydro electrical generation. This is important to note in utility rate comparisons as thermal rates are typically higher than rates in predominantly hydro

⁴⁰⁴ Hydro Quebec Report 2010 to 2016 (page 49 for each year) and 2017 (page 51).

⁴⁰⁵ The deregulated Alberta market have seen low electricity bills due to depressed prices for both natural gas and coal and current economic conditions.

jurisdictions. As of April 1, 2017 SaskPower average rates were above the Canadian thermal utility average for some customer types and below the Canadian thermal utility average for other customer types. Historically, SaskPower rates have been lower than the Canadian thermal utility average.⁴⁰⁶ In regards to the low prices currently in Alberta (a thermal jurisdiction), SaskPower notes that some industry experts have noted that the low prices are unsustainable and are stifling investment in new generation that will be required to not only meet demand when the economy rebounds, but also to achieve the province's 2030 emissions reduction goals.⁴⁰⁷ As a result of this, the Alberta provincial government has announced changes to the electricity market starting in 2021 where the market will move away from an energy-only market, where generators pay for the cost of infrastructure through the sale of electricity and take on all risk.⁴⁰⁸ Alberta will transition to a capacity market that sees two revenue streams: revenue from electricity sold, as well as additional revenue from a competitive auction that would cover the costs of building new infrastructure.⁴⁰⁹ This new market structure will help encourage investment in new generation but does pass investment risk, and likely increased costs, to rate payers in Alberta.⁴¹⁰

With respect to future rate directions, many utilities in Canada are facing increasing rate pressure driven by the need to reinvest in infrastructure. The Consultant notes the following rate strategies announced in other jurisdictions:

- BC Hydro rates of 6% effective April 1, 2015⁴¹¹ and interim, refundable rate increases of 4% effective April 1, 2016 and 3.5% effective April 1, 2017 were approved by the BC Utility Commission (BCUC).⁴¹² These rate increases are in line with BC Hydro's ten year rates plan, which also includes requested rate increases of 3% in fiscal 2019 (2018/19) and rates to be set by the BCUC from 2020 to 2024.⁴¹³ On November 8, 2017, the British Columbia government issued a press release stating:⁴¹⁴

"BC Hydro applied to the BC Utilities Commission for three years of increases, with a 3% increase planned next year (2018), but will be pulling back its request, consistent with this administration's commitment to a rate freeze. The rate freeze will provide government the time to undertake a comprehensive review of BC Hydro. That review will identify changes and cost savings to keep rates low while ensuring BC Hydro has the resources it needs to continue to provide clean, safe and reliable electricity. Details of the scope and process for the review will be developed once government has made a final decision on Site C."

⁴⁰⁶ Forkast Consulting, Final Independent Report for the Saskatchewan Rate Review Panel on SaskPower's 2014-2016 Rate Application. April 10, 2014.

⁴⁰⁷ SaskPower, RE: Crescent Point Energy Presentation to Saskatchewan Rate Review Panel, October 26, 2017. November 2017.

⁴⁰⁸ SaskPower, RE: Crescent Point Energy Presentation to Saskatchewan Rate Review Panel, October 26, 2017. November 2017.

⁴⁰⁹ SaskPower, RE: Crescent Point Energy Presentation to Saskatchewan Rate Review Panel, October 26, 2017. November 2017.

⁴¹⁰ SaskPower, RE: Crescent Point Energy Presentation to Saskatchewan Rate Review Panel, October 26, 2017. November 2017.

⁴¹¹ BC Hydro, BC Hydro 2015/16 Annual Service Plan Report, page 19. Accessed October 30, 2017 at

<https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/accountability-reports/financial-reports/annual-reports/bchydro-2015-17-annual-service-plan-report.pdf>.

⁴¹² BC Hydro, BC Hydro 2016/17 Annual Service Plan Report, page 99. Accessed October 30, 2017 at

<https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/accountability-reports/financial-reports/annual-reports/bchydro-2016-17-annual-service-plan-report.pdf>.

⁴¹³ BC Hydro, BC Hydro files interim rate application for year three of 10-Year Rates Plan, February 26, 2016. Accessed October 30, 2017 at https://www.bchydro.com/news/press_centre/news_releases/2016/interim-rate-application.html.

⁴¹⁴ BC Government News. Energy, Mines, and Petroleum Resources. Province Delivers on Commitment to Freeze BC Hydro Rates, November 8, 2017. Accessed November 14, 2017 at <https://news.gov.bc.ca/releases/2017EMPR0021-001875>.

No final decision on a rate freeze for 2018 has been made to date.

- Manitoba Hydro indicates that 7.9% annual rate increases may be sought until 2023/24 and a further increase of 4.54% in 2024/25.⁴¹⁵ Manitoba Hydro's current general rate application is asking for a 7.9% rate increase effective April 1, 2018. Revenue requirement increases are attributable to new major projects including the Bipole III transmission project, Keeyask Hydro-electric Generating Station, Manitoba/Minnesota Transmission Project, and Conawapa hydro-electric sunk planning costs.⁴¹⁶ A Manitoba Hydro rate increase was approved by Manitoba Public Utilities Board (PUB) for 3.36% effective August 1, 2016.⁴¹⁷ Manitoba Hydro requested an interim rate of 7.9% effective for August 1, 2017, the PUB approved a 3.36% interim rate increase effective August 1, 2017.⁴¹⁸
- Hydro Quebec recently received approval of a 0.7% rate increase for residential customers and most of its business customers effective April 1, 2017 (request was for 1.6% increase).⁴¹⁹ Hydro Quebec indicates the increase is required mainly due to capital investment needed to ensure transmission asset sustainment. Hydro Quebec also received approval for a 0.7% rate increase effective April 1, 2016 from the Régie de l'Énergie (request for 1.7% increase). Hydro Quebec indicated the rate increase was required largely due to the costs from the harsh temperatures of the 2013/14 and 2014/15 winters.⁴²⁰ In Hydro Quebec's five year strategic plan the utility states it plans to keep any rate increases from 2016 to 2020 lower than or equal to inflation, with average capital investments in this period between \$3.1 and \$4.0 billion dollars.⁴²¹ Hydro Quebec has requested a 1.1% rate increase effective April 1, 2018 for all residential customers and most business customers.⁴²²
- New Brunswick Power received approval for a 1.77% rate increase for all customer classes except the Residential (2.07% increase) and GS I (0.80% increase) classes effective April 1, 2017.⁴²³ In October 2015 New Brunswick Power released a ten year plan for the fiscal years 2017 to 2026. In the ten year plan NB Power is looking for rate increases of 2% from fiscal years 2017 to 2021 and rate increases of 1% from fiscal years 2022 to 2026.⁴²⁴ NB Power released its 2018/19 GRA in October 2017 asking for an average 2.0% increase in rates based on revenue

⁴¹⁵ CTV, Manitoba Hydro Seeking Annual Rate Increase of 7.9%, September 13, 2017. Accessed October 30, 2017 at

<http://winnipeg.ctvnews.ca/manitoba-hydro-seeking-annual-rate-increase-of-7-9-1.3587686>

⁴¹⁶ PUB, Order 73/15, July 24, 2015, page 7. Accessed October 30, 2017 at <http://www.pub.gov.mb.ca/pdf/15hydro/73-15.pdf>

⁴¹⁷ PUB, Order No. 59/16, April 28, 2016, page 3. Accessed October 30, 2017 at <http://www.pub.gov.mb.ca/pdf/16hydro/59-16.pdf>

⁴¹⁸ Manitoba Public Utility Board, Order No. 85/17, page 2. August 3, 2017. Accessed November 15, 2017 at

<http://www.pubmanitoba.ca/v1/proceedings-decisions/orders/pubs/2017%20orders/85-17%20with%20attachment.pdf>

⁴¹⁹ CBC News, Hydro-Quebec Rates Going Up Again, March 2, 2017. Accessed online at

<http://www.cbc.ca/news/canada/montreal/hydro-quebec-rate-increase-2017-1.4006189>

⁴²⁰ Hydro Quebec, 2016-2017 Rate Application – An electricity rate increase below inflation, March 8, 2016. Accessed September 6, 2016 at <http://news.hydroquebec.com/en/press-releases/994/2016-2017-rate-application-an-electricity-rate-increase-below-inflation/>

⁴²¹ Hydro Quebec, Strategic Plan 2016-2020, page 39. Accessed October 30, 2017 at

<http://www.hydroquebec.com/publications/en/docs/strategic-plan/plan-strategique-2016-2020.pdf>

⁴²² Hydro Quebec, Rate Application Below Inflation, August 1, 2017. Accessed October 30, 2017 at

<http://news.hydroquebec.com/en/press-releases/1262/rate-application-below-inflation-commitment-honored-for-third-consecutive-year/?fromSearch=1>

⁴²³ NBEUB, Decision June 14, 2017, Matter No. 336, page 11. Accessed October 30, 2017 at

