



ALBERTA GRID RISK SHARING POOL

DECEMBER 2017 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

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ACTUARIAL HIGHLIGHTS

RSP ALBERTA GRID

OPERATIONAL REPORT

DECEMBER 2017

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1 Summary

1.1 Valuation Schedule (Fiscal Year 2018)

The December 2017 Operational Report leverages actuarial assumptions consistent with last month (that is, it does not reflect the results of an updated valuation). The table immediately below summarizes the implemented valuations and future scheduled valuations for fiscal year 2018.

ALBERTA GRID RISK SHARING POOL FISCAL YEAR 2018 – SCHEDULE OF VALUATIONS			
Valuation Date	Discount Rate (per annum)	Operational Report	Description of Changes
Sep. 30, 2017 (completed)	1.76% mfad: 25 bp	Oct. 2017	updated valuation (roll forward): accident year 2017 loss ratio decreased 0.3 points to 89.9%; discount rate increased by 57 basis points; no change to selected margins for adverse deviations
Dec. 31, 2017		Mar. 2018	update valuation:
Mar. 31, 2018		May 2018	update valuation (roll forward):
Jun. 30, 2018		Aug. 2018	update valuation:
Sep. 30, 2018		Oct. 2018	update valuation (roll forward):

Under the proposed schedule for fiscal year 2018, the “off-half” valuation quarters ending March 31, 2018 and September 30, 2018 would not reflect a full valuation update of assumptions, but would rather “roll-forward” key assumptions from the previous valuation.

1.2 Appointed Actuary and Hybrid Actuarial Services Model

Liam McFarlane of Ernst & Young LLP is Facility Association’s Appointed Actuary (effective as of June 1, 2013).

Facility Association operates under a “hybrid” model in relation to the management and provision of actuarial services. Under this model, actuarial services are performed by both Facility Association’s internal staff and its external actuarial consulting firm. The hybrid model approach maximizes the efficiency of resource allocation while providing access to additional expertise and capacity as needed.

1.3 Consideration of Recent Legal Decisions and Changes in Legislation / Regulation

Consideration and assessment of potential impacts of legal decisions and changes in legislation / regulation constitutes a regular part of the valuation process. Descriptions of some of the more recent changes are provided below. There have been no significant changes in these descriptions since last month’s Highlights.

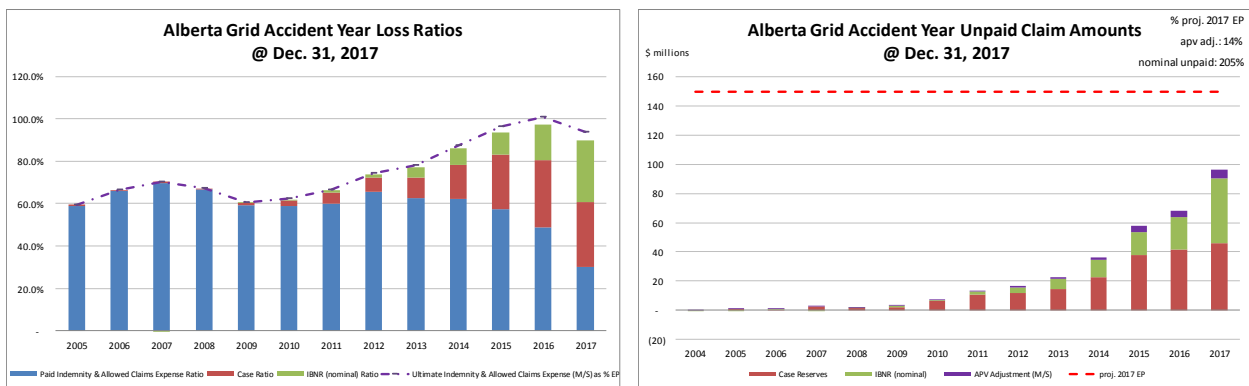
The **Supreme Court of Canada** rendered its judgment on **Saadati v Moorhead (2017 SCC 28, rendered on Jun 2, 2017)**. Saadati was involved in a collision in July of 2005 in British Columbia and sued the at-fault driver for damages. According to the Supreme Court decision, “*The trial judge found that the ... accident caused S[aadati] psychological injuries, including personality change and cognitive difficulties. ...and awarded S[aadati] \$100,000 for non-pecuniary damages.*” The trial decision was appealed to the BC Court of Appeal where the trial’s \$100,000 non-pecuniary award was dismissed. The Supreme Court upheld the \$100,000 non-pecuniary award, determining:

- “*A finding of legally compensable mental injury need not rest, in whole or in part, on the claimant proving a recognized psychiatric injury.*”
- “*...a trier of fact adjudicating a claim of mental injury is not concerned with diagnosis, but with symptoms and their effects.*”
- “*Expert evidence can assist in determining whether or not a mental injury has been shown, but where psychiatric diagnosis is unavailable, it remains open to a trier of fact to find on other evidence adduced by the claimant that he or she has proven on a balance of probabilities the occurrence of mental injury.*”

At the current time, no adjustments have been made to our valuation estimates or views based on the judgment as rendered, but we continue to review and consider the implications of the judgment.

1.4 Current Provision Summary

The charts immediately below show the current levels of claim liabilities¹ booked by accident year². The left chart displays life-to-date payments, case reserves, IBNR, and the total including actuarial present value adjustments against accident year earned premium. The right chart shows the associated dollar amounts for the components of the claim liabilities and the current projected amount of 2017 full year earned premium (the red hash-mark line) to provide some perspective.



“M/S” refers to “Member Statement” values – that is, actuarial present value adjustments at the selected discount rate.

The current actuarial present value adjustments balance (\$20.5 million – see table at the top of the next page) represents 14% of the earned premium projected for the full year 2017 (see the upper right corner of the right chart above). If our current estimates of the nominal unpaid amounts prove

¹Claim liabilities refer to provision for unpaid indemnity and allowed claims expenses. Allowed claims expenses are first party legal and other expenses as listed in the RSP Claims Guide. Claims expenses paid through the member company expense allowance are NOT included in this discussion.

²Accident year 2004 was an incomplete year and therefore has been excluded from the loss ratio chart.

to match actual claims payments, the actuarial present value adjustments will be released into the net operating result over future periods.

claim liabilities (\$000s)		
	amt	%
case	199,541	60.9%
ibnr	107,492	32.8%
M/S apv adjust.	20,530	6.3%
M/S total	327,563	100.0%

The table to the left breaks down the Member Statement (M/S) claim liabilities total into component parts, showing that the majority of the claim liabilities for this pool is in case reserves. Approximately 62% of the IBNR balance relates to accident years 2016 and 2017 (see Exhibit B). Approximately 86% of the M/S

total claim liabilities are related to accident years 2013-2017 inclusive (i.e. the most recent 5 accident years), and approximately 1% is related to accident years 2007 and prior (i.e. prior to the most recent 10 accident years).

