ALBERTA GRID RISK SHARING POOL

JUNE 2018 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

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FACILITY Association

ACTUARIAL HIGHLIGHTS

RSP ALBERTA GRID

OPERATIONAL REPORT

JUNE 2018

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1 Summary

1.1 Valuation Schedule (Fiscal Year 2018)

The June 2018 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 (completed)	1.75% mfad: 25 bp	Mar. 2018	update valuation: accident year 2018 loss ratio increased 4.9 points to 90.7%; discount rate decreased by 1 basis point; no change to selected margins for adverse deviations
Mar. 31, 2018 (completed)	1.92% mfad: 25 bp	May 2018	update valuation (roll forward): accident year 2018 loss ratio increased 1.2 points to 91.9%; discount rate increased by 17 basis points; no change to selected margins for adverse deviations
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

There have been no changes in these descriptions since last month's Highlights.

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.

In the **Alberta Treasury Board and Finance Notice 04-2018** (Clarification of Minor Injury Regulation), dated **May 17, 2018**, the Alberta Superintendent of Insurance advised that clarifying amendments have been made to the definition of minor injuries under the Minor Injury Regulation (MIR). At the current time, no adjustments have been made to our valuation estimates or views based on these amendments, but we are reviewing the impact with FA's Appointed Actuary.

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 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*."

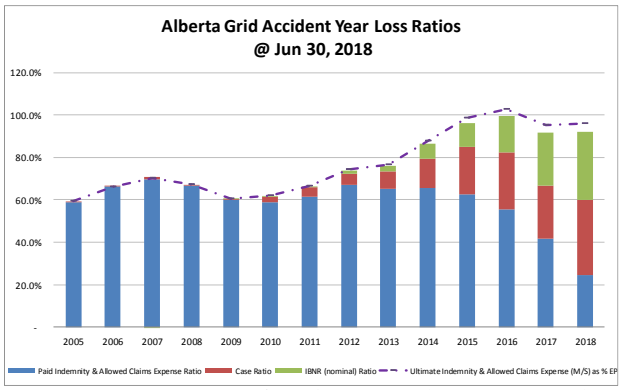
At the current time, no adjustments have been made to our valuation estimates or views based on the judgment as rendered, but we continue to review and consider the implications of the judgment.

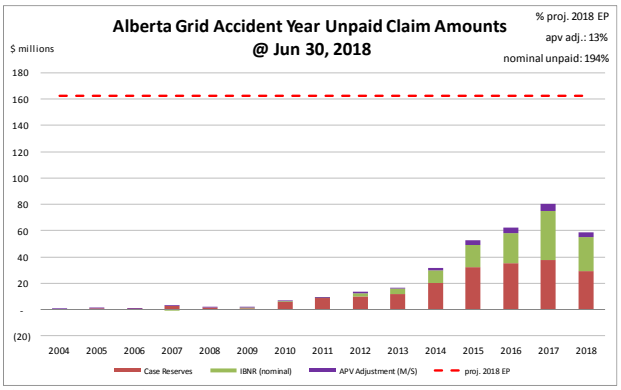
1.4 Current Provision Summary

The charts at the top of the next page show the current levels of claim liabilities[1] booked by accident year[2]. 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 2018 full year earned premium (the red hash-mark line) to provide some perspective.

[1]Claim 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.

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





"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 ($21.7 million – see table immediately below) represents 13% of the earned premium projected for the full year 2018 (see the upper right corner of the right chart above). If our current estimates of the nominal unpaid amounts prove 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	196,186	58.1%
ibnr	119,557	35.4%
M/S apv adjust.	21,659	6.4%
M/S total	337,402	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 53% of the IBNR balance relates to accident years 2017 and 2018 (see Exhibit B). Approximately 85% of the M/S total claim liabilities are related to accident years 2014-2018 inclusive (i.e. the most recent 5 accident years), and approximately 1% is related to accident years 2008 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)

	amt	%
unearned prem	82,425	102.7%
prem def/(dpac)	(6,350)	(7.9%)
M/S apv adjust.	4,189	5.2%
M/S total	80,264	100.0%

policy liabilities ($000s)

	amt	%
claim	315,743	75.6%
premium	76,075	18.2%
M/S apv adjust.	25,848	6.2%
M/S total	417,666	100.0%

2 Activity During the Month of June 2018

2.1 Recorded Premium and Claims Activity

The table at the top of the next page summarizes the extent to which premiums and claims amounts recorded during the month differ from projections reflected in the prior month's Operational Report[3].