<http://www.nbeub.ca/opt/M/browserecord.php?action=browse&recid=521>

⁴²⁴ Énergie NB Power, NB Power's 10 Year Plan, Fiscal Years 2017 to 2026, October 2015, Page 2. Accessed October 30, 2017 at <https://www.nbpower.com/media/169786/2017-26-ten-year-plan-en.pdf>

requirement of \$1,705.5 million.⁴²⁵ NB Power plans to reduce debt and achieve its legislated minimum targeted debt to equity ratio of 80/20 by 2021. The utility states this reduction in debt and creation of equity provides NB Power with some flexibility to respond to changing markets and technologies and to better prepare for future investment requirements, in particular the investments potentially required to replace the Mactaquac Hydro Generating Station.⁴²⁶

- Nova Scotia Power has created a Rate Stability Plan where it will not file a General Rate Application for the period from 2017 through 2019. The Nova Scotia Utility and Review Board came to a decision in 2009 that rate adjustments for the Fuel Adjustment Mechanism (FAM) are separate from general rate adjustments.⁴²⁷ Over the years 2017, 2018, and 2019 Nova Scotia Power is only seeking fuel cost adjustments at less than the rate of inflation through to the end of 2019. For residential customers, this means rate increase of 1.7% - less than inflation – for 2017, 2018, and 2019.⁴²⁸ In a report released in July of 2016 by the Nova Scotia Utility and Review Board, the Board approved Nova Scotia Power's application for the Base Cost of Fuel for 2017, 2018, and 2019, with an average rate increase of 1.3% across all customer classes.⁴²⁹
 - The FAM is a mechanism that allows periodic adjustments to customer rates, outside general rate proceedings, to reflect increases and decreases in Nova Scotia Power's cost of fuel.⁴³⁰ The FAM developed out of consistent and large rate increases, particularly to the residential (domestic) class. For example, rate increases to the residential (domestic) class prior to the FAM were 7.1% in 2005, 9.9% in 2006, 5.3% in 2007, and 10.6% in 2008.⁴³¹ As a result of the FAM Nova Scotia Power focused on the impact that non-fuel components of the business have on net earnings, while retaining focus on managing fuel costs for customers. Post FAM implementation system wide rate increases and fuel adjustments were 0% in 2009, 0% in 2010, 4.5% in 2011, 5.6% in 2012, 3% in 2013 and 2014, 0% in 2015, and a decrease of 1% in 2016.⁴³²
- The Government of Ontario announced it will provide rebates on January 1, 2017 for electricity bills to urban and rural residents and small businesses to help offset high electricity rates, with an

⁴²⁵ NBEUB, Matter No. 375. Accessed October 31, 2017 at <http://www.nbeub.ca/opt/M/browserecord.php?action=browse&recid=560>

⁴²⁶ Energie NB Power, NB Power's 10 Year Plan, Fiscal Years 2017 to 2026, October 2015, Page 2. Accessed October 30, 2017 at <https://www.nbpower.com/media/169786/2017-26-ten-year-plan-en.pdf>

⁴²⁷ Nova Scotia Utility and Review Board, Electricity. Accessed October 30, 2017 at <https://nsuarb.novascotia.ca/mandates/electricity#general-rate-applications-29>.

⁴²⁸ Nova Scotia Power, Rate Stability Plan, 2016. Accessed October 30, 2017 at <http://www.nspower.ca/en/home/about-us/electricity-rates-and-regulations/regulatory-initiatives/rate-stabilization-plan.aspx>

⁴²⁹ Nova Scotia Utility and Review Board, The Board Sets the Base Cost of Fuel for 2017, 2018, and 2019, July 2016, p 4. Accessed October 30, 2017 at <http://www.nspower.ca/site/media/Parent/M07348%20-%20Board%20Decision.pdf>

⁴³⁰ Nova Scotia Power Incorporated's (Re), 2015 NSUARB 9 (CanLII). Accessed October 30, 2017 at <http://www.canlii.org/en/ns/nsuarb/doc/2015/2015nsuarb9/2015nsuarb9.html>

⁴³¹ NSUARB, Electricity Mandate – History of Rate Changes – Domestic Class. Accessed on October 30, 2017 at https://nsuarb.novascotia.ca/sites/default/files/Electricity_Mandate_-_History_of_Rate_Changes_-_Domestic_Class_-_FAQ.pdf

⁴³² 2009, 2010, and 2011 FAM system wide rate increases: Emera Inc., 2010 Financial Report, page 9. Accessed November 15, 2017 at <http://investors.emera.com/Cache/1500032730.PDF?Y=&O=PDF&D=&fid=1500032730&T=&iid=4072693>. 2012, 2013, and 2014 FAM system wide rate increases: Emera Inc., 2014 Annual Report, page 26 and 27. Accessed November 15, 2017 at <http://investors.emera.com/Cache/1001197233.PDF?Y=&O=PDF&D=&fid=1001197233&T=&iid=4072693>. 2015 FAM: Emera Inc., 2015 Annual Report, page 29. Accessed November 15, 2017 at <http://investors.emera.com/Cache/1500083715.PDF?Y=&O=PDF&D=&fid=1500083715&T=&iid=4072693>. 2016 FAM system wide rate decrease: Emera Inc., 2016 Annual Report, page 21. Accessed November 15, 2017 at <http://investors.emera.com/Cache/1500098124.PDF?Y=&O=PDF&D=&fid=1500098124&T=&iid=4072693>

intention to implement new measures for commercial and industrial rate payers in the near future. Ontario residents will receive a rebate that is equal to the provincial portion (8%) of the 13% harmonized sales tax.⁴³³ To further reduce pressure on rising electricity costs the Liberal government cancelled plans for up to 1,000 MW of power from solar, wind, and other renewable energy sources which is estimated to save up to \$3.8 billion of the costs projected in the 2013 Long-Term Energy Plan.⁴³⁴ The 2017 Ontario Long-Term Energy Plan⁴³⁵ has been released along with the *Fair Hydro Act, 2017* (or Bill 132). The *Fair Hydro Act, 2017* has reduced electricity bills for residential consumers by an average of 25% and will hold any increases to the rate of inflation for the next four years.⁴³⁶

- Fargo, North Dakota has several electrical utility providers including Cass County Electric Cooperative, Xcel Energy (Northern States Power Company), Ottertail Power Company, Montana-Dakota Utilities Co., and Moorhead Public Service. Using Xcel Energy in Fargo, North Dakota as an example the North Dakota Public Service Commission accepted Xcel Energy's rate application for rate increases of 4.9% in each of 2013, 2014, and 2015 and a rate freeze in 2016 for Xcel's approximately 90,000 customers in North Dakota, primarily in Fargo, Grand Forks, Minot and West Fargo.⁴³⁷ A news release on March 9, 2016 by the North Dakota Public Service Commission stated a rate freeze for base electric rates until at least 2018 for the state of North Dakota.⁴³⁸ Xcel Energy has not filed a rate request beyond the current rate freeze. However, Xcel Energy has filed an Upper Midwest 2016-2030 Resource Plan originally filed with the Minnesota Public Utilities Commission.⁴³⁹ Outside of North Dakota, Xcel Energy also operates in the states of Colorado, Michigan, Minnesota, New Mexico, South Dakota, Texas, and Wisconsin and is subject to the approval of each states individual public utility commission. The 2016-2030 Upper Midwest Resource Plan details Xcel Energy's strategy to transition from a coal-based generation to renewables and natural gas. Although the resource plan does not detail proposed rate increases it does state the cost impacts associated with the resource plan are roughly consistent with the expected national average increase in electricity prices, and over the long-term (2016-2030) closely mimic the rate of inflation.⁴⁴⁰

⁴³³ CBC News, Ontario Throne Speech Promises Electricity Bill Rebates, September 12, 2016. Accessed October 30, 2017 at <http://www.cbc.ca/news/canada/toronto/ontario-government-throne-speech-electricity-rates-1.3758002>.

⁴³⁴ CBC News, Ontario Cancels Plans for More Green Energy Citing Strong Electricity Supply, September 27, 2016. Accessed October 30, 2017 at <http://www.cbc.ca/news/canada/toronto/ontario-electricity-plans-1.3780440>

⁴³⁵ Government of Ontario, Ontario's Long-Term Energy Plan 2017. Accessed October 30, 2017 at https://files.ontario.ca/books/ltep2017_0.pdf

⁴³⁶ Legislative Assembly of Ontario, Bill 132, Fair Hydro Act, 2017. Accessed October 30, 2017 at http://www.ontla.on.ca/web/bills/bills_detail.do?locale=en&Intranet=&BillID=4875

⁴³⁷ Julie Fedorchak, N.D. Regulators Approve Four-Year Rate Increase Plan for Xcel Energy, February 28, 2014. Accessed October 30, 2017 at <http://juliefedorchak.com/n-d-regulators-approve-four-year-rate-increase-plan-for-xcel-energy-mike-nowatzki-forum-news-service/>

⁴³⁸ North Dakota Public Service Commission, News Release, March 9, 2016. Accessed November 8, 2017 at <http://www.psc.nd.gov/public/newsroom/2016/3-9-16CommissionMeetingNewsRound-up.pdf>

⁴³⁹ Xcel Energy, Upper Midwest 2016-2030 Resource Plan. Accessed October 30, 2017 at https://www.xcelenergy.com/company/rates_and_regulations/filings/upper_midwest_2016-2030_resource_plan

⁴⁴⁰ Xcel Energy, Upper Midwest 2016-2030 Resource Plan, Section VI Customer Cost Impacts, page 43. Accessed October 31, 2017 at <http://192.234.137.143/staticfiles/xcel/PDF/Regulatory/MN-Resource-Plan/MN-Resource-Plan-03-Supplement.pdf>