The tables immediately below summarize the premium liabilities and the total policy liabilities.

premium liabilities (\$000s)			policy liabilities (\$000s)		
	amt	%		amt	%
unearned prem	91,475	109.6%	claim	307,033	74.7%
prem def/(dpac)	(12,697)	(15.2%)	premium	78,778	19.2%
M/S apv adjust.	4,671	5.6%	M/S apv adjust.	25,201	6.1%
M/S total	83,449	100.0%	M/S total	411,012	100.0%

2 Activity During the Month of December 2017

2.1 Recorded Premium and Claims Activity

The table immediately below summarizes the extent to which premiums and claims amounts recorded during the month differ from projections reflected in the prior month's Operational Report³.

Alberta Grid RSP Actual vs Projected Summary: Recorded Transaction Amounts (\$ thousands)

Accident Year	Earned Premium		Paid Indemnity & Allowed Claims Expense		Case increase / (decrease)		Recorded increase / (decrease)	
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	1	1	4,364	(367)	(4,354)	(376)	10	(743)
2015	2	2	1,017	(76)	(369)	393	648	317
2016	(6)	(6)	1,083	(209)	506	1,086	1,589	877
2017	13,450	(290)	5,155	(659)	3,829	(242)	8,984	(901)
TOTAL	13,447	(293)	11,619	(1,311)	(389)	861	11,231	(451)

(Recorded transaction amounts exclude IBNR & other actuarial provisions)

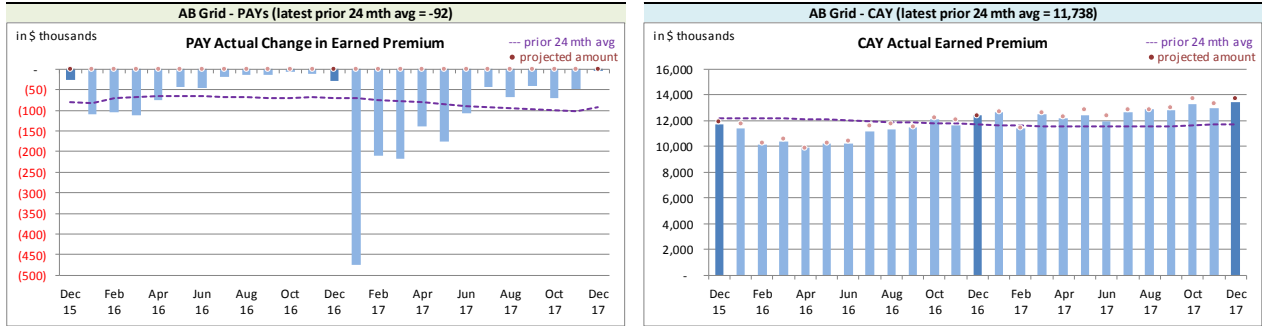
Claims transaction activity is generally volatile and changes from one month to the next are anticipated due to this natural “process variance” (i.e. random variation). Each month, the projection variances are reviewed for signs of projection bias and to identify potential ways to reduce the level of the variance. Commentary from our review is provided in the sub-sections that follow.

³There may be rounding differences in values in this document compared with the associated Bulletin and/or Operational Report.

2.1.a Actual vs. Projected (AvsP): Earned Premium

The charts immediately below show actual **earned premium**⁴ activity in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

Alberta Grid RSP Actual Earned Premium by Calendar Month

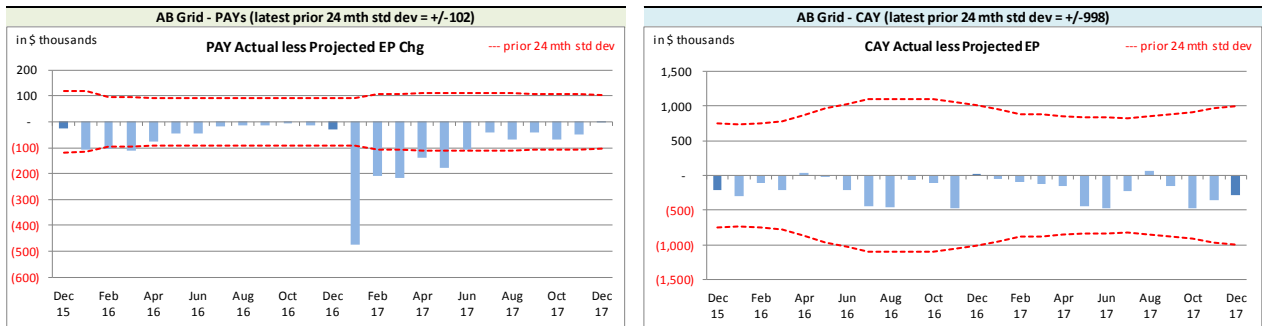


Earned premium changes during a given calendar month in relation to prior accident years tend to be at modest levels, although relatively high levels seem to occur at the beginning of each year.

We have noted and have investigated the unusually high level of PAYs earned premium activity earlier in 2017, particularly with respect to one member and management is satisfied the transactions were appropriate.

The associated variance between the actual changes and the projections from the previous month are shown in the charts immediately below. **Earned premium** change projections are all attributed to the current accident year as the projection upload does not accept earned premium changes for other accident years. We do not see this limitation as being significant for our purposes, but it does mean that the actual less projection variance will equal the actual **earned premium** change in relation to prior accident years.

Alberta Grid RSP Actual vs. Projected Summary: Earned Premium Variances by Calendar Month



⁴Premium is earned on a daily basis based on the transaction term measured in days. As a result, months with 31 days earned relatively more than those with 30 days, and February earns the least.