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

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

Table 01	Earned Premium		Paid Indemnity & Allowed Claims Expense		Case increase / (decrease)		Recorded increase / (decrease)	
Accident Year	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	(9)	(9)	6,462	2,248	(5,407)	(3,188)	1,055	(940)
2016	(50)	(50)	1,884	689	(1,554)	(1,273)	331	(583)
2017	(165)	(165)	1,412	(887)	(232)	900	1,180	13
2018	13,568	118	4,515	404	2,483	(1,018)	6,998	(614)
TOTAL	13,344	(106)	14,273	2,454	(4,710)	(4,578)	9,563	(2,125)

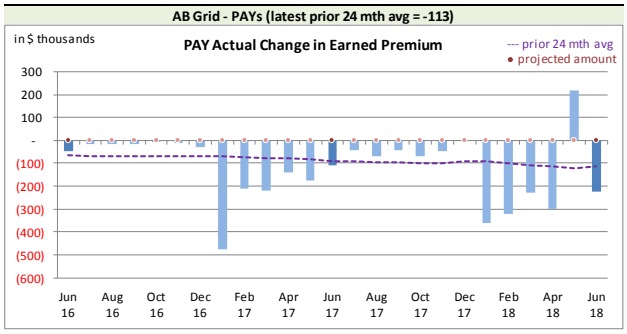
(Recorded transaction amounts exclude IBNR & other actuarial provisions)

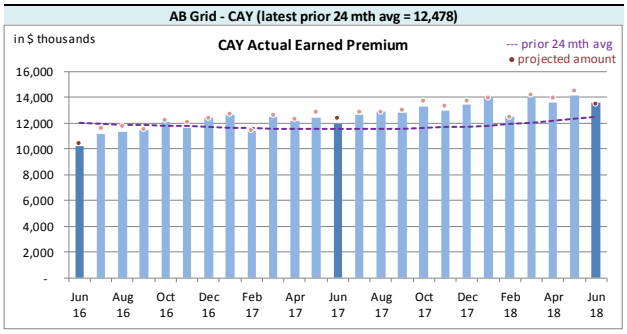
Claims transaction activity is generally volatile and changes from one month to the next are anticipated due to this natural "process variance" (i.e. random variation). Each month, the projection variances are reviewed for signs of projection bias and to identify potential ways to reduce the level of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

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.

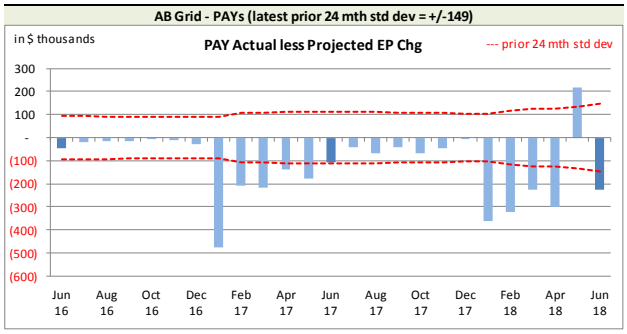
We have noted and have investigated the unusually high level of PAYs earned premium activity earlier in 2017 and January through June 2018, particularly with respect to one member. FA management reviewed and was satisfied with the appropriateness of the 2017 transactions, but continues its investigation of the 2018 transactions.

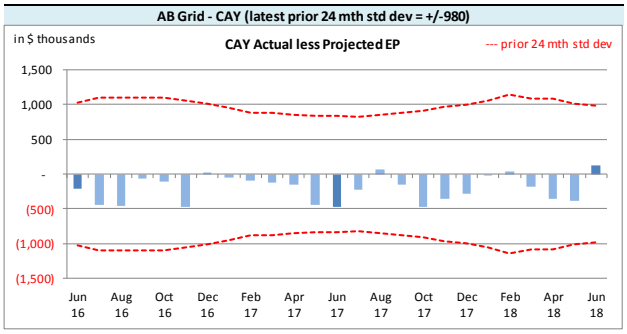
The associated variances between the actual changes and the projections from the previous month are shown in the charts at the top of the next page. **Earned premium** change projections are all attributed to the current accident year as the projection upload does not accept earned premium changes for other accident years. We do not see this limitation as being significant for our purposes,

[4]Premium 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.

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*





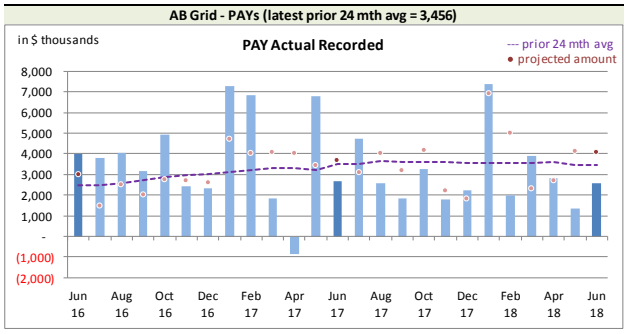
On Latest $ thousands		
Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(113)	12,478
std dev	149	980
A-P <> std dev	11	-
% <> std dev	44.0%	0.0%
norm <> std dev	31.7%	31.7%