- In Montana, Montana Dakota Utilities applied for a proposed 21.1% rate increase in June 2015.⁴⁴¹ The Montana Public Service Commission reduced the proposed rate increase to be phased in over two years.⁴⁴² The first phase occurred on April 1, 2016 with a system wide rate increase of 5.4% (annual revenue increase of \$3 million) and the second phase occurred on April 1, 2017 with a system wide rate increase of 7.5% (annual revenue increase of \$4.4 million).⁴⁴³ Prior to the rate increase, the last increase in electric rates was 6.23% in 2011.⁴⁴⁴
- NorthWestern Energy provides electricity to Montana, South Dakota, and Nebraska and the utility is subject to the approval of each state's individual public utility commission. In North Dakota, NorthWestern has passed along property taxes to customers via monthly bills and was approved for a rate increase in December 2015.⁴⁴⁵ A typical residential customer (750 kWh/month) saw a rate increase of 0.45%. NorthWestern again passed through property-tax increases automatically to customers with an additional 5.83% increase to electric service as of December 2016.⁴⁴⁶ In South Dakota, NorthWestern Energy received approval for a system wide rate increase of 15.5% effective December 29, 2015.⁴⁴⁷

14.2 CAPITAL STRUCTURE AND RETURN ON EQUITY

SaskPower's application provides a comparison of its debt ratio and ROE with other electric utilities in Canada. As with bill and rate comparisons, these comparisons can be challenging. Crown owned utilities may have different tolerances for debt ratios compared to investor-owned utilities. Business risks may also be different for vertically integrated utilities (those that provide generation, transmission, and distribution services to their customers) compared to those utilities that provide only a portion of these services, leading to different debt ratios and returns on equity. However, this information can still provide useful context for evaluating SaskPower's position relative to its peer utilities.

14.2.1 Debt Ratio

The debt ratio provides a measure of total debt to total corporate capital structure. In general, the higher the debt ratio, the more leveraged the company is and the greater its financial risk. SaskPower's target ratio is 60% to 75%. Since 2011 SaskPower has increased its borrowing to support the delivery of its

⁴⁴¹ Montana Public Service Commission, MPSC Approves Settlement Between MDU, Consumer Advocates, March 25, 2016. Accessed November 8, 2017 at <http://psc.mt.gov/news/pr/2016pr/MDU%20Rate%20Case%20Order%20Press%20Release%20FINAL.pdf>

⁴⁴² Montana Public Service Commission, MPSC Approves Settlement Between MDU, Consumer Advocates, March 25, 2016. Accessed November 8, 2017 at <http://psc.mt.gov/news/pr/2016pr/MDU%20Rate%20Case%20Order%20Press%20Release%20FINAL.pdf>

⁴⁴³ Montana Electric Rates, Effective April 1, 2016, page 2. Accessed November 8, 2017 at <https://www.montana-dakota.com/docs/default-source/rates-and-services/rate-cases/mt-electric-distribution-rate-increase.pdf?sfvrsn=2> and Department of Public Service Regulation Before the Public Service Commission of the State of Montana. In The Matter of the Application of Montana-Dakota Utilities Co. for Authority to Establish Increased Rates for Electric Service in the State of Montana, Docket No. D2015.6.51 and Order No. 7433f, March 25, 2016. Accessed November 23, 2017 at <http://psc.mt.gov/Docs/ElectronicDocuments/pdfFiles/D2015651FO7433f.pdf>.

⁴⁴⁴ Montana Dakota Utilities Co., News from Montana-Dakota Utilities, Montana-Dakota Utilities Files Electric Increase Request in Montana, June 25, 2015. Accessed November 23, 2017 at <https://www.montana-dakota.com/utility-menu/news>.

⁴⁴⁵ Northwestern Energy, Northwestern Energy Clarifies 2015 Customer Property Tax Impact. Accessed November 8, 2017 at <http://www.northwesternenergy.com/news/2016/08/10/NorthWestern-Energy-Clarifies-2015-Customer-Property-Tax-Impact>

⁴⁴⁶ Public Service Commission, Northwestern, MDU Increase Rates to Pass-Through Property Taxes. Accessed October 31, 2017 at <http://psc.mt.gov/news/pr/2017pr/News%20release%20--%20taxes%20010417.pdf>

⁴⁴⁷ Northwestern Energy, Northwestern Energy Customer Notice Electric Rate Increase. Accessed November 8, 2017 at http://www.northwesternenergy.com/docs/default-source/documents/connections/2016/rate_increase.pdf

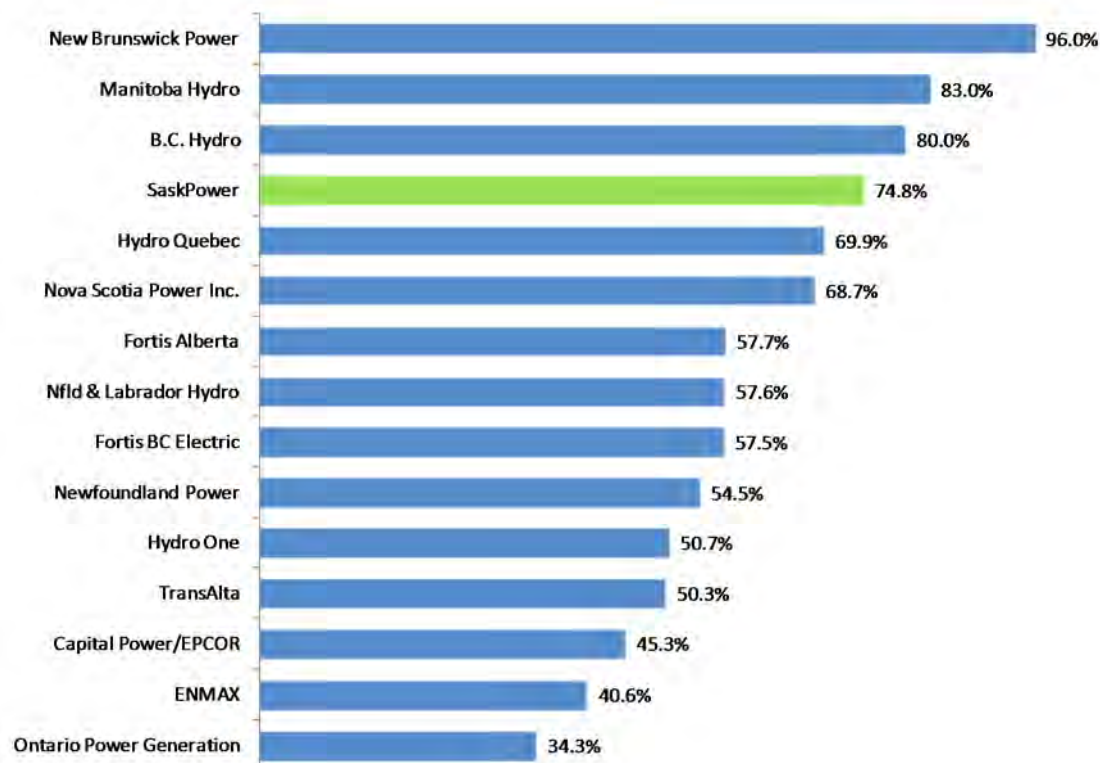
capital program. SaskPower's debt ratio is forecast to be at the upper end of the target range in the test years.⁴⁴⁸

Figure 14-6 compares the debt ratios for a number of electric utilities in Canada. It should be noted that the utilities shown in Figure 14-6 include a mixture of:

- Government owned versus privately owned utilities.
- Vertically integrated (generation, transmission, and distribution) versus utilities that only provide distribution or generation services to their customers.
- Primary sources of generation. Hydro utilities often have a higher debt ratio due to the substantial construction costs associated with building hydro-electric facilities.
- Different accounting standards including US GAAP, Canadian GAAP, IFRS, or various modifications of these standards. Different accounting standards may affect how some costs are reflected in a utility's capital structure.

A review of Figure 14-6 indicates that SaskPower has the fourth highest percent debt ratio in the sample. Of the three utilities with higher debt ratios, all are government owned and two (Manitoba Hydro and BC Hydro) are primarily hydro-electric generation utilities.

⁴⁴⁸ 2018 Rate Application, page 19 and 44.

Figure 14-6: Canadian Utility Comparison of Debt Ratio 2015/16⁴⁴⁹

14.2.2 Return on Equity

Return on equity measures the utility's profit relative to the equity invested in the utility. SaskPower states that in recent years it has attempted to cap its rate increases at 5% per year. The result has been that the Corporation has not achieved its long-term target ROE of 8.5%. This has resulted in increased debt levels. SaskPower states that achieving an adequate return is a prerequisite for SaskPower to maintain a reasonable capital structure through increases in retained earnings.⁴⁵⁰

Figure 14-7 compares actual 2015-16 ROE for a number of electric utilities in Canada. As with the debt ratio, differences in ownership (government versus privately owned), accounting standards, and other factors may influence the calculation of the ROE and the business risks that influences what an acceptable ROE would be.