On Latest \$ thousands		
Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(92)	11,738
std dev	102	998
A-P <> std dev	7	-
% <> std dev	28.0%	0.0%
norm <> std dev	31.7%	31.7%

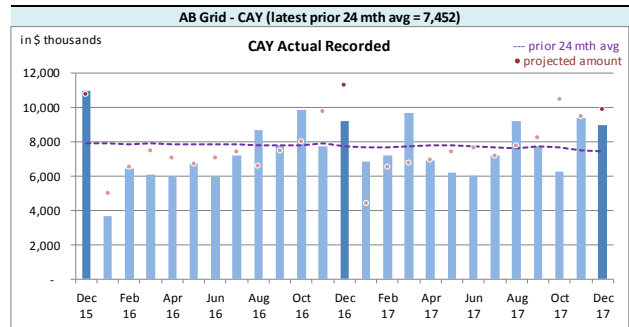
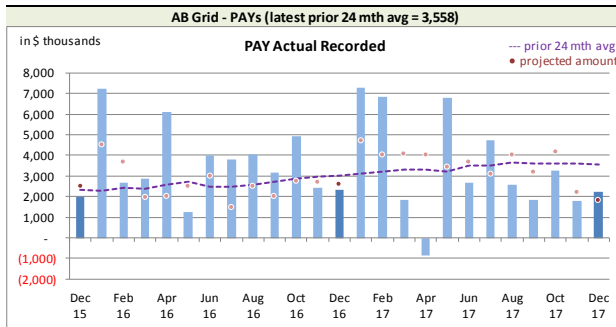
We project **earned premium** changes from known unearned premium and projected written premium levels, but upload the total projections as current accident year (CAY). This process has generated prior accident years’ (PAYs) bias⁵, with actuals generally lower than projected. However, the magnitude is not high relative to monthly

premium. In addition to the PAYs’ bias, the CAY has also shown bias, with actuals being generally lower than projected, and we modified our projections processes in response. Over time, we may consider other projection approaches to narrow monthly variance levels further, but it is not currently deemed a priority.

2.1.b AvsP: Recorded Indemnity & Allowed Claims Expense

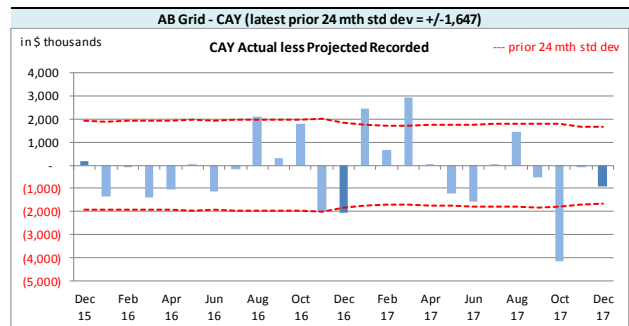
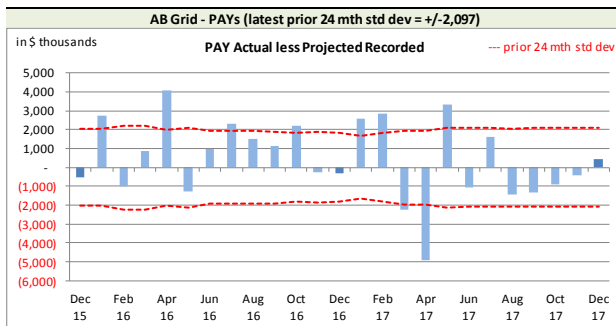
The charts immediately below show actual **recorded** activity (**paid** and case reserve changes), in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

Alberta Grid RSP Actual Recorded by Calendar Month



Recorded activity variances from the previous month’s projections are shown in the charts immediately below, including the “prior 24-month standard deviation” levels to show how the variances from projection compare with historical standard deviations.

Alberta Grid RSP Actual vs Projected Summary: Recorded Variances by Calendar Month



⁵The PAYs’ variances will show bias as the projection upload forces all earned premium projections to be attributed to the CAY.

On Latest \$ thousands		
Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	3,558	7,452
std dev	2,097	1,647
A-P <> std dev	9	6
% <> std dev	36.0%	24.0%
norm <> std dev	31.7%	31.7%

With respect to **recorded** indemnity & allowed claims expense activity, 36% of the prior accident years' (PAYs) variances (left chart at the bottom of the previous page) over the last 25 months have fallen outside of one standard deviation of the actual **recorded** amounts, suggesting the projection process has performed

no better than simply projecting from the prior 24-month average. From the end of 2015 until the end of 2016 there may have been evidence of bias in the projections with actuals being higher than projections. A similar pattern was not evident in the **paid** activity where actuals have generally been lower than projections over the same timeframe, suggesting there may be changes in case reserve activity. We have not identified the same potential “case reserve” effect for the Alberta non-Grid RSP (there, both **recorded** and **paid** activity appear to be moving in tandem). This has also been noted by the valuation team and investigation continues.

The current accident year (CAY) **recorded** variances (right chart at the bottom of the previous page), have been greater than one standard deviation 24% of the time, which suggests that the projection process has performed better than simply projecting the most recent prior 24-month average.

We note that there may be a change in the levels of CAY **recorded** and **paid** activity relative to year-to-date **earned premium**, as evidenced by the average of monthly ratios over the past several years shown in the table immediately below. The table shows, in each row, the average monthly ratio for each calendar year. That is, each row in the table (as at Dec) provides the average of the 12 monthly-ratios (i.e. Jan-Dec) for that row's calendar year.