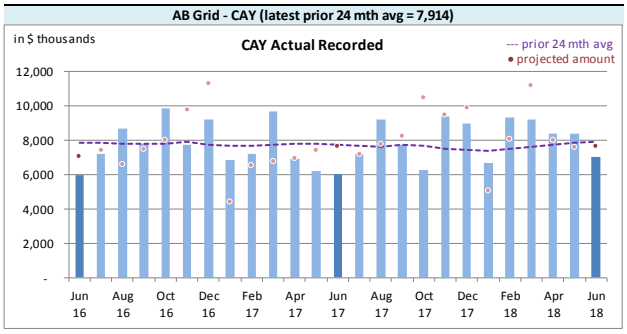
We project **earned premium** changes from known unearned premium and projected written premium levels, but upload the total projections as current accident year (CAY). This process has generated prior accident years' (PAYs) bias[5], with actuals generally lower than projected, although the magnitude is not high relative to monthly premium. In addition to the PAYs' bias, the CAY has also shown bias[6], with actuals being generally lower than projected, and we modified our projections processes in response, but bias still exists. 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*



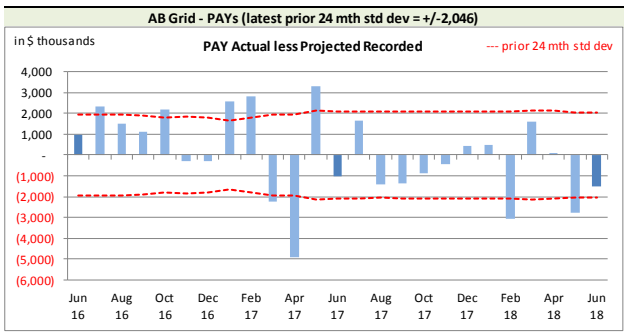


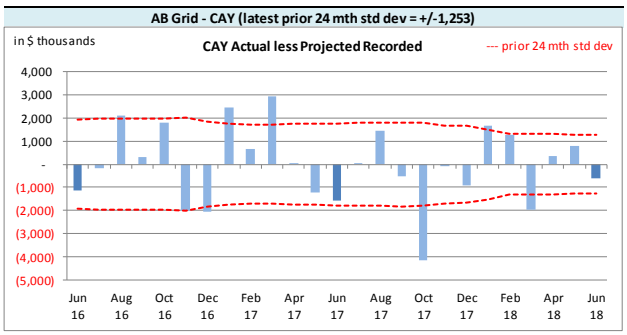
[5]The PAYs' variances will show bias as the projection upload forces all earned premium projections to be attributed to the CAY.

[6]We measure bias based on a 95% confidence range for a binominal distribution with trials based on the range being considered (24 in this case) and 50% probability of success. The 24-month variances at June 2018 has only 4 months where the actuals were higher than projected, and as the 95% confidence range is 7 to 17, bias continues to be indicated.

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*





On Latest $ thousands		
Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	3,456	7,914
std dev	2,046	1,253
A-P <> std dev	9	8
% <> std dev	36.0%	32.0%
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 above) 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. No bias has been indicated at a 95% confidence level on a lagging 24-month basis.

The current accident year (CAY) **recorded** variances (right chart above), have been greater than one standard deviation 32% of the time, which suggests that the projection process has performed no better than simply projecting the most recent prior 24-month average. No bias has been indicated at a 95% confidence level on a lagging 24-month basis.

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 tables at the top of the next page. These tables show, in each row, the average monthly ratio for each calendar year. That is, each row in the left table (as at Dec) provides the average of the 12 monthly-ratios (i.e. Jan, Feb, ... Dec) for that row's calendar year, whereas each row in the right table (as at Jun) provides the average of the 6 monthly ratios (i.e. Jan-Jun) for that row's calendar year.

Alberta Grid RSP year-to-date CAY claims activity (ratio to EP)

