ALBERTA GRID RISK SHARING POOL

JANUARY 2018 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

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FACILITY Association

ACTUARIAL HIGHLIGHTS

RSP ALBERTA GRID

OPERATIONAL REPORT

JANUARY 2018

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1 Summary

1.1 Valuation Schedule (Fiscal Year 2018)

The January 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		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 changes in these descriptions since last month's Highlights.

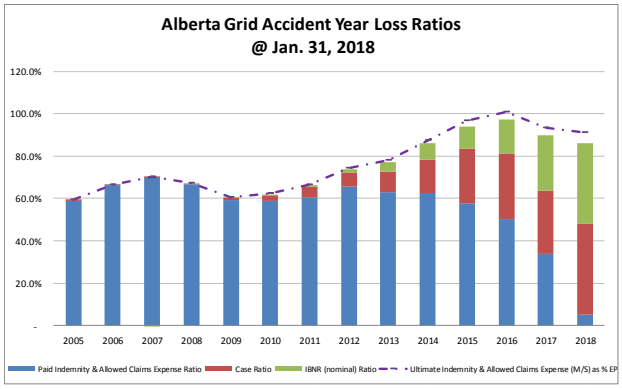
The **Supreme Court of Canada** rendered its judgment on **Saadati v Moorhead** (**2017** SCC 28, **rendered on Jun 2, 2017**). Saadati was involved in a collision in July of 2005 in British Columbia and sued the at-fault driver for damages. According the Supreme Court decision, "*The trial judge found 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:

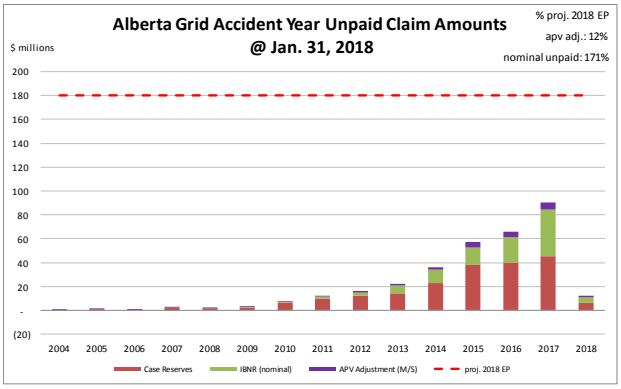
- "*A finding of legally compensable mental injury need not rest, in whole or in part, on the claimant proving a recognized psychiatric injury.*"
- "*...a trier of fact adjudicating a claim of mental injury is not concerned with diagnosis, but with symptoms and their effects.*"
- "*Expert evidence can 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 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.





"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 ($21.2 million – see table at the top of the next page) represents 12% 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

[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.

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	202,218	61.6%
ibnr	105,065	32.0%
M/S apv adjust.	21,202	6.5%
M/S total	328,485	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 43% of the IBNR balance relates to accident years 2017 and 2018 (see Exhibit B). Approximately 80% 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 2% 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	86,264	109.6%
prem def/(dpac)	(11,966)	(15.2%)
M/S apv adjust.	4,405	5.6%
M/S total	78,703	100.0%

policy liabilities ($000s)

	amt	%
claim	307,283	75.5%
premium	74,298	18.2%
M/S apv adjust.	25,607	6.3%
M/S total	407,188	100.0%

2 Activity During the Month of January 2018

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 Report[3].