CAY avg of mthly ratios for yr

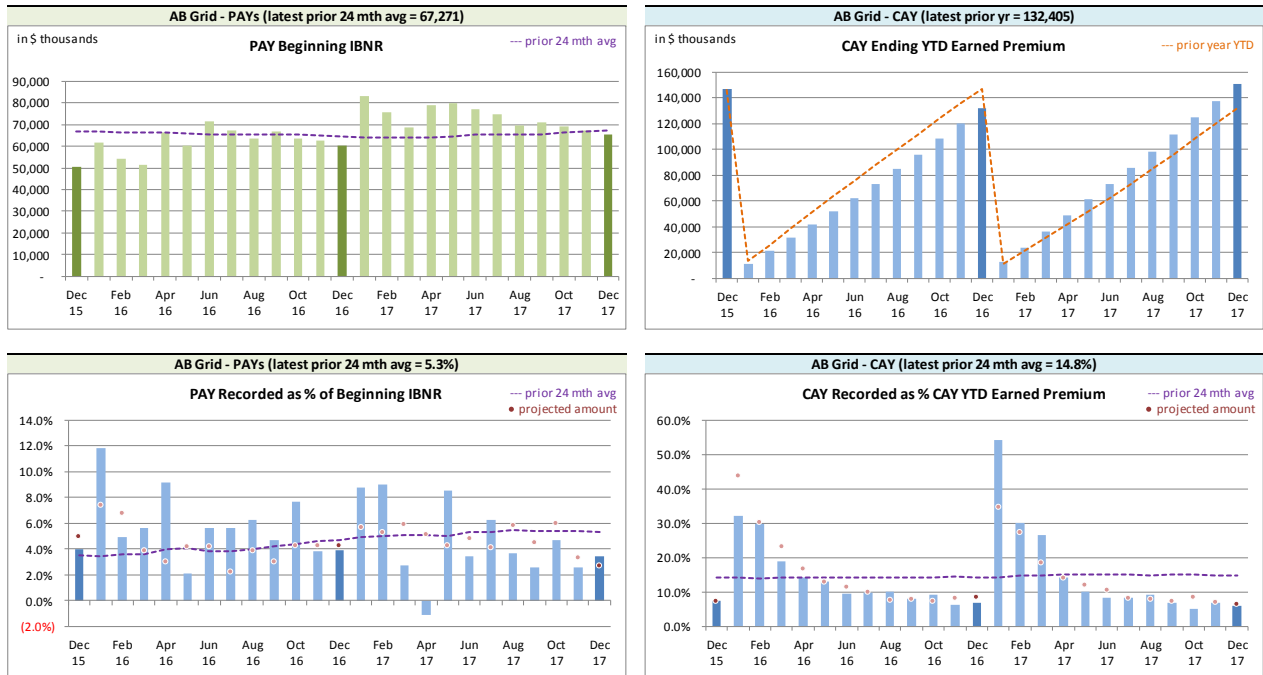
as at	Rec'd	yr-on-yr chg	Paid	yr-on-yr chg
Dec 2009	11.5%		4.4%	
Dec 2010	10.9%	(0.6%)	4.5%	0.1%
Dec 2011	12.8%	1.9%	4.8%	0.3%
Dec 2012	12.4%	(0.4%)	4.7%	(0.1%)
Dec 2013	12.6%	0.2%	4.8%	0.1%
Dec 2014	13.8%	1.2%	5.3%	0.5%
Dec 2015	14.4%	0.6%	5.5%	0.2%
Dec 2016	14.0%	(0.4%)	5.4%	(0.1%)
Dec 2017	15.5%	1.5%	5.6%	0.2%

Both **recorded** and **paid** ratios for Dec. 2017 relative to Dec. 2009 have increased at an annual rate of almost 4% over and above any premium rate level increases. At this point, we are only monitoring, but the valuation team has been advised and are taking this information into consideration. Further, while the average of the 12 monthly ratios at December for 2016 was down from 2015, the December 12-month average ratios for calendar year 2017 are at the highest level for both **recorded** and **paid**.

The method for establishing IBNR adjusts automatically for changes in **earned premium** and **recorded** claims activity level (see sections 2.2 and 3).

We have included, for reference, additional charts immediately below related to levels influencing **recorded** activity. Note in particular the changes in the level of PAY beginning IBNR over the months, as a response to valuations and showing up as a beginning IBNR change one month after the valuation is implemented (i.e. April, June, September, and November).

Alberta Grid RSP Levels that influence⁶ Recorded activity by Calendar Month



We track beginning prior accident years’ IBNR as **recorded** activity “comes out of” IBNR. Changes in the prior accident years’ beginning IBNR (see upper left chart above) occur for several possible reasons:

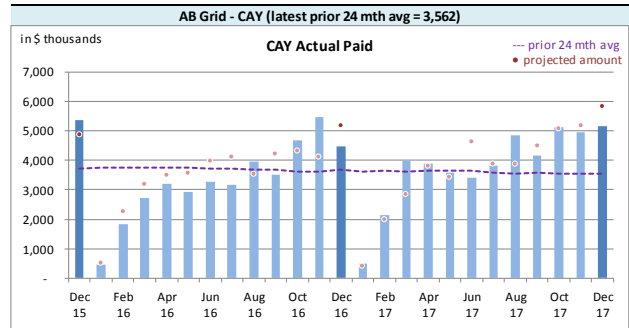
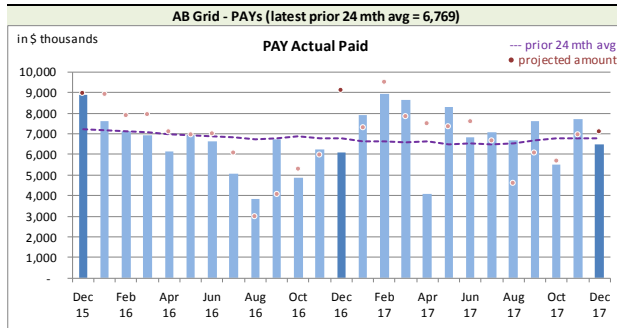
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a current accident year becomes a prior accident year (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of prior accident years’ ultimate (will show up as a beginning IBNR change one month after the valuation is implemented, i.e. the change will generally show in April, June, September, and November).

2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

The charts at the top of the next page show actual **paid** activity in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

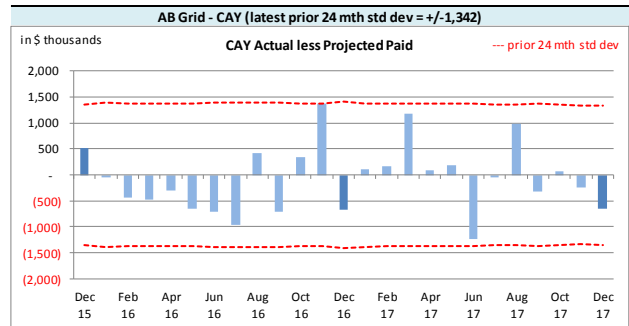
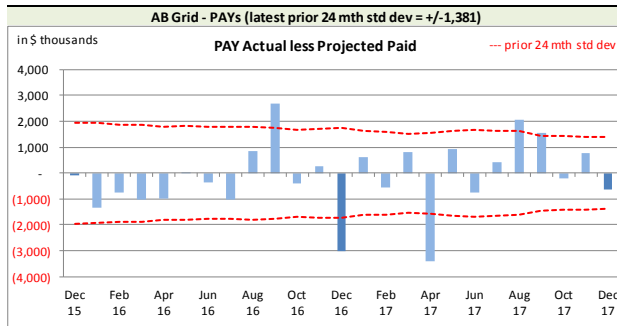
⁶Our recorded activity projections for the prior accident years are based on selected ratios of recorded activity to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date IBNR to year-to-date selected ultimate (i.e. selected LR x earned premium), deriving year-to-date recorded as selected ultimate less IBNR. In both cases, the ratio selection is based on our review of the more recent recorded activity and recent AvsP analyses.