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%

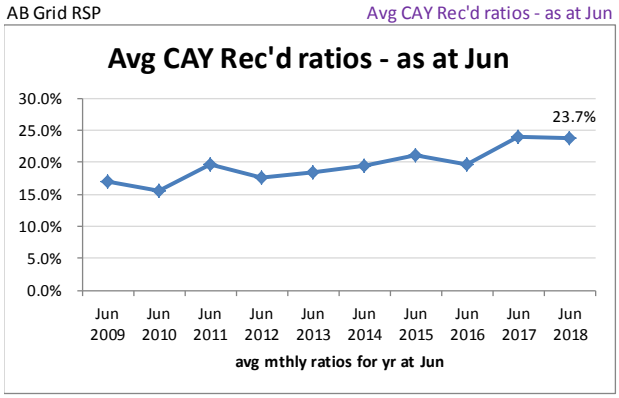
CAY avg of mthly ratios for yr

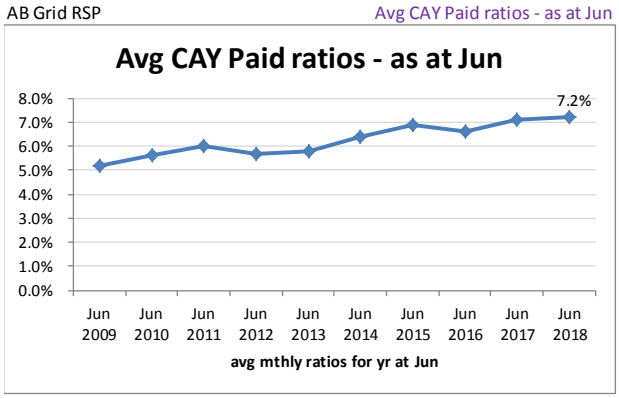
as at	Rec'd	yr-on-yr chg	Paid	yr-on-yr chg
Jun 2009	17.0%		5.2%	
Jun 2010	15.5%	(1.5%)	5.6%	0.4%
Jun 2011	19.7%	4.2%	6.0%	0.4%
Jun 2012	17.6%	(2.1%)	5.7%	(0.3%)
Jun 2013	18.4%	0.8%	5.8%	0.1%
Jun 2014	19.4%	1.0%	6.4%	0.6%
Jun 2015	21.0%	1.6%	6.9%	0.5%
Jun 2016	19.6%	(1.4%)	6.6%	(0.3%)
Jun 2017	23.9%	4.3%	7.1%	0.5%
Jun 2018	23.7%	(0.2%)	7.2%	0.1%

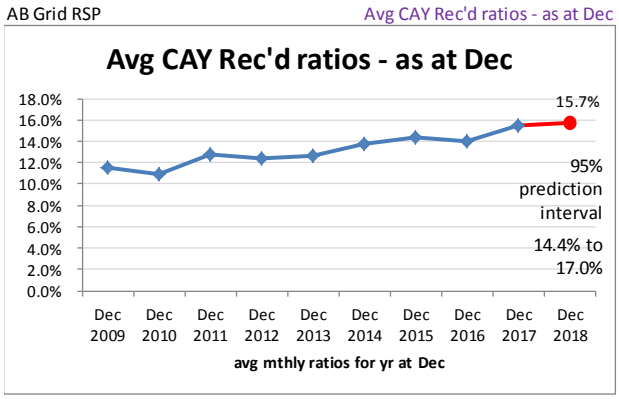
Both **recorded** and **paid** monthly average ratios for the 12-months at Dec. 2017 relative to Dec. 2009 have increased at an annual rate of almost 4% over and above any premium rate level increases. At this point, we are only monitoring, but the valuation team has been advised and is taking this information 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 were at the highest level for both **recorded** and **paid**.

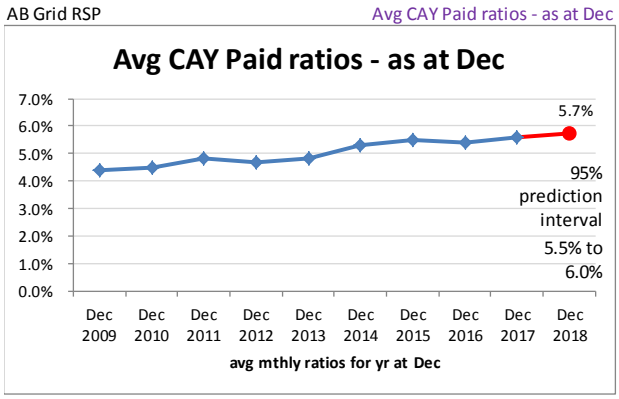
As can be seen in the right table above, (average of 6 months to June of each year), the **recorded** ratio is the second highest ratios in the last 10 years, while the **paid** ratio is the highest ratio in the last 10 years. There has been strong (over 95%) correlation between the ytd monthly average ratios at June each year and the corresponding monthly average ratios at December, suggesting the monthly average ratios for 2018 at June (that is, the average of the 6 monthly ratios Jan 2018 to Jun 2018) are predictive of where the 2018 monthly average ratios will be at year-end (that is, the 12 monthly ratios Jan 2018 – Dec 2018). Using simple regression, we forecast the average of the 12 monthly ratios for calendar year 2018 (i.e. the average of the monthly ratios for Jan 2018 – Dec 2018) will be 15.7% (95% prediction interval of 14.4% to 17.0%) for recorded and 5.7% (95% prediction interval of 5.5% to 6.0%) for paid. The results are presented in charts at the top of the next page.