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	(29)	(29)	3,422	891	(1,315)	277	2,107	1,168
2016	(9)	(9)	2,040	1,405	(1,235)	(1,264)	805	141
2017	(323)	(323)	5,218	(1,095)	(739)	273	4,479	(822)
2018	13,951	(11)	722	123	5,966	1,533	6,688	1,656
TOTAL	13,590	(372)	11,403	1,325	2,676	818	14,079	2,143

(Recorded transaction amounts exclude IBNR & other actuarial provisions)

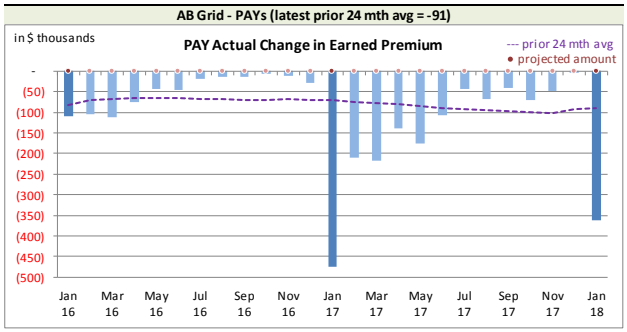
Claims transaction activity is generally volatile and changes from one month to the next are anticipated due to this natural "process variance" (i.e. random variation). Each month, the projection variances are reviewed for signs of projection bias and to identify potential ways to reduce the level of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

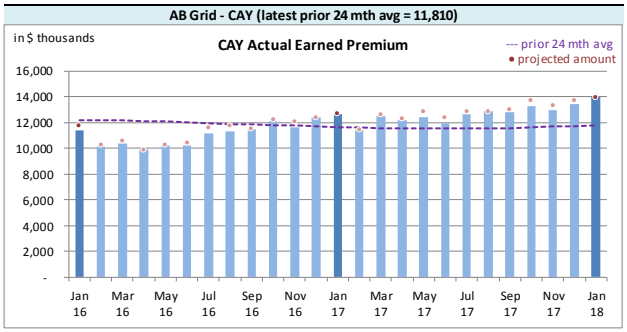
[3]There may be rounding differences in values in this document compared with the associated Bulletin and/or Operational Report.

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*



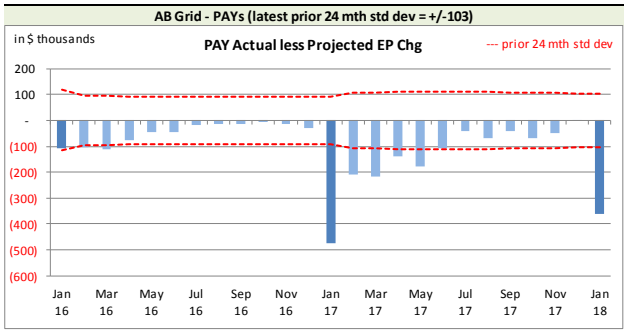


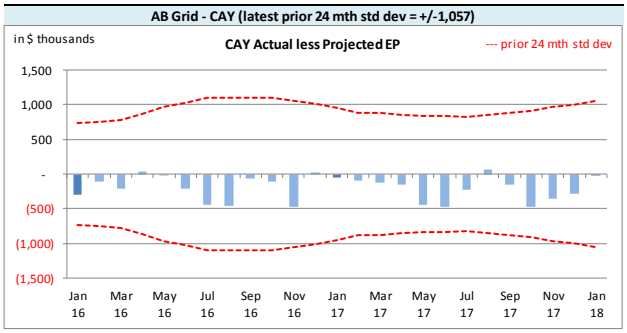
Earned premium changes during a given calendar month in relation to prior accident years tend to be at modest levels, although relatively high levels seem to occur at the beginning of each year.

We have noted and have investigated the unusually high level of PAYs earned premium activity earlier in 2017 and in January 2018, particularly with respect to one member. Management reviewed and was satisfied with the appropriateness of the 2017 transactions, and is in the process of reviewing the January 2018 transactions.

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*





[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.