Alberta Grid RSP Actual Paid activity by Calendar Month



Paid activity variances from the previous month’s projections are shown in the charts below, including the “prior 24-month standard deviation” levels to show how the variances from projection compare with historical standard deviations.

Alberta Grid RSP Actual vs Projected Summary: Paid Variances by Calendar Month



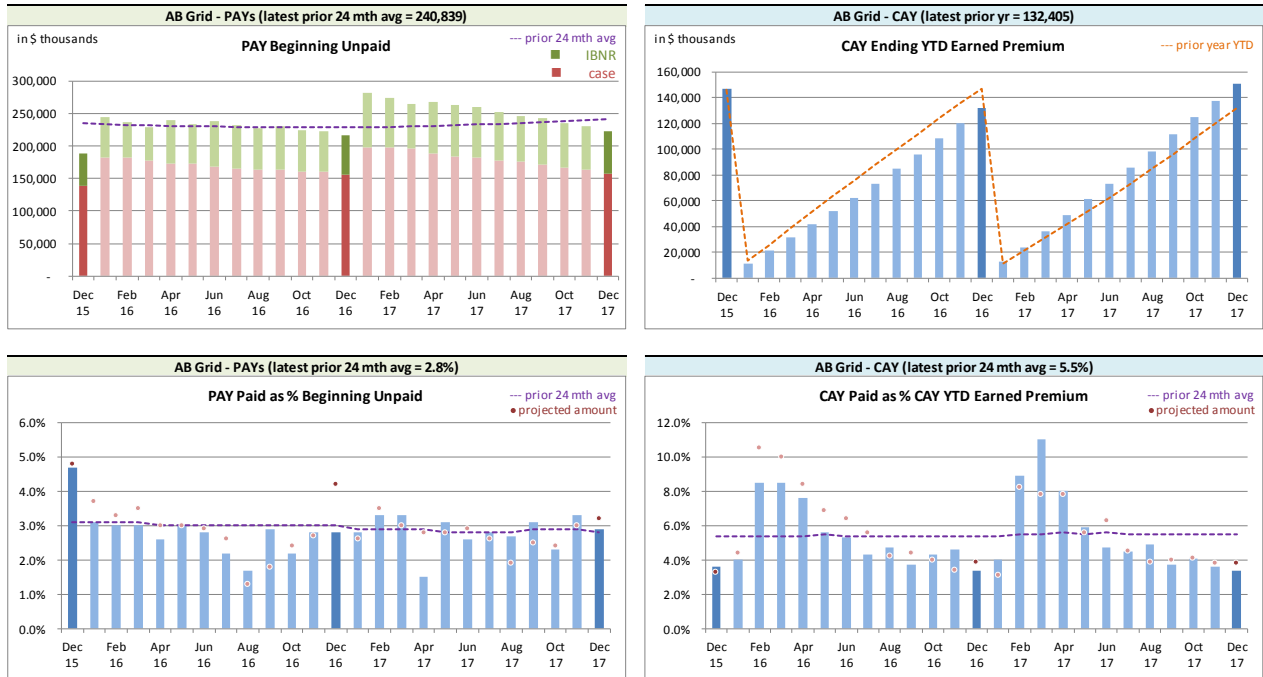
On Latest \$ thousands			
	Paid	PAYs	CAY
Mthly Avg Paid (prior 24 mths)		6,769	3,562
std dev		1,381	1,342
A-P <> std dev		5	-
% <> std dev		20.0%	0.0%
norm <> std dev		31.7%	31.7%

With respect to **paid** indemnity & allowed claims expense, the prior accident years’ (PAYs) variances (left chart above) have fallen outside one standard deviation of the overall period 20% of the time, suggesting the projection process has performed better than simply projecting from the preceding 24-month average.

The current accident year (CAY) **paid** variances (right chart above) have **not** fallen outside one standard deviation of the overall period, suggesting the projection process has performed better than simply projecting from the preceding 24-month average.

We have included, for reference, additional charts at the top of the next page related to levels influencing **paid** activity.

Alberta Grid RSP Levels that influence⁷ Paid activity by Calendar Month



We track beginning prior accident years’ unpaid balance (case and IBNR) as **paid** activity “comes out of” the unpaid balance. Changes in the prior accident years’ beginning unpaid balance (see upper left chart above) occur for several possible reasons:

- to offset actual **paid** activity (may reduce case or IBNR or both);
- the annual switchover as a current accident year becomes a prior accident year (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of prior accident years’ ultimate (will show up as a beginning unpaid balance change one month after the valuation is implemented, i.e. the change will generally show in April, June, September, and November).

2.2 Actuarial Provisions

An “ultimate loss ratio matching method” (described in section 3) is used to determine the month’s IBNR⁸, and factors are applied to the nominal unpaid claims liability (case plus IBNR) to determine the discount amount (shown as a negative value to indicate its impact of reducing the liability) and the Provisions for Adverse Deviations. The loss ratios and the factors used to determine the projections and actuals were based on the applicable valuation. The table at the top of the next page summarizes variances in provisions included in the December 2017 Operational Report and the

⁷Our paid projections for the prior accident years are based on selected ratios of paid to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date paid to year-to-date selected ultimate indemnity (i.e. selected LR x earned premium). In both cases, the ratio selection is based on our review of the more recent recorded activity and recent AvsP analyses.

⁸For ease of discussion, “IBNR” is used in place of “provisions for incurred but not recorded (IBNR) and development”.

associated one-month projections from last month’s Report.

Alberta Grid RSP Actual vs Projected Summary: IBNR and APV Amounts (\$ thousands)

Table 02

Accident Year	IBNR		actuarial present value adjustments				IBNR + actuarial present value adjustments	
	Actual	Actual less Projected	Discount Amount		Provisions for Adverse Deviations		Actual	Actual less Projected
			Actual	Actual less Projected	Actual	Actual less Projected		
Prior	25,301	744	(4,047)	(19)	10,127	33	31,381	758
2015	15,880	(316)	(2,681)	(4)	6,742	10	19,941	(310)
2016	22,135	(883)	(3,494)	(11)	7,953	25	26,594	(869)
2017	44,176	640	(4,780)	(21)	10,710	47	50,106	666
TOTAL	107,492	185	(15,002)	(55)	35,532	115	128,022	245

The IBNR provision is \$0.2 million higher than projected from last month, counterbalancing the recorded claims activity and adjusting for the earned premium variance impacts indicated in section 2.1.