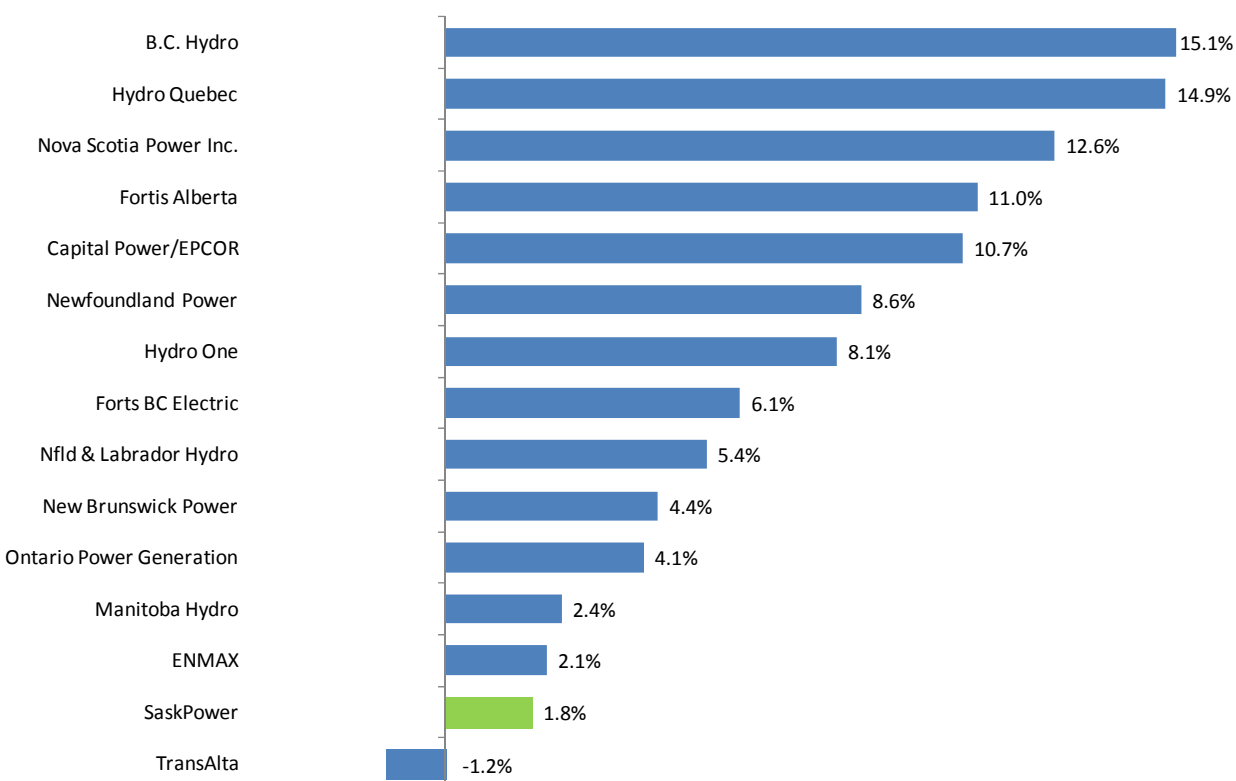
A review of Figure 14-7 indicates that SaskPower had the second lowest ROE of the utilities in the sample in 2015 (1.8%). The rate increases proposed in the current application are projected to increase SaskPower's ROE to 6.9% in 2017/18 and 8.5% in 2018/19. Actual returns on equity vary from year to year for a variety of reasons, including weather, increased or decreased number of customers, changes to fuel prices, and other factors. SaskPower provided information in its application that indicated its long-

⁴⁴⁹ 2018 Rate Application, page 19.

⁴⁵⁰ 2018 Rate Application, page 18.

term target ROE is within the range of other Canadian utilities.⁴⁵¹ Considering only government owned utilities, the lowest allowed ROE cited by SaskPower was 7.4% for NALCOR (Newfoundland and Labrador Hydro) the upper end of the observed range was approximately 12% (New Brunswick Power and BC Hydro). Most other government owned utilities had ROEs of between 8% and 9%.⁴⁵² This range is consistent with SaskPower's long-term ROE target of 8.5%.

Figure 14-7: Canadian Utility Comparison of Return on Equity 2015-16⁴⁵³



14.3 CONSULTANT OBSERVATIONS

The Consultant notes that SaskPower's proposed rate increase of 5.1% March 1, 2018 is higher than rate increases sought by most other utilities on an annual basis. At least 4 utilities (Hydro Quebec, New Brunswick Power, Nova Scotia Power, and Ontario) have indicated they will not be seeking rate increases above 2% or above the expected rate of inflation. In the Consultant's view it is likely that SaskPower's requested rate increases will result in higher increases than customers in many other Canadian jurisdictions are likely to experience in the near term. For SaskPower customers who already pay rates higher than the thermal utility average, this difference is likely to increase in the near term. Some stakeholders also noted that Alberta energy prices are an important benchmark for them. SaskPower's

⁴⁵¹ 2018 Rate Application, page 18.

⁴⁵² 2018 Rate Application, page 19.

⁴⁵³ 2018 Rate Application, page 19.

average bills for the customer types examined in this section are higher in 2017 than for similar customers in Calgary and Edmonton.

14.4 CONSULTANT RECOMMENDATIONS

The Consultant recommends the Panel carefully consider how the proposed rate increases will affect the competitiveness of SaskPower's rates compared to its peer utilities, balanced with the understanding that SaskPower's targets for debt ratio and ROE are within the range observed for other electric utilities in Canada.

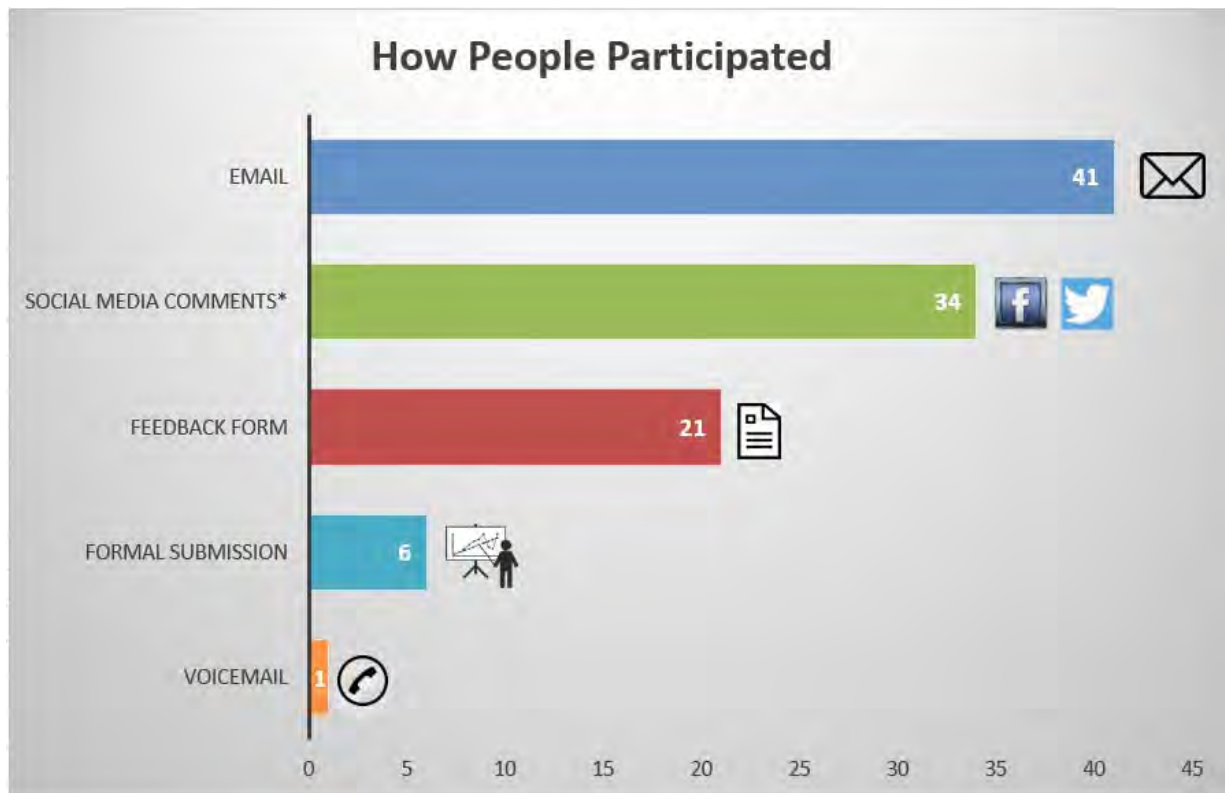
15.0 PUBLIC AND STAKEHOLDER SUBMISSIONS

The Panel provided a number of opportunities and methods for the public and stakeholders to provide inputs (see Figure 15-1). Records of public submissions are available on the Panel's website⁴⁵⁴ under the headings "Public Meeting" "Submission and Comments" and "Other." Methods included:

- **Public meetings:** On October 3, 2017, the Panel hosted a public meeting in Regina on the SaskPower rate change application; followed by a second event held on October 16, 2017 in Saskatoon. For both events, SaskPower delivered a presentation on their rate application, which was live streamed on Facebook. Stakeholders were also invited to provide submissions at these public events.
- **Written, online, and voicemail submissions:** The Panel provided the opportunity for the public to provide comments through feedback forms (available on Panel's website), emails, and voicemails through a toll-free line.
- **Social media:** This the year the Panel introduced social media as another means of outreach, in addition to another mechanism the public to submit feedback. Facebook and Twitter platforms were established to share information and receive feedback, with Facebook receiving 110 followers, and Twitter 97 followers. Both sites were used to promote public meetings and other mechanism to provide feedback. The Panel livestreamed its public events on Facebook, and videos of panel presentations received over 9,000 views by November 2017. Additionally, approximately 34 comments were made on a single Facebook thread initiated by a member of the public.
- **Stakeholder submissions:** Stakeholders were provided the opportunity to ask questions of SaskPower and submit written comments to the Panel. Written stakeholder submissions were received ERCO Worldwide, the Saskatchewan Industrial Energy Consumers Association (SIECA) the Canadian Association of Petroleum Producers and the Explorers and Producers Association of Canada (joint submission), the Saskatchewan Mining Association, Crescent Point Energy, and the Meadow Lake Mechanical Pulp made a presentation at the public meeting in Saskatoon on October 16th.