Alberta Grid RSP average of monthly CAY claims activity ratios to EP







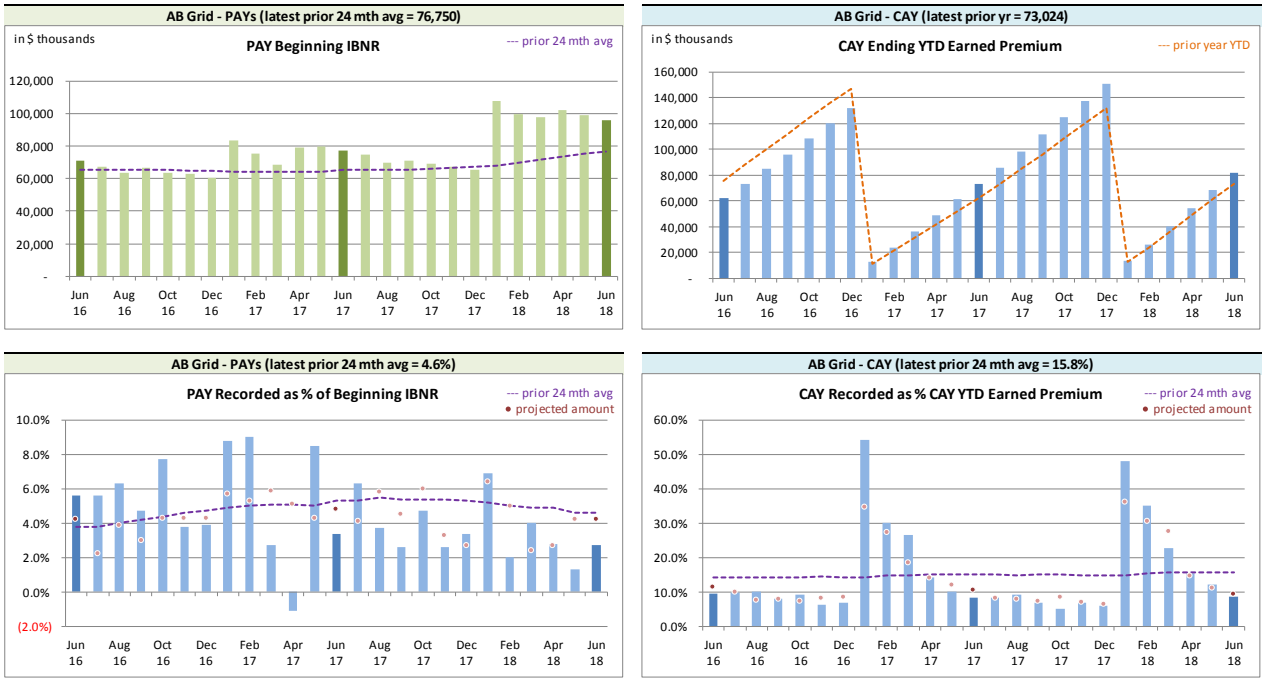


We are taking this information into consideration as part of our projection process.

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 at the top of the next page 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 influence[7] ***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:

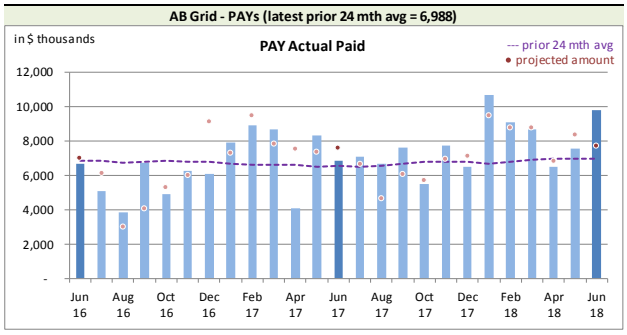
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a current accident year becomes a prior accident year (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of prior accident years' ultimate (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).

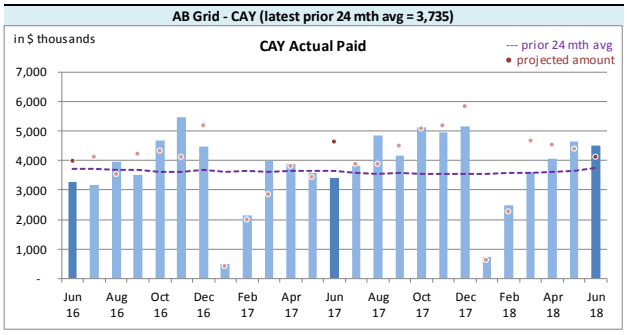
2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

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.

[7]Our 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.

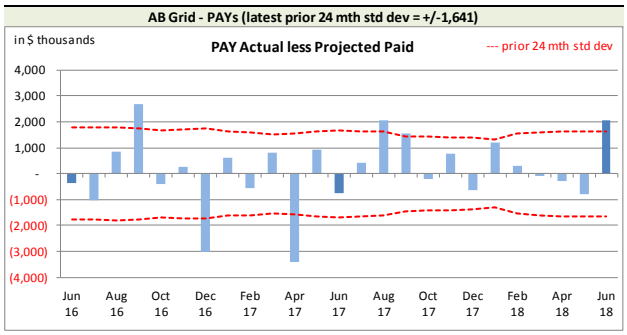
*Alberta Grid RSP Actual **Paid** activity by Calendar Month*

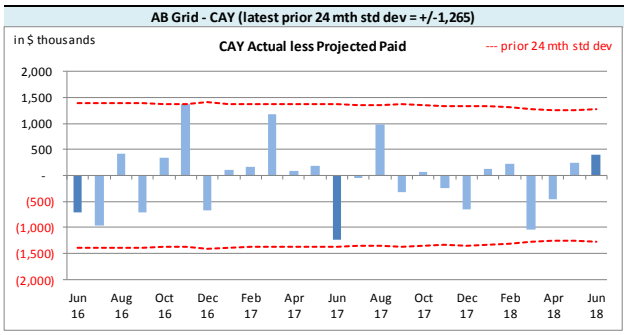




Paid activity variances from the previous month's projections are shown in the charts immediately below, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

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





On Latest $ thousands		
Paid	PAYs	CAY
Mthly Avg Paid (prior 24 mths)	6,988	3,735
std dev	1,641	1,265
A-P <> std dev	6	-
% <> std dev	24.0%	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 24% of the time, suggesting the projection process has performed better than simply projecting from the preceding 24-month average. No bias has been indicated at a 95% confidence level on a lagging 24-month basis.