Exhibit G shows the accident year IBNR amount change from last month to this month broken down into:

- (i) the change projected last month;
- (ii) the additional change due to variances in earned premium (because we apply a loss ratio to earned premium in determining ultimate level) and/or recorded claims (as IBNR is calculated as ultimate less recorded) differences; and
- (iii) the additional change due to valuation implementation impacts (as applicable)

The variances associated with (ii) above are discussed in sections 2.1.a and 2.1.b.

The table below summarizes the variances in the provisions for deferred policy acquisition cost asset included in the December 2017 Operational Report and the one-month projections from last month’s Report. This RSP is in a deferred policy acquisition cost asset position (shown as a negative amount) prior to and after actuarial present value adjustments. Actuarial present value adjustments decrease the asset value as the adjustments increase the expected future policy obligations (costs) associated with the unearned premium. The variances noted are mainly driven by the unearned premium variance.

Alberta Grid RSP Actual vs Projected Summary: Premium Deficiency / (DPAC) Amounts (\$ thousands)

Table 03

	Premium Deficiency / (Deferred Policy Acquisition Costs)		actuarial present value adjustments		Premium Deficiency / (DPAC) including actuarial present value adjustments	
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
balance:	(12,697)	67	4,671	(18)	(8,026)	49
balance as % unearned premium:	(13.9%)	-	5.1%	-	(8.8%)	-
actual unearned premium:	91,475					
less projected:	(357)					

3 Ultimate Loss Ratio Matching Method

An “ultimate loss ratio matching method” continues to be applied to the current month and two projected months shown in the Operational Reports, with IBNR determined by accident year as follows:

- (a) Earned premium to-date
- (b) Ultimate loss⁹ ratio per latest valuation
- (c) Estimated ultimate incurred = (a) x (b)
- (d) Recorded indemnity & allowed claims expense to-date
- (e) IBNR = (c) – (d)

4 Calendar Year-to-Date Results

The table below summarizes the calendar year-to-date results for indemnity & allowed claims expenses¹⁰, including IBNR.

In calculating the amounts as percentages of earned premium, the calendar year-to-date earned premium has been used, which includes earned premium associated with the current accident year but also earned premium adjustments related to prior accident years. Specifically, the current accident year (CAY) ratio in the table is 90.8% rather than 89.9% (the valuation ultimate ratio for accident year 2017), as the calendar year-to-date earned premium includes prior accident year earned premium adjustments. (Note that the ratios in this table may differ slightly from those shown in the Alberta Grid RSP Summary of Operations due to rounding.)

Alberta Grid RSP Calendar Year-to-Date Indemnity & Allowed Claims Expense Summary (\$ thousands)

Table 04	YTD Nominal Values		YTD actuarial present value adjustment		YTD Total		Change from Prior Month YTD	
	Amount	% EP	Amount	% EP	Amount	% EP	Amount	LR pts
PAYs	21,037	14.1%	(14,503)	(9.7%)	6,534	4.4%	(430)	(0.7%)
CAY	135,789	90.8%	5,930	4.0%	141,719	94.8%	12,548	(0.2%)
TOTAL	156,827	104.9%	(8,573)	(5.7%)	148,254	99.2%	12,119	(0.9%)

(“% EP” based on 2017 calendar year-to-date earned premium; ratios may not total due to rounding)

The prior accident years (PAYs) changes from last month are due to the release of the actuarial present value adjustments with claims payments. The loss ratio change year-to-date reflects not only changes in the prior accident year levels, but also the increase in the calendar year-to-date earned premium with an additional month’s earned premium.

For the current accident year (CAY), changes in the year-to-date total reflects the additional month’s exposure and regular changes to actuarial present value adjustments as the year ages.

5 Current Operational Report – Additional Exhibits

Section 6 provides exhibits pertaining to the actuarial provisions reflected in the current month’s Operational Report.

⁹“Loss” here refers to indemnity and allowed claims expenses, but does not include the claims expense allowance included in member company overall expense allowances (“Expense Allowance” in the Operational Report).

¹⁰Allowed claims expenses are first party legal and other expenses as listed in the RSP Claims Guide. Claims expenses paid through the member company expense allowance are NOT included in this analysis.

IBNR (including actuarial present value adjustments) presented in section 6, Exhibit A, were derived on a discounted basis, and therefore reflect the time value of money and include an explicit provision for adverse deviations in accordance with accepted actuarial practice in Canada.

IBNR presented in section 6, Exhibit B, does NOT include any actuarial present value adjustments. The “Total IBNR” from this exhibit is shown in the Operational Report as “Undiscounted IBNR”.

The ultimate loss ratios presented in section 6, Exhibit B, refer to the estimates derived on the basis of various actuarial methodologies applied to the experience of the Alberta Grid Risk Sharing Pool for the purposes of the most recent quarterly valuation. As discussed in section 3, IBNR reflected in the current month’s Operational Report was derived as the difference between the estimated ultimate for the claims amount (i.e. earned premium x ultimate loss ratio) and the associated current recorded amounts (life-to-date payments plus current case reserves).

6 EXHIBITS

The exhibits listed below are provided on the pages that follow:

- EXHIBIT A IBNR for Member Sharing – includes Actuarial Present Value Adjustments
- EXHIBIT B IBNR
- EXHIBIT C Premium Liabilities
- EXHIBIT D Projected Year-end Policy Liabilities
- EXHIBIT E Discount Rate & Margins for Adverse Deviations
- EXHIBIT F Interest Rate Sensitivity
- EXHIBIT G Components of IBNR Change During Month

EXHIBIT A

IBNR for Member Sharing – includes Actuarial Present Value Adjustments

TABLE EXHIBIT A

		Amounts in \$000s				
IBNR + M/S actuarial present value adjustments	Accident Year	Actual Nov. 2017	Actual Dec. 2017	Projected Jan. 2018	Projected Feb. 2018	Projected Dec. 2018
	2004	(72)	(72)	(70)	(65)	(42)
	2005	37	37	61	61	41
	2006	165	165	164	157	102
	2007	(59)	(57)	(61)	(51)	(26)
	2008	160	134	135	131	87
	2009	1,150	1,216	1,215	1,151	738
	2010	1,769	1,175	1,191	1,138	739
	2011	2,673	2,704	2,581	2,456	1,587
discount rate	2012	4,351	4,379	4,274	4,055	2,613
1.76%	2013	8,298	8,219	8,100	7,667	4,925
	2014	13,190	13,481	13,285	12,570	8,193
interest rate margin	2015	20,665	19,941	19,827	19,007	13,686
25 basis pts	2016	28,265	26,594	26,175	25,437	19,630
	2017	46,542	50,106	44,287	42,018	34,421
	2018	-	-	7,697	12,211	49,286
TOTAL		127,134	128,022	128,861	127,943	135,980
Change			888	839	(918)	