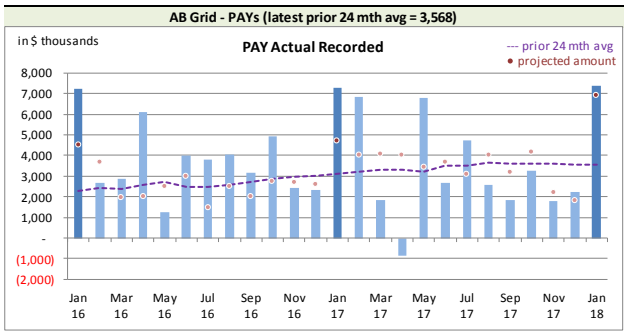
On Latest $ thousands		
Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(91)	11,810
std dev	103	1,057
A-P <> std dev	8	-
% <> std dev	32.0%	0.0%
norm <> std dev	31.7%	31.7%

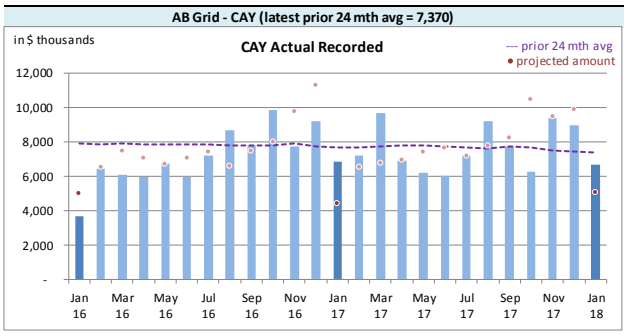
We project **earned premium** changes from known unearned premium and projected written premium levels, but upload the total projections as current accident year (CAY). This process has generated prior accident years' (PAYs) bias[5], with actuals generally lower than projected. However, the magnitude 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.

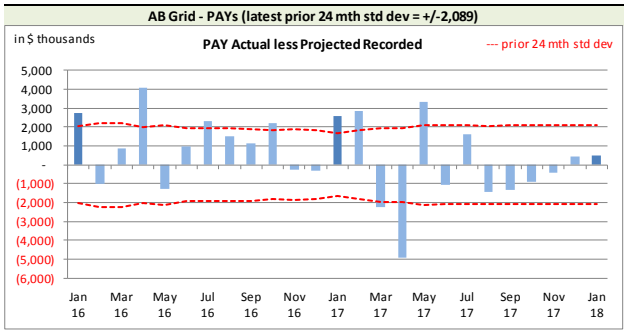
Alberta Grid RSP Actual **Recorded** *by Calendar Month*

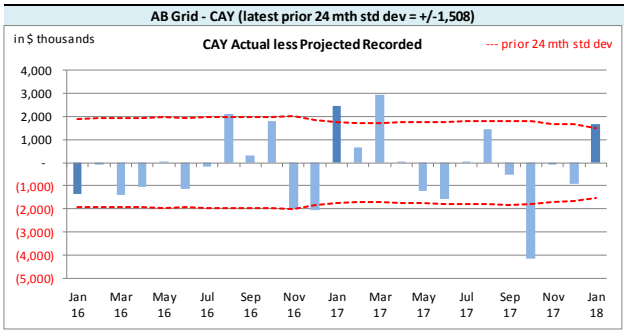




Recorded activity variances from the previous month's projections are shown in the charts immediately below, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

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





[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 and 50% probability of success. The 24-month variances at January 2018 has only 3 months where the projection was higher than projected, and as the 95% confidence range is 7 to 17, bias continues to be indicated.

On Latest $ thousands		
Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	3,568	7,370
std dev	2,089	1,508
A-P <> std dev	9	7
% <> std dev	36.0%	28.0%
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. 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 at the bottom of the previous page), have been greater than one standard deviation 28% 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.

The CAY recorded variance was outside of one standard deviation. The activity was reviewed and confirmed, with the variance attributed to process variance.

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 immediately below. 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 provides the January ratios 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%

CAY avg of mthly ratios for yr

as at	Rec'd	yr-on-yr chg	Paid	yr-on-yr chg
Jan 2009	35.3%		3.7%	
Jan 2010	26.3%	(9.0%)	3.8%	0.1%
Jan 2011	36.4%	10.1%	4.3%	0.5%
Jan 2012	34.3%	(2.1%)	3.3%	(1.0%)
Jan 2013	40.1%	5.8%	3.4%	0.1%
Jan 2014	33.8%	(6.3%)	3.2%	(0.2%)
Jan 2015	43.9%	10.1%	2.8%	(0.4%)
Jan 2016	32.1%	(11.8%)	4.0%	1.2%
Jan 2017	54.1%	22.0%	4.0%	0.0%
Jan 2018	47.9%	(6.2%)	5.2%	1.2%

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 were at the highest level for both **recorded** and **paid**.