The PAY **paid** variance was outside of one standard deviation. The activity was reviewed and confirmed, with the variance attributed to process variance.

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. No bias has been indicated at a 95% confidence level on a lagging 24-month basis.

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 influence[8] ***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 IBNR[9], 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 June 2018 Operational Report and the associated

[8]Our 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.

[9]For ease of discussion, "IBNR" is used in place of "provisions for incurred but not recorded (IBNR) and development".

one-month projections from last month's Report.

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

Table 02

	IBNR		actuarial present value adjustments: Discount Amount		actuarial present value adjustments: Provisions for Adverse Deviations		IBNR + actuarial present value adjustments	
Accident Year	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	33,364	930	(5,114)	105	14,106	(276)	42,356	759
2016	22,473	533	(2,947)	38	7,203	(91)	26,729	480
2017	37,584	(164)	(4,205)	(42)	9,244	91	42,623	(115)
2018	26,136	722	(3,137)	17	6,509	(35)	29,508	704
TOTAL	119,557	2,021	(15,403)	118	37,062	(311)	141,216	1,828

The IBNR provision is $2.0 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 premium deficiency liability / (deferred policy acquisition cost asset) included in the June 2018 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:	(6,350)	74	4,189	(49)	(2,161)	25
balance as % unearned premium:	(7.7%)	-	5.1%	-	(2.6%)	-
actual unearned premium:	82,425					
less projected:	(968)					

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 loss[10] 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 expenses[11], 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 93.3% rather than 91.9% (the valuation ultimate ratio for accident year 2018), 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	5,912	7.3%	(2,243)	(2.8%)	3,669	4.6%	(917)	(2.2%)
CAY	75,077	93.3%	3,372	4.2%	78,449	97.5%	12,956	-
TOTAL	80,989	100.6%	1,129	1.4%	82,118	102.0%	12,038	(2.4%)

("% EP" based on 2018 calendar year-to-date earned premium; ratios may not total due to rounding)

In general, prior accident years (PAYs) changes from last month are due to the release of the actuarial present value adjustments with claims payments, except when valuations are implemented. The loss ratio change year-to-date in Table 04 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

[10] "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).

[11] 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 analysis.

Operational Report.

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

IBNR + M/S actuarial present value adjustments	Amounts in $000s					
	Accident Year	Actual May. 2018	Actual Jun. 2018	Projected Jul. 2018	Projected Aug. 2018	Projected Dec. 2018
	2004	(71)	(71)	(71)	(71)	(71)
	2005	21	20	18	19	18
	2006	(121)	(117)	(114)	(109)	(85)
	2007	(969)	(965)	(946)	(895)	(700)
	2008	103	105	101	99	82
	2009	613	603	590	563	448
	2010	1,048	1,217	1,182	1,136	916
	2011	777	721	694	676	561
	2012	3,904	3,546	3,457	3,309	2,647
discount rate	2013	5,674	5,007	4,885	4,671	3,732
1.92%	2014	11,830	11,802	11,468	10,948	9,056
	2015	21,071	20,488	19,747	18,874	16,494
interest rate margin	2016	27,251	26,729	25,744	25,013	22,060
25 basis pts	2017	44,060	42,623	41,018	40,198	36,412
	2018	23,550	29,508	34,788	38,807	48,137
	TOTAL	138,741	141,216	142,561	143,238	139,707
	Change		2,475	1,345	677	

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 May. 2018	Actual Jun. 2018	Projected Jul. 2018	Projected Aug. 2018	Projected Dec. 2018
51.6%	2004	(79)	(79)	(79)	(79)	(79)
59.3%	2005	(45)	(46)	(45)	(43)	(34)
66.3%	2006	(129)	(125)	(122)	(116)	(91)
70.3%	2007	(1,084)	(1,079)	(1,057)	(1,004)	(791)
67.1%	2008	(2)	-	-	-	-
60.5%	2009	516	509	499	474	373
61.9%	2010	606	796	780	741	584
66.1%	2011	187	134	131	124	98
73.9%	2012	3,010	2,700	2,646	2,514	1,980
76.0%	2013	4,586	3,978	3,898	3,703	2,918
86.3%	2014	9,911	9,975	9,676	9,192	7,566
96.1%	2015	16,952	16,601	15,937	15,140	13,120
99.4%	2016	22,854	22,473	21,574	20,927	18,329
91.7%	2017	38,915	37,584	36,081	35,359	31,948
91.9%	2018	20,665	26,136	30,909	34,432	42,223
	TOTAL	116,863	119,557	120,828	121,364	118,144
	Change		2,694	1,271	536	