⁴⁵⁴ Records of public submissions are available on the Panel's website under the headings "Public Meeting" "Submission and Comments" and "Other." http://www.saskratereview.ca/secuap.php?apn=aug_15_17_sp

Figure 15-1: Public and Stakeholder Submissions



Notes: * 34 comments were made on a single Facebook discussion thread. Count was current as of November 1, 2017.

15.1 PUBLIC COMMENTS

The Panel encouraged written and online submissions received from individuals. Public comments were accepted over the period from August 15, 2017 to October 30, 2017. The following themes were identified based on public feedback:

Overall affordability of the rate increases: This included general concern that people are not receiving pay increases at the same rate of SaskPower's requests (unable to keep up), especially low income and fixed income individuals. Similar concerns were also heard from small businesses and farm owners. Examples include:

- "I am just leaving a comment to mention that my government wants me to take a 3.5 percent pay cut, but increase my utilities an even greater amount...after they have already increased. I find this unacceptable as these small increases seem to be the new normal while wage increases do not match inflation. Regardless of my employer, more and more working class families are living pay check to pay check and they simply cannot sustain these increases. I understand the need for infrastructure but there are also lots of things in my house I would like to fix but can't because of a tight budget. Thanks for listening." (August 18, 2017)
- "Thanks for the opportunity to comment. I am very low income. I work part time as a housing manager and groundskeeper for government low income seniors. My grounds keeping contract

has been frozen since 2002, and managers administration allowance was slashed in 2007. I don't even make enough to pay for printer cartridges. With many years zero or very low increase to managers contract. I am an artist as well, and don't make a great deal of income from that. With all the mandatory infrastructure projects government has put on small villages for new water treatment, lagoon expansion and garbage pickup now contracted from Regina ... I've seen a massive increase in utilities and property taxes. SaskPower has already increased rates significantly twice in one year. So my feelings are don't raise power rates yet again! Thanks." (August 20, 2017)

- "I am on a fixed income. Please explain to me how I am going to pay for this increase? It seems that all these crown corporations continually have their hands out for more. The people of this province have been hammered by tax increases municipally, provincially and federally. Why? We need a break! Why doesn't the rate review panel do their job and stand up for the people it's supposed to protect. Say no to these crown executives who continually ask for more. They need to look internally for cost savings and not take the easy way out and Put the burden on the people yet again." (September 21, 2017)

The frequency of rate increases in a short time span. Examples include:

- "With the strained economy in Saskatchewan right now, I do not feel it is appropriate for our crown to be increasing our power costs. They just had an increase. I think Saskatchewan people need a break for at least a year from our essentials continually costing us more money." (August 18, 2017).
- "Regarding requested 5.1% increase effective Mar. 1/18 (following 5% and 3.5% increase eff. Jul 1/16 and Jan. 1/17 - 27% increase past 5 years per the SP article Aug. 16/17) I ask - is SK Power going the way of Ontario where power will be out of reach for many? Don't current and past rates have a built in slush fund for depreciated and obsolete infrastructure? That would be considered good management. Most people do not get a 5.1% increase in salaries/pensions. Disposable income in Saskatchewan is dropping as all "costs" keep rising. Does SK Power make a profit? If so, where does it go? to the Province for general revenue? If so, isn't the profit really another tax charged on top of the other taxes shown on our utility statements? Profits, if any, should be held in a fund to pay for replacing aging and outdated infrastructure. I understand that some power is made using natural gas which is at an all-time low price. Aren't profits higher as a result? The SP article talks about a \$100 power bill and an increase of \$14.12 per month (\$170 per year) by Mar. 2018. Aren't many power bills already greater than \$100 per month? Mine is, so my proposed increase will be considerably higher, plus all the taxes and surcharges that go along with it. Oh, and don't forget about the Federal carbon tax that will hit one day, maybe Jan. 1 2018. What will the increase on that be? 10%? I pity anyone who is thinking of buying an electric car! Ontario energy pricing here we come??? Don't make that mistake. People will once again be leaving this province." (August 24, 2017)
- "I'm extremely angry about being charged for THREE SaskPower rate increases in just over a year. The last two increases were huge, and my household budget no longer balances! Never mind that my contract for grounds keeping for the Government's Social Housing was frozen in 2002! And my property managers contract was slashed in 2007 (I don't even have enough \$ to buy printer cartridges, stamps and paper) - Prior to '07 - we had a budget to buy whatever we

needed. After Bill Boyd, Minister responsible for SaskPower, paid \$25 MILLION out of SaskPower's coffers to buy GTH land. This is why our rates are increasing. Not all the advertising from SaskPower about suddenly needing \$ for infrastructure!!! If SP hadn't bought GTH land, they'd have enough money for routine, ongoing infrastructure costs. Go collect the money from Bill Boyd, after his shady \$25 Million SaskPower deal." (September 12, 2017)

- "A 2.5 to 3% increase would be acceptable. 5% seems a little excessive." (October 7, 2017)

Reliability of SaskPower's existing power system. Examples include:

- "I am a resident of White City SK, and we have constant troubles with our power going out as glitches and full-fledged power outages. This causes issues with our electronics, appliances and creates great inconveniences for everyone at home. If SaskPower is granted their rate increase I would EXPECT an explanation on their website as to EXACTLY WHERE the money will be used. I'm not happy that each year our rate goes up but our service gets worse. Thank you" (August 22, 2017)
- "Good Day. We do realize that there is a growing demand and that there is upkeep/upgrades that need to be made to our current power grid as well as these demands and upgrades cost money. We do give kudos to SaskPower in taking a reduction to their net earnings but those of us in the Ag industry, who are being charged more because we live in the country, also take cuts in our profits all the time and we have no place or nowhere to go to apply for an increase to help us with improving our investments which in turn helps provide food for all of us! We cannot charge more for the food we produce even though our costs go up continuously; we have to take what is given to us!! We live in the RM of Enterprise and there have been upgrades to power lines in our area but our power continues to go out either once a day, sometimes consecutively, or sometimes even three times a day!!. In fact the power has gone out here four times again in these last two days!!! This is very frustrating and hard on our appliances and electrical equipment, such as computers, printers, etc., which are not cheap to replace. Also SaskPower will not replace any of these items even with proper documentation/proof of days that they knew the power was out in this area. We have been told that it is the birds sitting on the line!! We've been here more than 40 years; there has always been birds sitting on the lines. On the majority of the times - the power goes out when there are no birds on the lines, which I believe and so do others, is a lame excuse on SaskPower's part. Plus over the last 5-7 years these power flickers/outages have been increasing and SaskPower has received calls/complaints as myself and several neighbors have called into SaskPower only to be told that it is the birds. Well this situation is definitely for the birds!!! We do not have a problem with applications for an increase when there is required work to be done to keep us warm and have access to all the necessary electrical equipment available to us. But we do not believe that people, companies, etc., need to make millions or billions in profits/bonuses in order to live a sustainable life. Yes, they need to make a profit otherwise why invest in such an infrastructure. But do they need to make these millions or billions at the cost of other people's profits that are needed in order to live a sustainable life?? Just something to think about and rationalize the justifications. Don't take us the wrong way - we do know that SaskPower does donate a lot of money to organizations that need help. But please remember that this is probably due to the profits that are generated through this infrastructure! We are asked for our opinions and we're giving it: until these power

outages/flickers are resolved, not just in our area, we do not agree with the application for an increase. Sorry, but this is how we feel. Once we can't afford the price of power, will SaskPower donate free power or take a reduction in their earnings to help us stay warm?? This is not meant to be nasty - we're asking an honest question. Thank you for your time in considering our opinions. Frustrated Clients" (August 28, 2017)

SaskPower's corporate spending relative to the request for ratepayers to pay more. Many of these concerns specifically highlighted SaskPower's executive salaries. Examples include:

- "Concerning your upcoming application to raise our power bills yet again; I strongly disagree. Enough is enough. Please find a way to cut your costs for the next year. A wage freeze perhaps, or no big bonuses to the top dogs. My minimum wage is not going up nearly as fast as the crown's increases." (August 18, 2017)
- "Dear Members of the Rate Review Panel, I understand that the power problems this summer have been expensive. I would REALLY prefer that SaskPower use cost-cutting measures to help cover these expenses, and opt to make smaller profits, rather than put another increase on customers. Yes, some users won't notice this increase, but for me - it's too much. I am on a pension with few options to earn extra money, and the recent taxation changes to my health insurance just reduced my pension. I will definitely feel the impact. All of my expenses just keep increasing. I hope you consider those of us who live on small, fixed incomes. PLEASE. Thanks for the opportunity to give input. Hopefully you will listen." (August 18, 2017)
- "I must say I am shocked that in spite of recent cuts and increased taxes on then people of SK that SaskPower executives think now is the time to increase the cost of power consumption. While everyone is struggling to get through this difficult time with cuts to our wages and extra taxes straining our income numbers now is not the time to come after us for more money. Also I am quite confused about why Saskatchewan costs for power are so much higher than that of Alberta. Perhaps it's operating expenses that are too high. I think SaskPower needs to look inward to its own expenses and make some cuts to free up some money to make the necessary upgrades. Asking consumers to tighten their belts even more is ridiculous." (August 19, 2017)
- "I, along with many former civil servants have grown accustomed to annual pension increases of 0.7% or less. How can the government of Saskatchewan, in good conscience keep raising the various utility rates by 5% annually. It should find a way to spend less on the salaries of current senior officials which are now exorbitant to pay for any utility increases." (September 24, 2017)

The need for better transparency and accountability from SaskPower. For example:

- "First off, SaskPower is a crown corp, and I believe your mandate should be to serve the people of Saskatchewan, not profit off our backs. <http://leaderpost.com/news/politics/saskpower-makes-profit-of-46-million-according-to-annual-report>. From that article: ""SaskPower posted a \$46-million profit in 2016-17."" It's clear a rate hike is not needed, if SaskPower remains so profitable. It's exploitative to seek a rate increase from the very same 'shareholders' that you serve. So, my feedback is simple: If you ask for this rate hike, you need to explain why to everyone, as it's clear unnecessary. so don't do it. If you do, you simply promote avarice and inflation." (August 18, 2017)

15.2 SUBMISSIONS FROM STAKEHOLDERS

Seven formal submissions were received from stakeholders, either as written submissions or presentations at public meetings. A summary of each of these submissions is provided below.

15.2.1 Canadian Association of Petroleum Producers (CAPP) and the Explorers and Producers Association of Canada (EPAC)

The CAPP and the EPAC provided a written submission, prepared by Drazen Consulting Group Inc. The following provides a summary of their concerns and recommendations to the panel:

- SaskPower should review the fairness of the requested rate increase, based on the total returns to the shareholder, rather than exclusively on the ROE.
 - The analysis suggests that while the ROE rate of 8.5% target is comparable to other peer utilities, the calculation does not consider other payments to the Government of Saskatchewan, such as the corporate capital tax, crown coal royalties, and water rentals.
- The future of rate increases are of concern, particularly as power costs form a significant proportion of the members' operational costs. The industry is faced with several challenges associated with policy and regulatory initiatives, while its largest competitor (the United States) is streamlining regulations and costs. Future rate increases, as well as uncertainty around the rate of future increases, present challenges for the investment climate.
- Concerns regarding SaskPower's preferred supply plan:
 - The forecast for load growth is lower than suggested by the last application, suggesting that there may not be an increasing customer base to dilute the increase revenue requirement resulting from the preferred supply plan. If the current preferred supply plan stays in place, the rate of increased required by 2030 are expected to be significant.
 - The preferred supply plan effectively replaces coal with wind and natural gas generation; however the costs associated with greenhouse gas (GHG) reductions is estimated at \$78/tonne (relative to the cost of coal). It is recommended that SaskPower examine the costs of each component of the preferred supply program in terms of the incremental costs of GHG reductions.
 - The preferred supply plan appears to add the maximum amount of wind generation as possible, while introducing natural gas generation as a necessary backstop to intermittent wind. Natural gas combined cycle facilities can achieve twice the capacity factor of wind generation, at a lower capital cost per unit of capacity. The costs associated with wind vs. natural gas generation need to be more carefully evaluated by recognizing the difference in financing costs.
- SaskPower should clarify its GHG emissions targets, insofar that its preferred supply plan should include only investments required to meet GHG reduction commitments while avoiding additional expenditures required solely to meet the capacity goal.

15.2.2 Husky Energy

Husky Energy is one of Canada's largest integrated energy companies, with integration perhaps nowhere more evident than in the Lloydminster region with upstream heavy oil production, pipeline network, and refining and upgrading assets. Husky Energy shared the following concerns and recommendations:

- Canada's oil and gas industry is faced with challenges of low commodity prices and escalating costs associated with numerous policy and regulatory initiatives, both federally and provincially, which impact the competitiveness of Canadian jurisdictions, including Saskatchewan, in attracting investment.
- Husky Energy has significantly transformed over the past 10 years, with much greater weight to thermal production (due to "lower-for-longer" price environment). Husky Energy has plants to grow this thermal production and a five year plan would see an additional \$5 billion in capital investment in Saskatchewan.
- The proposed 5% rate increase along with other costs associated with methane reduction requirements, carbon plans (federal and provincial), and taxation changes are risks to Saskatchewan's competitive position. Husky Energy states the cumulative incremental cost over a five year period could be as high as \$300 million.
 - SaskPower states that methane reduction requirements, carbon plans, and taxation changes are largely outside the scope of the Application.
- Husky Energy requests to the Panel to consider any power rate increase against the backdrop of escalating costs.

15.2.3 Crescent Point

As Saskatchewan's largest oil and gas producer, and SaskPower's second largest customer, Crescent Point shared the following concerns and recommendations:

- Power is Crescent Points' single largest costs at \$130 million per year, or 19% of their annual operations budget. A rate increase of 5% will cumulatively costs \$220 million over the next six years, notwithstanding potential future rate increases.
- Federal carbon pricing backstops have not been incorporated into SaskPower's rate base, meaning an additional \$190 million has not been considered.
- SaskPower's monopoly over power generation and transmission is problematic, and the renewable generation target of 50% should be met by encouraging suppliers to achieve that target, as opposed to narrowly generating RFPs for wind and solar.

15.2.4 Saskatchewan Industrial Energy Consumers Association (SIECA)

SIECA, who collectively represents in excess of 21% of SaskPower's energy sales, and 25% of SaskPower's peak demand levels, retained the expertise of Kinect Energy to review the proposed rate increase. The report shared the following concerns:

- SaskPower is unduly allocation costs to the high load customers in the Power Class, while subsidizing lower load factors consumers, by failing to offer rate rebalancing.
- SaskPower's proposed rate increase is primarily driven by the desire to achieve a corporate ROE of 8.5%. This calculation is inconsistent with rate making methodology, and significantly understates the ROE SaskPower is earning on its equity invested in regulated assets.
- An appropriate calculation on the rate of return would eliminate the need for a 5.1% rate increase.

SEICA therefore makes the following recommendations:

- Deny SaskPower's request for a rate increase.
- Require SaskPower to provide evidence of its true weighted average costs of capital in all future rate applications.
- Require SaskPower to calculate any proposed rate of return in the commonly accepted format supported by sufficient evidence in all future rate applications.
- Require SaskPower to provide an account level comparison of its latest actual 12 month operations, maintenance and administrative expenses with those in its proposed cost of services and provide evidence supporting any difference between the two in all future rate applications.
- Require SaskPower to provide a third party depreciation study with its next rate review application.
- Require SaskPower to develop a confidentiality agreement to facilitate its ability to provide confidential data in response to interrogatories.

15.2.5 ERCO

ERCO Worldwide is an electro-chemical company with operations based in Saskatoon. Consuming over 350 GWh of power each year, ERCO raised concerns regarding their ability to remain competitive with other jurisdictions across North America with lower electricity rates. ERCO recommended that SaskPower adjust its rate increase commensurate with inflation, as opposed to the proposed 5% increase. Without an ability to stabilize its electrical costs, EROC noted the following concerns for its operation and future growth:

- ERCO will not invest in new capital to its plant in Saskatoon.
- ERCO will consider closing the facility and moving its production elsewhere.

15.2.6 Meadow Lake Mechanical Pulp

Meadow Lake Mechanical Pulp presented during the October 16, 2017 public meeting. The following provides a summary of their concerns and recommendations to the Panel.

- Feel that the rate increases should only be implemented incrementally:
 - Not sure that SaskPower needs the full rate to achieve its ROE target.

- SaskPower should not get the full 5% increase at once because they are supposed to be working on a long-term target.
- Meadow Lake Mechanical Pulp recommendations to the Panel:
 - Reduce rate increase by 50% for March 1, 2018.
 - Review capital expenditures (deferral or decrease of next two years).
 - Only allow another rate increase application if SaskPower is not achieving balanced financial metrics (review to include cost-of-service study).