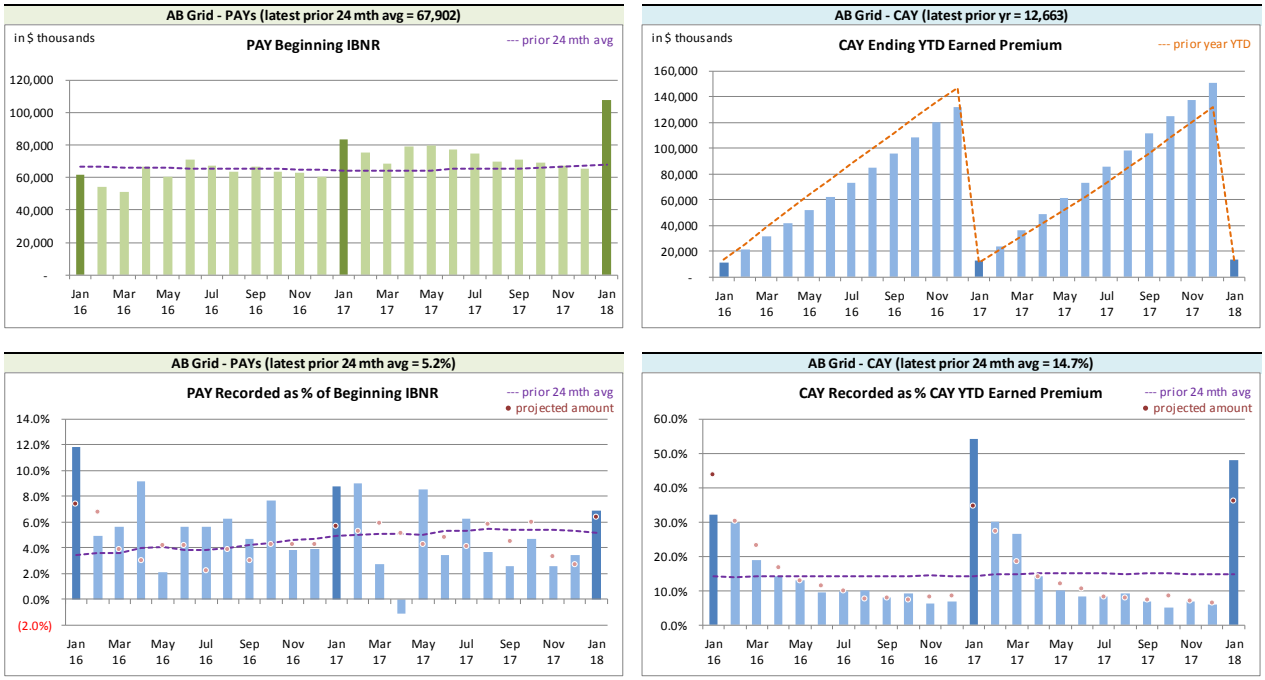
This month **recorded** ratio was the second highest January ratio since 2009 (see right table above), down from 2017 (the highest **recorded** ratio), while the **paid** ratio was the highest January ratio since 2009, as well as being up from 2017. However, these ratios are more volatile earlier in the year due to smaller year-to-date earned premium levels.

FA management was notified on January 31, 2018 by a member of a potential recorded case reserve overstatement as at October 31, 2017. Management investigated and estimated the overstatement for the Alberta Grid RSP was insignificant.