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

EXHIBIT C

Premium Liabilities

TABLE EXHIBIT C	Amounts in $000s				
Premium Liabilities	Actual May. 2018	Actual Jun. 2018	Projected Jul. 2018	Projected Aug. 2018	Projected Dec. 2018
(1) unearned premium (UP)	81,722	82,425	82,602	82,885	79,559
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	97.4%	97.4%	97.4%	97.4%	97.6%
(3) expected future costs {(1) x (2)}	79,559	80,264	80,459	80,766	77,662
(4) premium deficiency / (deferred policy acquisition cost)	(2,163)	(2,161)	(2,143)	(2,119)	(1,897)
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	92.3%	92.3%	92.3%	92.4%	92.5%
(6) expected future costs {(1) x (5)}	75,407	76,075	76,261	76,550	73,609
(7) premium deficiency / (deferred policy acquisition cost)	(6,315)	(6,350)	(6,341)	(6,335)	(5,950)

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	Projected Balances as at Dec. 31, 2018 ($000s)									
ending 2018	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	-	(79)	(79)	-	-	8	-	8	8	(71)
2005	707	(34)	673	(15)	2	67	(2)	65	52	725
2006	177	(91)	86	(3)	-	9	-	9	6	92
2007	2,049	(791)	1,258	(36)	5	126	(4)	122	91	1,349
2008	1,183	-	1,183	(37)	5	118	(4)	114	82	1,265
2009	714	373	1,087	(35)	4	109	(3)	106	75	1,162
2010	4,400	584	4,984	(169)	20	498	(17)	481	332	5,316
2011	6,993	98	7,091	(255)	35	709	(26)	683	463	7,554
2012	7,892	1,980	9,872	(326)	39	987	(33)	954	667	10,539
2013	9,498	2,918	12,416	(435)	50	1,242	(43)	1,199	814	13,230
2014	16,872	7,566	24,438	(978)	122	2,444	(98)	2,346	1,490	25,928
2015	29,454	13,120	42,574	(1,958)	255	5,322	(245)	5,077	3,374	45,948
2016	32,342	18,329	50,671	(2,584)	304	6,334	(323)	6,011	3,731	54,402
2017	34,564	31,948	66,512	(3,725)	466	8,181	(458)	7,723	4,464	70,976
PAYs (sub-total):	146,845	75,921	222,766	(10,556)	1,307	26,154	(1,256)	24,898	15,649	238,415
CAY (2018)	54,286	42,223	96,509	(5,501)	676	11,388	(649)	10,739	5,914	102,423
claims liabilities:	201,131	118,144	319,275	(16,057)	1,983	37,542	(1,905)	35,637	21,563	340,838
	Unearned Premium	Premium Defiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	79,559	(5,950)	73,609	(3,448)	440	7,409	(348)	7,061	4,053	77,662
										*Total may not be sum of parts, as apvs apply to future costs within UPR
policy liabilities:			**392,884**	**(19,505)**	**2,423**	**44,951**	**(2,253)**	**42,698**	**25,616**	**418,500**

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, 2018 from the valuation), followed by the selected discount rate and the associated margin for investment income.

Selected Claims Development MfADs (Mar. 31, 2018)

Accident Year	Third Party Liability	Accident Benefits	Other Coverages	Total
	Margins	Margins	Margins	Margins
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%	10.0%	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	12.5%	10.0%	12.5%	12.5%
2017	12.4%	10.0%	12.0%	12.3%
2018	12.1%	10.0%	7.0%	11.8%
2019	11.8%	10.0%	5.1%	10.1%
prem liab	11.8%	10.0%	5.1%	10.1%

discount rate:	1.92%
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, 2018 from the latest valuation date (projections in exhibits A to D are also to Dec. 31, 2018, but are based on more up-to-date information). We have included the most recent valuation selection (1.92%), the prior valuation assumption (1.75%) and the prior fiscal year end valuation assumption (1.76%) for comparative purposes. A 25 basis point margin for investment return adverse deviation is used in all scenarios presented.

$ Format: $000s

	Actuarial Present Value of Provisions at Various Discount Rates - Dec. 31, 2018 projected Unpaid							
AY	0.92%	1.42%	1.92%	2.42%	2.92%	3.42%	1.75%	1.76%
2004	-	-	-	-	-	-	-	-
2005	741	737	732	728	724	719	734	734
2006	231	229	227	225	224	222	228	228
2007	1,521	1,510	1,498	1,487	1,476	1,465	1,502	1,502
2008	981	973	965	958	950	942	968	968
2009	1,378	1,366	1,355	1,344	1,333	1,322	1,359	1,358
2010	5,358	5,309	5,262	5,216	5,170	5,126	5,278	5,278
2011	7,248	7,180	7,112	7,047	6,983	6,919	7,135	7,134
2012	10,447	10,356	10,268	10,182	10,097	10,014	10,298	10,297
2013	14,153	14,022	13,893	13,767	13,645	13,524	13,936	13,934
2014	28,146	27,850	27,561	27,283	27,006	26,739	27,660	27,656
2015	48,042	47,460	46,889	46,337	45,796	45,274	47,080	47,072
2016	56,869	56,098	55,342	54,607	53,893	53,198	55,594	55,583
2017	72,937	71,849	70,785	69,751	68,748	67,773	71,136	71,121
2018	115,901	114,137	112,428	110,772	109,167	107,610	113,006	112,969
Total	363,953	359,076	354,317	349,704	345,212	340,847	355,914	355,834
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