15.2.7 Saskatchewan Mining Association

The Saskatchewan Mining Association, as representative of the collective interests of its members in the Saskatchewan mining industry, presented the following concerns and recommendations:

- The rate impacts for “power class” customers, as energy intensive trade exposed sectors, negatively affect the viability of mine operations who are currently going through a prolonged period of low commodity prices. SaskPower should similarly look to reduce its operation, maintenance and administrative costs, similar to how the potash and uranium sector have responded to current market conditions with reduced operation costs and increased efficiencies.
- SaskPower should re-examine the weighting of “firm loads” vs. “probably loads” in its forecast, as the predicted increase appears highly optimistic rather than anticipated conditions in the northern mining and potash sectors.
- SaskPower’s ROE of 8.5% is not supported, and should be reduced.
- That SaskPower retain any surplus revenues to reinvest in the corporation, as opposed to paying dividends into the General Revenue Fund.
- Concerns regarding the potential impacts of federal climate change policies and carbon pricing on SaskPower’s rates. Energy intensive trade exposed industries should not have to bear a disproportionate share of the costs of clean generation costs.
 - SaskPower’s rate application does not reference any costs increases related to the federal government’s carbon pricing requirements.

15.3 SASKPOWER RESPONSES TO STAKEHOLDERS

SaskPower provided written responses to the stakeholder submissions, which are included in Appendix B. Thematic responses that appeared in letters to several stakeholders from SaskPower are summarized, where stakeholder-specific responses are provided below. Some of the key themes addressed by SaskPower include:

- **Return on equity (ROE):** SaskPower has not achieved its long-term RO target of 8.5% since 2011, which is the only year in which a dividend has been achieved since 2008. “As a result, since that time SaskPower’s debt ratio has climbed to 75.7%, which is outside our shareholder-

approved target range of 60 to 75%.⁴⁵⁵ SaskPower further states "it is important to note that SaskPower's ROE is not returned to the shareholder. [...] Instead, SaskPower's ROE has been reinvested in the company and has helped to offset debt that would otherwise be required to maintain and grow SaskPower's electricity system."⁴⁵⁶

- **Increasing energy demand exceeds the rate of inflation, and necessitates the rate increase:** "Demand for electricity in Saskatchewan continues to grow, with SaskPower's record peak demand being broken annually. The costs to serve new load and to replace or refurbish major sections of existing aging infrastructure in order to maintain a reasonable level of reliability far exceed the cost of inflation."⁴⁵⁷
- **Efficiency and optimization:** As a Crown Corporation, SaskPower noted the duty to serve the entire province. In doing so, SaskPower continues to look for savings and reduce its budgets, including its overall operations, maintenance and administrative expenses. SaskPower cites several examples related to this include:
 - "SaskPower has cut its OM&A and capital budgets significantly from previous business plans. Over a five-year period from 2015 – 2019/202, SaskPower cut \$215 million from its OM&A budget and \$2.4 billion from its capital budget."⁴⁵⁸
 - In addition to deferring over \$2.4 billion from its capital budget, SaskPower also deferred the construction of the Tazi Twé Hydroelectric Station, as a result of changing load forecasts.
 - "SaskPower's new Business Optimization Initiative is reviewing the company from top to bottom... The Business Optimization Initiative has a short-term goal to find a further \$35 million in savings in 2019-2020."⁴⁵⁹

SaskPower responses that were specific to stakeholder recommendations include the following:

- CAPP/EPAC recommendation that SaskPower thoroughly examine the cost of each component of the preferred supply plan in terms of the incremental cost of GHG reductions: SaskPower noted the analysis provided by CAPP/EPAC was incomplete and the \$78/tonne an inaccurate representation of the costs.
- CAPP/EPAC recommendations that SaskPower a) thoroughly examine the cost of wind versus natural gas generation by fully recognizing the differences in financing costs; b) review its preferred supply program with the view of minimizing the cost of meeting stated GHG reduction goals by maximizing the use of natural gas-fired generation in the supply plan, subject to meeting its stated GHG reduction goals; and c) in developing its preferred supply plan include only investments to meet its GHG reduction commitment and avoid additional expenditures required solely to meet the capacity goals: SaskPower noted commitment to meeting its emissions reduction goals in a cost-effective manner, including working with the Saskatchewan

⁴⁵⁵ SaskPower letter to the Saskatchewan Industrial Energy Consumers Association (SIECA), November 2017.

⁴⁵⁶ SaskPower letter to CAPP/EPAC, November 2017.

⁴⁵⁷ SaskPower letter to ERCO Worldwide, November 2017.

⁴⁵⁸ SaskPower letter to ERCO Worldwide, November 2017.

⁴⁵⁹ SaskPower letter to Crescent Point Energy, November 2017.

Ministry of the Environment and Environment and Climate Change Canada to set CO₂ emission levels to form the basis of a CO₂ reductions Equivalency Agreement between the Province of Saskatchewan and Government of Canada. The Equivalency Agreement "would allow Saskatchewan to achieve or surpass emissions targets as set by the federal government in a more cost-effective way than would have been strictly prescribed under federal regulations"⁴⁶⁰ and is intended to be flexible and subject to regular evaluation.

- SMA recommendation for SaskPower to review its load forecasting methodology for the Power Class. SaskPower noted the following: SaskPower's primary source for its Power class load forecast is through each customer's projection of its load requirements. SaskPower meets with each of its key accounts to record the future expected demand to assist in developing the load forecasts. To ensure the forecasts are reasonable, SaskPower also consults with the Saskatchewan Ministry of the Economy to review mine expansion plans and develops a potash sector energy forecast based on the Ministry of the Economy's potash production forecast. This forecast is used to compare to the individual customer forecasts. Please see SaskPower's response to interrogatory SRRP 105a (round 1) for a summary of SaskPower's forecasting accuracy. Over the past three years, the forecast accuracy of the Power class and total Saskatchewan sales have been within SaskPower's benchmark of 3% each year. SMA recommendation that funding for high-cost "clean" power generation as a result of Federal Government regulations related to climate change be funded outside of the SaskPower Rate Application Process. SaskPower noted the following: The SMA notes that Power class customers should not bear a disproportionate share of "clean" power generation costs. They do not. The costs related to low-emission generation additions are allocated through cost of service methodology in the same way any other cost would be allocated. After our most recent cost of service methodology review that concluded in July 2017, the independent consultant concluded that our company's allocation methodology is fair and representative of the cost to serve each customer. The consultant also specifically commented on our company's treatment of generation costs related to emissions reductions and agreed with SaskPower's treatment of those costs.
- SEICA recommendations that SaskPower provide additional evidence to support their analysis: SaskPower noted the following:
 - If directed by the SRRP, SaskPower will provide the weighted average cost of capital;
 - In future applications SaskPower will provide OM&A expense information as directed by SRRP;
 - Confidential information containing sensitive information concerning customers or third-parties will remain confidential, however are submitted to the SRRP for its review;
 - SaskPower agrees with SEICA's revised position on the use of the Equivalent Peaker Method, and will replace it with the Average and Excess (AED) method in its next scheduled rate application.

⁴⁶⁰ SaskPower letter to CAPP/EPAC, November 2017.

- SaskPower provided clarification of material contained in the SEICA submission regarding its return on rate base percentage. The Consultant reviewed this issue in section 7.7.3 (Consultant Observations for Return on Equity and Percent Debt Ratio) of this report.

15.4 CONSULTANT OBSERVATIONS

The Consultant notes that the majority of public comments are not in favour of the proposed SaskPower rate increases. Submissions were received during public meetings, through online submissions, and formal stakeholder submissions. Common themes raised in the public and stakeholder submissions included:

- Concern the frequency of recent rate increases including the large cumulative rate increases.
- Concern over rate increases compared to inflation and how this will affect low income households and businesses.
- Concern over the magnitude and justification for SaskPower's planned capital program, including renewable energy targets.

15.5 CONSULTANT RECOMMENDATIONS

The Consultant recommends that the Panel consider the perspectives of the public and stakeholders in its final recommendation on rates.

16.0 PAST PANEL RECOMMENDATIONS

The Panel provided the following recommendations in its report to the Minister regarding SaskPower's 2016 and 2017 Rate Application (submitted November 7, 2016).⁴⁶¹

- **Recommendation #1:** That the 5% interim rate increase that took effect July 1, 2016 be confirmed and finalized.
- **Recommendation #2:** That the proposed second rate increase be decreased from the proposed 5% to 3.5% effective January 1, 2017.
- **Recommendation #3:** That the Minister encourage SaskPower to undertake a comprehensive public and stakeholder engagement process for its proposed integrated resource supply plan. This review process should include a discussion on the resource plan's implications for future rate increases as well as an evaluation of the costs of intermittent renewable generation.

The Consultant also suggested the Panel provide recommendations to SaskPower based on the 2016 and 2017 Rate Application. In response, the Panel made the following four recommendations:

- **Recommendation #1:** That SaskPower limit the increase in its Operating, Maintenance and Administration (OM&A) spending, on a per customer basis, to one-half of the increase in Saskatchewan's consumer price index (inflation).
- **Recommendation #2:** That SaskPower prepare public versions of its load forecast, cost of service study, and resource plan as part of future rate applications.
- **Recommendation #3:** That SaskPower include increased stakeholder participation in the next cost of service study review. The scope of this review should include all aspects of a cost of service study methodology in a transparent and inclusive process.
- **Recommendation #4:** That SaskPower, in its next rate application, rebalance rates between customer classes and between demand charges and energy charges based on the average unit costs calculated in SaskPower's cost of service study.