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 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

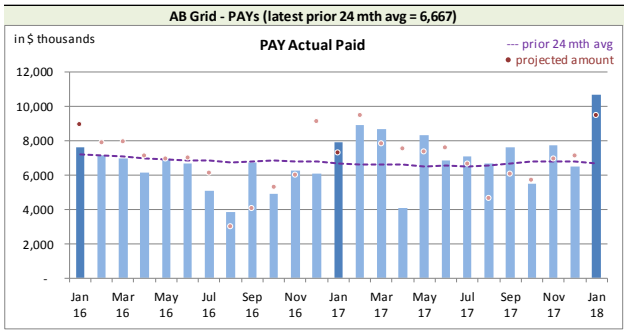
[7]Our recorded activity projections for the prior accident years are based on selected ratios of recorded activity to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date IBNR to year-to-date selected ultimate (i.e. selected LR x earned 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.

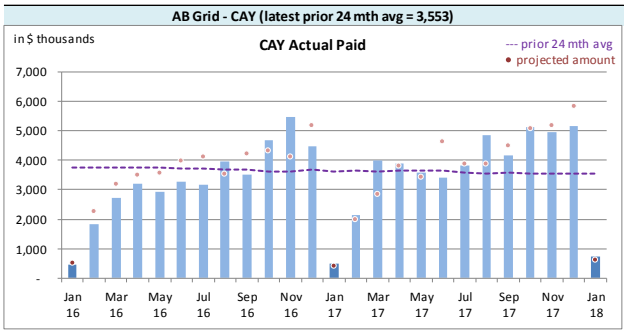
month after the valuation is implemented, i.e. the change will generally show in April, June, September, and November).

2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

The charts below 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.

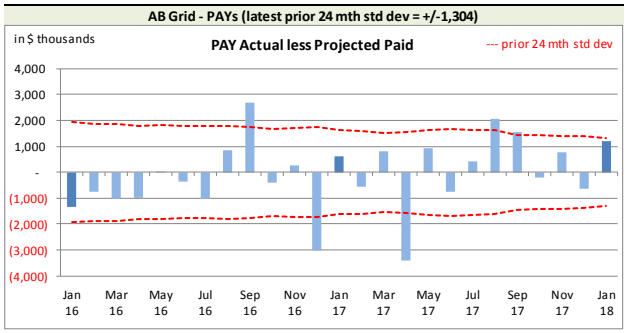
*Alberta Grid RSP Actual **Paid** activity by Calendar Month*

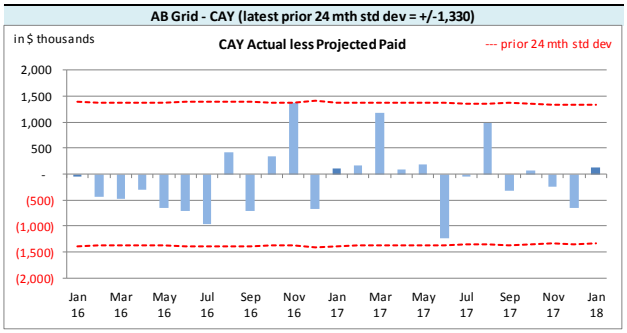




Paid activity variances from the previous month's projections are shown in the charts below, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