Please see Exhibit G, page 1 for Components of Change during Current Month

EXHIBIT B

IBNR

TABLE EXHIBIT B

		Amounts in \$000s					
IBNR	Ultimate Loss Ratio	Accident Year	Actual Nov. 2017	Actual Dec. 2017	Projected Jan. 2018	Projected Feb. 2018	Projected Dec. 2018
	51.6%	2004	(80)	(80)	(78)	(73)	(47)
	59.3%	2005	(31)	(31)	(30)	(28)	(19)
	66.4%	2006	110	110	108	102	64
	70.2%	2007	(224)	(221)	(217)	(204)	(129)
	67.1%	2008	8	26	25	23	15
	60.6%	2009	934	1,009	989	930	591
	62.0%	2010	1,366	773	758	713	453
	66.2%	2011	1,826	1,893	1,855	1,744	1,109
	73.9%	2012	3,311	3,388	3,320	3,121	1,986
	77.1%	2013	6,904	6,893	6,755	6,350	4,040
	86.0%	2014	11,186	11,541	11,195	10,523	6,637
	93.7%	2015	16,527	15,880	15,562	14,784	10,235
	97.4%	2016	23,730	22,135	21,471	20,827	15,667
	89.9%	2017	41,069	44,176	38,875	36,931	30,474
	85.8%	2018	-	-	6,948	10,875	42,551
		TOTAL	106,636	107,492	107,536	106,618	113,627
		Change		856	44	(918)	

Please see Exhibit G, page 2 for Components of Change during Current Month

EXHIBIT C

Premium Liabilities

TABLE EXHIBIT C	Amounts in \$000s				
	Actual Nov. 2017	Actual Dec. 2017	Projected Jan. 2018	Projected Feb. 2018	Projected Dec. 2018
Premium Liabilities					
(1) unearned premium (UP)	93,071	91,475	87,483	85,395	89,408
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	91.9%	91.2%	91.2%	91.3%	92.9%
(3) expected future costs {(1) x (2)}	85,489	83,449	79,814	77,929	83,071
(4) premium deficiency / (deferred policy acquisition cost)	(7,582)	(8,026)	(7,669)	(7,466)	(6,337)
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	86.7%	86.1%	86.1%	86.1%	87.7%
(6) expected future costs {(1) x (5)}	80,701	78,778	75,346	73,567	78,421
(7) premium deficiency / (deferred policy acquisition cost)	(12,370)	(12,697)	(12,137)	(11,828)	(10,987)

EXHIBIT D
Projected Year-end Policy Liabilities

The table below presents the projected policy liabilities as at December 31, 2018, broken down by component.

Alberta Grid ending 2018		Projected Balances as at Dec. 31, 2018 (\$000s)										
		nominal values			actuarial present value adjustments (apvs)							
Acc Yr	Case	IBNR	Total Unpaid	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL		
2004	(4)	(47)	(51)	-	-	5	-	5	5	(46)		
2005	616	(19)	597	-	-	60	-	60	60	657		
2006	442	64	506	(14)	2	51	(1)	50	38	544		
2007	1,595	(129)	1,466	(45)	6	147	(5)	142	103	1,569		
2008	981	15	996	(29)	4	100	(3)	97	72	1,068		
2009	1,532	591	2,123	(66)	8	212	(7)	205	147	2,270		
2010	4,056	453	4,509	(171)	23	451	(17)	434	286	4,795		
2011	7,182	1,109	8,291	(365)	50	829	(36)	793	478	8,769		
2012	7,958	1,986	9,944	(388)	60	994	(39)	955	627	10,571		
2013	9,716	4,040	13,756	(509)	69	1,376	(51)	1,325	885	14,641		
2014	18,419	6,637	25,056	(977)	125	2,506	(98)	2,408	1,556	26,612		
2015	32,691	10,235	42,926	(1,932)	258	5,366	(241)	5,125	3,451	46,377		
2016	37,320	15,667	52,987	(2,649)	371	6,570	(329)	6,241	3,963	56,950		
2017	30,708	30,474	61,182	(3,365)	489	7,220	(397)	6,823	3,947	65,129		
PAYs (sub-total):	153,212	71,076	224,288	(10,510)	1,465	25,887	(1,224)	24,663	15,618	239,906		
CAY (2018)	59,888	42,551	102,439	(5,429)	717	12,088	(641)	11,447	6,735	109,174		
claims liabilities:	213,100	113,627	326,727	(15,939)	2,182	37,975	(1,865)	36,110	22,353	349,080		
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*		
premium liabilities:	89,408	(10,987)	78,421	(3,438)	469	7,970	(351)	7,619	4,650	83,071		
*Total may not be sum of parts, as apvs apply to future costs within UPR												
policy liabilities:			405,148	(19,377)	2,651	45,945	(2,216)	43,729	27,003	432,151		

EXHIBIT E

Discount Rate & Margins for Adverse Deviations

The tables below present selected margins for adverse development by coverage (the total is a weighted average, based on the unpaid claims projection for December 31, 2017 from the valuation), followed by the selected discount rate and the associated margin for investment income.

Selected Claims Development MfADs (Sep. 30, 2017)

Accident Year	Third Party Liability	Accident Benefits	Other Coverages	Total
2004	10.0%	10.0%	10.0%	10.0%
2005	10.0%	10.0%	10.0%	10.0%
2006	10.0%	10.0%	10.0%	10.0%
2007	10.0%	10.0%	10.0%	10.0%
2008	10.0%	10.0%	10.0%	10.0%
2009	10.0%	10.0%	10.0%	10.0%
2010	10.0%	10.0%	9.5%	10.0%
2011	10.0%	10.0%	10.0%	10.0%
2012	10.0%	10.0%	9.9%	10.0%
2013	10.0%	10.0%	10.0%	10.0%
2014	10.0%	10.0%	10.0%	10.0%
2015	12.5%	10.0%	12.5%	12.5%
2016	12.4%	10.0%	12.5%	12.4%
2017	12.1%	10.0%	6.6%	11.8%
2018	11.7%	10.0%	5.1%	10.2%
prem liab	11.7%	10.0%	5.1%	10.2%

discount rate: 1.76%
margin (basis points): 25

EXHIBIT F

Interest Rate Sensitivity

The tables below present sensitivity to the member statement claims liability as projected to Dec. 31, 2017 from the latest valuation date (projections in exhibits A to D are to Dec. 31, 2018, and are based on more up-to-date information). We have included the most recent valuation selection (1.76%), the prior valuation assumption (1.19%) and the prior fiscal year end valuation assumption (0.54%) for comparative purposes. A 25 basis point margin for investment return adverse deviation is used in all scenarios presented.