SaskPower provided updates on these recommendations as part of its 2018 Rate Application. The Consultant notes that SaskPower provided additional public information on its load forecast and cost of service study and completed the public review of the cost of service methodology. SaskPower stated that it is working on developing a public version of its resource plan.

The Consultant has recommended that the Panel continue to encourage SaskPower to provide public information on its resource plan and to implement rate rebalancing in future rate applications.

⁴⁶¹ SRRP Report to the Minister Responsible for Crown Investments Corporation of Saskatchewan Regarding the SaskPower 2016 and 2017 Rate Application Effective dates July 1, 2016 and January 1, 2017. Submitted November 7, 2016.

17.0 SUMMARY OF CONSULTANT'S RECOMMENDATIONS

Requested Rate Increase and Competitiveness:

With respect to the 5% rate increase requested for March 1, 2018, the Consultant recommends that the Panel consider the effects of reducing the requested rate increases on SaskPower's ability to achieve the long-term target ROE in 2018/19 and balance that considerations with the bill impacts on customers and the effects on competitiveness.

The Consultant recommends the Panel carefully consider how the proposed rate increases will affect the competitiveness of SaskPower's rates compared to its peer utilities, balanced with the understanding that SaskPower's targets for debt ratio and ROE are within the range observed for other electric utilities in Canada.

Future Rate Application:

The Consultant recommends that the Panel encourage SaskPower to prepare public versions of the business plan and integrated resource plan as part of future rate applications.

Resource Plan:

The Consultant recommends that the Panel request that SaskPower file a copy of the renewables integration study with the Panel when completed.

The Consultant recommends that the Panel support a public engagement process for SaskPower's resource plan, including implications for future rate increases, before December 31, 2019. The Consultant recommends that the resource plan include information on the following:

- SaskPower's long-term load forecast, including different load scenarios as appropriate;
- Capacity and energy gaps between existing generation resources (including planned retirements) and SaskPower's long-term load forecast;
- Options to address the future capacity and energy gaps (including DSM programs), including the costs of each option or portfolio of options and the appropriate timing and optimization of options;
- The cost to achieve SaskPower's greenhouse gas emissions targets associated with each option or portfolio of options;
- Opportunities for customers to implement DER or other emissions reduction projects in coordination with SaskPower; and
- Forecast rate increases over the planning horizon associated with each option or portfolio of options.

The Consultant understands that the information and forecasts for a 20-year resource planning period will be at a higher level than that provided for a rate application, however the Consultant believes this

information is vital for customers and stakeholders to understand the future rate and other implications of SaskPower's resource plan.

Revenue Requirement:

The Consultant recommends that the Panel encourage SaskPower to continue to focus on limiting growth in OM&A per customer account to less than inflation and to continue to track and provide OM&A per residential customer for future rate applications.

The Consultant recommends that the Panel request SaskPower continue to focus on appropriate methods and strategies for minimizing its exposure to variations in natural gas prices.

The Consultant recommends that the Panel request SaskPower complete an external review of its depreciation rates, including average service life estimates, before the end of 2018.

The Consultant recommends that the Panel request SaskPower consider whether there are other potential options to address the impact of the retirement of coal assets on ratepayers and report back to the Panel at the time of the next rate application.

Capital Structure, Rate Base and Return on Equity:

The Consultant recommends the Panel request SaskPower provide information in future rate applications on other financial metrics including the EBITDA interest coverage ratio and consider such metrics in developing its overall rate proposals.

The Consultant recommends the Panel request SaskPower include a schedule in future rate applications that reconciles cost and revenue information included in the business plan and the rate application, with costs and revenues modelled in the cost of service study.

Cost of Service Study:

The Consultant recommends the Panel accept SaskPower's cost of service study with the revisions recommended by SaskPower as reasonable for rate-making purposes.

Rate Design:

The Consultant recommends that the Panel encourage SaskPower to address rate rebalancing between customer classes. In the Consultant's view there may be merit in undertaking some degree of rate rebalancing as part of the March 2018 rate adjustment. At a minimum, the Consultant recommends that the Panel encourage SaskPower in its next rate application to address differences in class revenue to revenue requirement ratios, particularly where a class is outside of the revenue to revenue requirement target range of 0.95 to 1.05.

The Consultant recommends that the Panel encourage SaskPower in its next rate application to consider rebalancing rates between demand charges, energy and customer charges based on the average unit costs calculated in SaskPower's cost of service study, particularly where rates vary from unit costs by more than 15%.

The Consultant recommends that the Panel encourage SaskPower to consider adjustments to future power class customer contracts to address the current issue of lower than average rate increases for these customers when their revenue to revenue requirement ratios are less than 1.0.

The Consultant recommends that the Panel request SaskPower provide a copy of the review of self-generation options to the Panel as part of the next rate application, including identifying any next steps SaskPower believes are appropriate following the review.

Public Comments:

The Consultant recommends that the Panel consider the perspectives of the public and stakeholders in its final recommendation on rates.

18.0 ACKNOWLEDGEMENTS

Throughout this review the Consultant was assisted by representatives from SaskPower including Mr. Darren Foster, Mr. Tim Coucill, and Mr. Troy King. We wish to thank them for their timely and thorough responses to information requests of the Panel and stakeholders throughout the process.

We would also like to acknowledge the public and stakeholders for their participation in the process. We recognize the effort required to review the proceeding materials and thank them for their thoughtful submissions. The review process was greatly enhanced by their participation.

The Consultant also acknowledges and appreciates the advice and support of Mr. Gerry Forrest during this review.

Finally we wish to thank the Chair and the Panel for their insight and perspectives. We recognize the challenge the Panel members accept in balancing the financial needs of the utility with the effects of rate increases on customers and competitiveness with other jurisdictions.

APPENDIX A
TERMS OF REFERENCE



Minister's Order

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 SaskPower electricity 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 D: 2017 - SaskPower Rate Change Proposal Terms of Reference" to the said Minister's Order.

Dated at Regina, Saskatchewan this 15th day of August 2017



Minister of Crown Investments

Schedule D

Schedule D: 2017 - SaskPower Rate Change Proposal Terms of Reference

The Saskatchewan Rate Review Panel is requested to conduct a review of SaskPower's request for increases in its electricity rates targeted for implementation on March 1, 2018

The Panel shall function within its mandate and operational terms of reference as specified in the Minister's Order dated December 16, 2015. The Panel shall provide an opinion of the fairness and reasonableness of SaskPower's proposed 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 rate change on the competitiveness of the Crown Corporation related to other jurisdictions.

In conducting the electricity rate change review, the Panel will consider the following factors:

- A) The reasonableness of the proposed changes to the rates in the context of SaskPower's forecasted cost of service over the period 2017-18 and 2018-19 inclusive comprised of:
 - (i) anticipated costs for fuel;
 - (ii) anticipated hydro facilities availability;
 - (iii) load forecast;
 - (iv) planned maintenance programs;
 - (v) operating, administrative and maintenance expenses;
 - (vi) depreciation and finance expenses; and,
 - (vii) Corporate Capital Tax.
- B) The revenue requirement resulting from the cost of service.
- C) The reasonableness of the current rate structure and all components (basic charge, energy charge and demand charge) comprising the rate.
- D) The future impact of the proposed rate change on different customer groups.
- E) The Panel shall consider the following parameters as given:
 - i. the budgeted capital allocation, the rate base, and established corporate policies over the period 2017-18 and 2018-19 inclusive;
 - ii. the targeted long term Return on Equity target of 8.5%;
 - iii. the existing service levels;
 - iv. any existing supply contract; and
 - v. the revenue to revenue requirement ratio target range of 0.95 to 1.05.

SaskPower will provide the Panel with its application package immediately. SaskPower will also provide the Panel with any supplementary information as the Panel may require in fulfilling its mandate and these terms of reference.

SaskPower will provide the Panel with a mid-application update, including any material updates to this application, by no later than October 27, 2017 if a business factor (or factors) vital to formulating this rate application has changed significantly from the original business factor (or factors) used in the application.

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 SaskPower's rate change submission outside any public meeting, to the extent reasonable and within the timeline for the review as established by the Minister of Crown Investments.

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

The Panel shall, in a timely and efficient manner, forward to SaskPower for response questions that the Panel receives from the public, individual Panel members and its technical consultant.

The Panel shall provide SaskPower 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 final report an explanation of how, in its opinion, implementation of the Panel's rate recommendations will allow SaskPower to achieve the performance inherent in the parameters outlined in section (E), where the Panel's recommendations are different from SaskPower's proposed rate changes.

Consistent with the "Confidentiality Guidelines" for the Panel (March 11, 2010), the Panel will not publicly release or require SaskPower to publicly release Confidential Information supplied by the Crown Corporation to the Panel during the course of the rate change application review.

The Panel will release, as part of its report, the results of the review of SaskPower's rate request as conducted by an independent third party. By doing so the Panel shall ensure there has been no indirect release of any of SaskPower's Confidential Information.

Conduct of the Review

The Panel will present its primary report detailing its analysis and recommendations on SaskPower's proposed electricity rate change request to the Minister of Crown Investments no later than January 11, 2018. The reporting date may be modified by the Minister of Crown Investments in consultation with the Panel Chair.

Appendix B

Public Engagement Materials

Please note that these materials can be viewed through the Panel's website, www.saskratereview.ca.