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





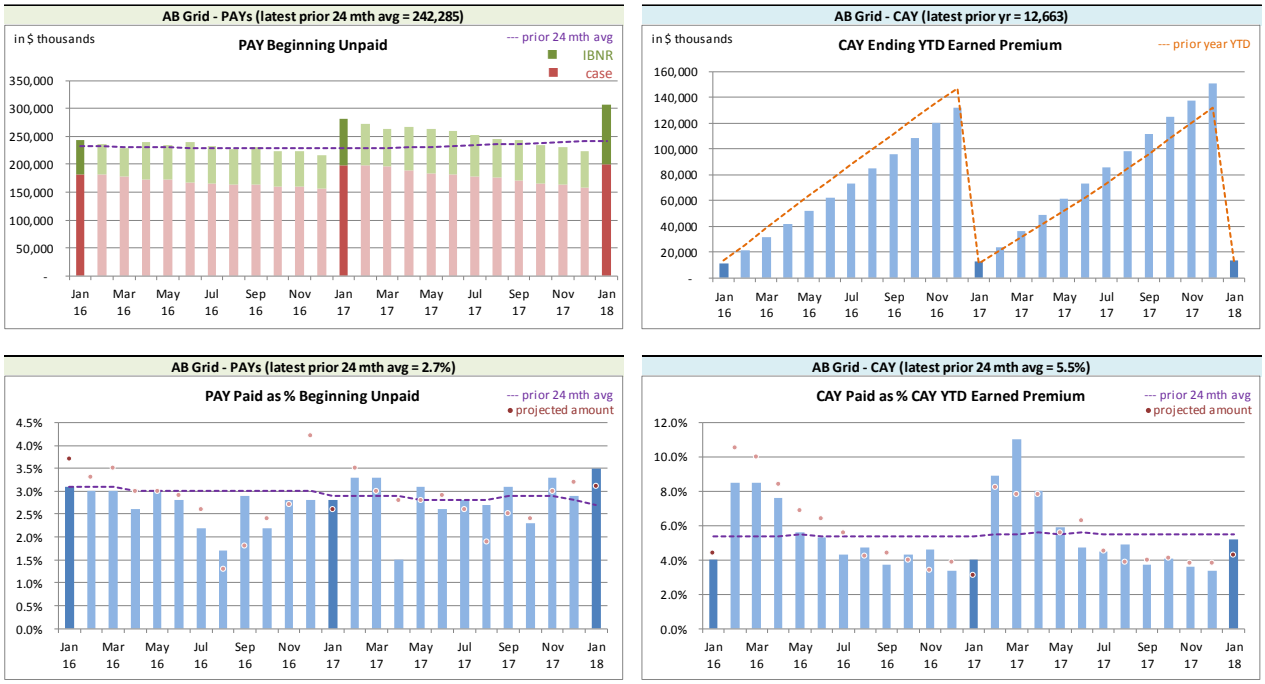
On Latest $ thousands		
Paid	PAYs	CAY
Mthly Avg Paid (prior 24 mths)	6,667	3,553
std dev	1,304	1,330
A-P <> std dev	5	-
% <> std dev	20.0%	0.0%
norm <> std dev	31.7%	31.7%

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

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 immediately below 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

[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".

projections and actuals were based on the applicable valuation. The table immediately below summarizes variances in provisions included in the January 2018 Operational Report and the associated one-month projections from last month's Report.

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

Table 02

			actuarial present value adjustments					
	IBNR		Discount Amount		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	39,055	(1,187)	(6,071)	44	16,472	(103)	49,456	(1,246)
2016	21,321	(150)	(3,074)	71	7,673	(176)	25,920	(255)
2017	39,407	532	(4,658)	(45)	10,120	95	44,869	582
2018	5,282	(1,666)	(596)	7	1,336	(16)	6,022	(1,675)
TOTAL	105,065	(2,471)	(14,399)	77	35,601	(200)	126,267	(2,594)

The IBNR provision is $2.5 million lower 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 at the top of the nextpage summarizes the variances in the provisions for premium deficiency liability / (deferred policy acquisition cost asset) included in the January 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:	(11,966)	171	4,405	(63)	(7,561)	108
balance as % unearned premium:	(13.9%)	-	5.1%	-	(8.8%)	-
actual unearned premium:	86,264					
less projected:	(1,219)					

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 at the top of the next page 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 88.0% rather than 85.8% (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.)

[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.

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	(318)	(2.3%)	(68)	(0.5%)	(386)	(2.8%)	#N/A	#N/A
CAY	11,970	88.0%	740	5.4%	12,710	93.4%	#N/A	#N/A
TOTAL	11,652	85.6%	672	4.9%	12,324	90.6%	#N/A	#N/A

("% 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. 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.