	Dollar Impact Relative to Valuation Assumption							
AY	0.92%	1.42%	1.92%	2.42%	2.92%	3.42%	1.75%	1.76%
Total	9,636	4,759	-	(4,613)	(9,105)	(13,470)	1,597	1,517
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

	Percentage Impact Relative to Valuation Assumption							
AY	0.92%	1.42%	1.92%	2.42%	2.92%	3.42%	1.75%	1.76%
2004	-	-	-	-	-	-	-	-
2005	1.2%	0.7%	-	(0.5%)	(1.1%)	(1.8%)	0.3%	0.3%
2006	1.8%	0.9%	-	(0.9%)	(1.3%)	(2.2%)	0.4%	0.4%
2007	1.5%	0.8%	-	(0.7%)	(1.5%)	(2.2%)	0.3%	0.3%
2008	1.7%	0.8%	-	(0.7%)	(1.6%)	(2.4%)	0.3%	0.3%
2009	1.7%	0.8%	-	(0.8%)	(1.6%)	(2.4%)	0.3%	0.2%
2010	1.8%	0.9%	-	(0.9%)	(1.7%)	(2.6%)	0.3%	0.3%
2011	1.9%	1.0%	-	(0.9%)	(1.8%)	(2.7%)	0.3%	0.3%
2012	1.7%	0.9%	-	(0.8%)	(1.7%)	(2.5%)	0.3%	0.3%
2013	1.9%	0.9%	-	(0.9%)	(1.8%)	(2.7%)	0.3%	0.3%
2014	2.1%	1.0%	-	(1.0%)	(2.0%)	(3.0%)	0.4%	0.3%
2015	2.5%	1.2%	-	(1.2%)	(2.3%)	(3.4%)	0.4%	0.4%
2016	2.8%	1.4%	-	(1.3%)	(2.6%)	(3.9%)	0.5%	0.4%
2017	3.0%	1.5%	-	(1.5%)	(2.9%)	(4.3%)	0.5%	0.5%
2018	3.1%	1.5%	-	(1.5%)	(2.9%)	(4.3%)	0.5%	0.5%
Total	2.7%	1.3%	-	(1.3%)	(2.6%)	(3.8%)	0.5%	0.4%
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

EXHIBIT G

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

RSP	**Alberta Grid**
AccountCode Desc	**IBNR - Discou d**

M/S IBNR - in $000s

	Values						
AccYear	**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	(71)	-	-	-	-	-	(71)
2005	21	(2)	1	-	(1)	(4.8%)	20
2006	(121)	5	(1)	-	4	(3.3%)	(117)
2007	(969)	50	(46)	-	4	(0.4%)	(965)
2008	103	(4)	6	-	2	1.9%	105
2009	613	(32)	22	-	(10)	(1.6%)	603
2010	1,048	(52)	221	-	169	16.1%	1,217
2011	777	(38)	(18)	-	(56)	(7.2%)	721
2012	3,904	(196)	(162)	-	(358)	(9.2%)	3,546
2013	5,674	(283)	(384)	-	(667)	(11.8%)	5,007
2014	11,830	(632)	604	-	(28)	(0.2%)	11,802
2015	21,071	(1,099)	516	-	(583)	(2.8%)	20,488
2016	27,251	(1,002)	480	-	(522)	(1.9%)	26,729
2017	44,060	(1,322)	(115)	-	(1,437)	(3.3%)	42,623
2018	23,550	5,254	704	-	5,958	25.3%	29,508
Grand Total	**138,741**	**647**	**1,828**	**-**	**2,475**	**1.8%**	**141,216**

EXHIBIT G

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

RSP	**Alberta Grid**
AccountCode Desc	**IBNR - Undisc nted**

IBNR - in $000s

	Values						
AccYear	**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	(79)	-	-	-	-	-	(79)
2005	(45)	2	(3)	-	(1)	2.2%	(46)
2006	(129)	6	(2)	-	4	(3.1%)	(125)
2007	(1,084)	54	(49)	-	5	(0.5%)	(1,079)
2008	(2)	-	2	-	2	(100.0%)	-
2009	516	(26)	19	-	(7)	(1.4%)	509
2010	606	(30)	220	-	190	31.4%	796
2011	187	(9)	(44)	-	(53)	(28.3%)	134
2012	3,010	(151)	(159)	-	(310)	(10.3%)	2,700
2013	4,586	(229)	(379)	-	(608)	(13.3%)	3,978
2014	9,911	(595)	659	-	64	0.6%	9,975
2015	16,952	(1,017)	666	-	(351)	(2.1%)	16,601
2016	22,854	(914)	533	-	(381)	(1.7%)	22,473
2017	38,915	(1,167)	(164)	-	(1,331)	(3.4%)	37,584
2018	20,665	4,749	722	-	5,471	26.5%	26,136
Grand Total	**116,863**	**673**	**2,021**	**-**	**2,694**	**2.3%**	**119,557**