\$ Format: \$000s

AY	Actuarial Present Value of Provisions at Various Discount Rates - Dec. 31, 2017 projected Unpaid							
	0.76%	1.26%	1.76%	2.26%	2.76%	3.26%	1.19%	0.54%
2004	-	-	-	-	-	-	-	-
2005	1,013	1,005	997	989	981	973	1,006	1,017
2006	816	808	801	794	787	781	809	819
2007	2,643	2,621	2,600	2,579	2,558	2,538	2,624	2,652
2008	2,171	2,151	2,132	2,114	2,096	2,078	2,154	2,179
2009	4,192	4,145	4,101	4,056	4,012	3,970	4,152	4,213
2010	7,825	7,725	7,630	7,536	7,443	7,354	7,740	7,869
2011	13,101	12,954	12,812	12,673	12,538	12,406	12,976	13,167
2012	18,028	17,833	17,646	17,461	17,282	17,109	17,861	18,114
2013	23,977	23,704	23,441	23,181	22,930	22,686	23,742	24,099
2014	37,300	36,812	36,346	35,886	35,442	35,007	36,882	37,518
2016	69,422	68,308	67,244	66,204	65,196	64,219	68,465	69,921
2017	98,708	97,174	95,711	94,274	92,883	91,547	97,391	99,400
Total	338,311	333,482	328,875	324,338	319,946	315,703	334,168	340,470
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

AY	Dollar Impact Relative to Valuation Assumption							
	0.76%	1.26%	1.76%	2.26%	2.76%	3.26%	1.19%	0.54%
Total	9,436	4,607	-	(4,537)	(8,929)	(13,172)	5,293	11,595
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

AY	Percentage Impact Relative to Valuation Assumption							
	0.76%	1.26%	1.76%	2.26%	2.76%	3.26%	1.19%	0.54%
2004	-	-	-	-	-	-	-	-
2005	1.6%	0.8%	-	(0.8%)	(1.6%)	(2.4%)	0.9%	2.0%
2006	1.9%	0.9%	-	(0.9%)	(1.7%)	(2.5%)	1.0%	2.2%
2007	1.7%	0.8%	-	(0.8%)	(1.6%)	(2.4%)	0.9%	2.0%
2008	1.8%	0.9%	-	(0.8%)	(1.7%)	(2.5%)	1.0%	2.2%
2009	2.2%	1.1%	-	(1.1%)	(2.2%)	(3.2%)	1.2%	2.7%
2010	2.6%	1.2%	-	(1.2%)	(2.5%)	(3.6%)	1.4%	3.1%
2011	2.3%	1.1%	-	(1.1%)	(2.1%)	(3.2%)	1.3%	2.8%
2012	2.2%	1.1%	-	(1.0%)	(2.1%)	(3.0%)	1.2%	2.7%
2013	2.3%	1.1%	-	(1.1%)	(2.2%)	(3.2%)	1.3%	2.8%
2014	2.6%	1.3%	-	(1.3%)	(2.5%)	(3.7%)	1.5%	3.2%
2016	3.2%	1.6%	-	(1.5%)	(3.0%)	(4.5%)	1.8%	4.0%
2017	3.1%	1.5%	-	(1.5%)	(3.0%)	(4.4%)	1.8%	3.9%
Total	2.9%	1.4%	-	(1.4%)	(2.7%)	(4.0%)	1.6%	3.5%
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

EXHIBIT G

Page 1 of 2

Components of Member Statement IBNR (i.e. “Discounted”) Change During Month

RSP **Alberta Grid**
AccountCode Desc **IBNR - Discou** M/S IBNR - in \$000s

AccYear	Values				Sum of Total Change	Sum of % Total Change	Sum of Current Month Final Amount
	Sum of Prior Month Actual Amount	Sum of Projected Change	Sum of Change Due to AvsP Variances	Sum of Change Due to Valuation Implementation			
2004	(72)	1	(1)	-	-	-	(72)
2005	37	(3)	3	-	-	-	37
2006	165	(3)	3	-	-	-	165
2007	(59)	(7)	9	-	2	(3.4%)	(57)
2008	160	(8)	(18)	-	(26)	(16.3%)	134
2009	1,150	(22)	88	-	66	5.7%	1,216
2010	1,769	(37)	(557)	-	(594)	(33.6%)	1,175
2011	2,673	(69)	100	-	31	1.2%	2,704
2012	4,351	(95)	123	-	28	0.6%	4,379
2013	8,298	(400)	321	-	(79)	(1.0%)	8,219
2014	13,190	(396)	687	-	291	2.2%	13,481
2015	20,665	(414)	(310)	-	(724)	(3.5%)	19,941
2016	28,265	(802)	(869)	-	(1,671)	(5.9%)	26,594
2017	46,542	2,898	666	-	3,564	7.7%	50,106
Grand Total	127,134	643	245	-	888	0.7%	128,022

EXHIBIT G

Components of IBNR (i.e. “Undiscounted”) Change During Month

RSP **Alberta Grid**
AccountCode Desc **IBNR - Undiscounted**

IBNR - in \$000s

AccYear	Values						
	Sum of Prior Month Actual Amount	Sum of Projected Change	Sum of Change Due to AvsP Variances	Sum of Change Due to Valuation Implementation	Sum of Total Change	Sum of % Total Change	Sum of Current Month Final Amount
2004	(80)	1	(1)	-	-	-	(80)
2005	(31)	-	-	-	-	-	(31)
2006	110	(1)	1	-	-	-	110
2007	(224)	2	1	-	3	(1.3%)	(221)
2008	8	-	18	-	18	225.0%	26
2009	934	(9)	84	-	75	8.0%	1,009
2010	1,366	(14)	(579)	-	(593)	(43.4%)	773
2011	1,826	(18)	85	-	67	3.7%	1,893
2012	3,311	(33)	110	-	77	2.3%	3,388
2013	6,904	(345)	334	-	(11)	(0.2%)	6,893
2014	11,186	(336)	691	-	355	3.2%	11,541
2015	16,527	(331)	(316)	-	(647)	(3.9%)	15,880
2016	23,730	(712)	(883)	-	(1,595)	(6.7%)	22,135
2017	41,069	2,467	640	-	3,107	7.6%	44,176
Grand Total	106,636	671	185	-	856	0.8%	107,492