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

discount rate
1.76%

interest rate margin
25 basis pts

Accident Year	Actual Dec. 2017	Actual Jan. 2018	Projected Feb. 2018	Projected Mar. 2018	Projected Dec. 2018
	Amounts in $000s				
2004	(72)	(72)	(72)	(72)	(72)
2005	37	61	61	60	42
2006	165	157	149	145	96
2007	(57)	(139)	(124)	(121)	(73)
2008	134	127	124	121	82
2009	1,216	1,221	1,156	1,121	743
2010	1,175	1,235	1,177	1,142	763
2011	2,704	2,374	2,258	2,191	1,461
2012	4,379	4,063	3,858	3,742	2,486
2013	8,219	8,042	7,613	7,385	4,891
2014	13,481	13,229	12,520	11,956	8,166
2015	19,941	19,158	18,370	17,719	13,240
2016	26,594	25,920	24,974	24,271	19,270
2017	50,106	44,869	42,572	41,566	34,877
2018	-	6,022	9,233	13,719	46,032
TOTAL	128,022	126,267	123,869	124,945	132,004
Change		(1,755)	(2,398)	1,076	

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 Dec. 2017	Actual Jan. 2018	Projected Feb. 2018	Projected Mar. 2018	Projected Dec. 2018
51.6%	2004	(80)	(80)	(80)	(80)	(80)
59.3%	2005	(31)	(31)	(29)	(28)	(19)
66.4%	2006	110	115	108	105	68
70.2%	2007	(221)	(298)	(280)	(272)	(177)
67.1%	2008	26	16	15	15	9
60.6%	2009	1,009	993	933	905	593
62.0%	2010	773	798	750	727	476
66.2%	2011	1,893	1,712	1,609	1,561	1,025
73.9%	2012	3,388	3,113	2,926	2,838	1,861
77.1%	2013	6,893	6,693	6,291	6,102	4,004
86.0%	2014	11,541	11,114	10,447	9,925	6,590
93.7%	2015	15,880	14,910	14,164	13,597	9,804
97.4%	2016	22,135	21,321	20,468	19,854	15,396
89.9%	2017	44,176	39,407	37,437	36,688	30,892
85.8%	2018	-	5,282	7,937	11,866	39,512
	TOTAL	107,492	105,065	102,696	103,803	109,954
	Change		(2,427)	(2,369)	1,107	

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 Dec. 2017	Actual Jan. 2018	Projected Feb. 2018	Projected Mar. 2018	Projected Dec. 2018
(1) unearned premium (UP)	91,475	86,264	84,645	84,261	91,288
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	91.2%	91.2%	91.3%	91.3%	92.9%
(3) expected future costs {(1) x (2)}	83,449	78,703	77,248	76,944	84,826
(4) premium deficiency / (deferred policy acquisition cost)	(8,026)	(7,561)	(7,397)	(7,317)	(6,462)
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	86.1%	86.1%	86.2%	86.2%	87.7%
(6) expected future costs {(1) x (5)}	78,778	74,298	72,924	72,636	80,078
(7) premium deficiency / (deferred policy acquisition cost)	(12,697)	(11,966)	(11,721)	(11,625)	(11,210)

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	-	(80)	(80)	-	-	8	-	8	8	(72)
2005	625	(19)	606	-	-	61	-	61	61	667
2006	316	68	384	(11)	2	38	(1)	37	28	412
2007	1,670	(177)	1,493	(46)	6	149	(5)	144	104	1,597
2008	1,001	9	1,010	(29)	4	101	(3)	98	73	1,083
2009	1,549	593	2,142	(66)	9	214	(7)	207	150	2,292
2010	4,064	476	4,540	(173)	23	454	(17)	437	287	4,827
2011	6,542	1,025	7,567	(333)	45	757	(33)	724	436	8,003
2012	8,055	1,861	9,916	(387)	59	992	(39)	953	625	10,541
2013	9,801	4,004	13,805	(511)	69	1,380	(51)	1,329	887	14,692
2014	18,778	6,590	25,368	(989)	127	2,537	(99)	2,438	1,576	26,944
2015	32,944	9,804	42,748	(1,924)	256	5,344	(240)	5,104	3,436	46,184
2016	36,398	15,396	51,794	(2,590)	363	6,422	(321)	6,101	3,874	55,668
2017	30,876	30,892	61,768	(3,397)	494	7,289	(401)	6,888	3,985	65,753
PAYs (sub-total):	152,619	70,442	223,061	(10,456)	1,457	25,746	(1,217)	24,529	15,530	238,591
CAY (2018)	59,655	39,512	99,167	(5,256)	694	11,702	(620)	11,082	6,520	105,687
claims liabilities:	212,274	109,954	322,228	(15,712)	2,151	37,448	(1,837)	35,611	22,050	344,278
	Unearned Premium	Premium Defiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	91,288	(11,210)	80,078	(3,511)	479	8,138	(358)	7,780	4,748	84,826
										*Total may not be sum of parts, as apvs apply to future costs within UPR
policy liabilities:			**402,306**	**(19,223)**	**2,630**	**45,586**	**(2,195)**	**43,391**	**26,798**	**429,104**

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

	Actuarial Present Value of Provisions at Various Discount Rates - Dec. 31, 2017 projected Unpaid							
AY	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

	Dollar Impact Relative to Valuation Assumption							
AY	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

	Percentage Impact Relative to Valuation Assumption							
AY	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

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	(72)	2	(2)	-	-	-	(72)
2005	37	24	-	-	24	64.9%	61
2006	165	(1)	(7)	-	(8)	(4.8%)	157
2007	(57)	(4)	(78)	-	(82)	143.9%	(139)
2008	134	1	(8)	-	(7)	(5.2%)	127
2009	1,216	(1)	6	-	5	0.4%	1,221
2010	1,175	16	44	-	60	5.1%	1,235
2011	2,704	(123)	(207)	-	(330)	(12.2%)	2,374
2012	4,379	(105)	(211)	-	(316)	(7.2%)	4,063
2013	8,219	(119)	(58)	-	(177)	(2.2%)	8,042
2014	13,481	(196)	(56)	-	(252)	(1.9%)	13,229
2015	19,941	(114)	(669)	-	(783)	(3.9%)	19,158
2016	26,594	(419)	(255)	-	(674)	(2.5%)	25,920
2017	50,106	(5,819)	582	-	(5,237)	(10.5%)	44,869
2018	-	7,697	(1,675)	-	6,022	100.0%	6,022
Grand Total	**128,022**	**839**	**(2,594)**	**-**	**(1,755)**	**(1.4%)**	**126,267**

EXHIBIT G

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

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

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)	2	(2)	-	-	-	(80)
2005	(31)	1	(1)	-	-	-	(31)
2006	110	(2)	7	-	5	4.5%	115
2007	(221)	4	(81)	-	(77)	34.8%	(298)
2008	26	(1)	(9)	-	(10)	(38.5%)	16
2009	1,009	(20)	4	-	(16)	(1.6%)	993
2010	773	(15)	40	-	25	3.2%	798
2011	1,893	(38)	(143)	-	(181)	(9.6%)	1,712
2012	3,388	(68)	(207)	-	(275)	(8.1%)	3,113
2013	6,893	(138)	(62)	-	(200)	(2.9%)	6,693
2014	11,541	(346)	(81)	-	(427)	(3.7%)	11,114
2015	15,880	(318)	(652)	-	(970)	(6.1%)	14,910
2016	22,135	(664)	(150)	-	(814)	(3.7%)	21,321
2017	44,176	(5,301)	532	-	(4,769)	(10.8%)	39,407
2018	-	6,948	(1,666)	-	5,282	100.0%	5,282
Grand Total	**107,492**	**44**	**(2,471)**	**-**	**(2,427)**	**(2.3%)**	**105,065**