ALBERTA NON-GRID RISK SHARING POOL

JUNE 2017 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

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FACILITY Association

ACTUARIAL HIGHLIGHTS

RSP ALBERTA NON-GRID

OPERATIONAL REPORT

JUNE 2017

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1 Summary

1.1 Valuation Schedule (Fiscal Year 2017)

The June 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 2017.

ALBERTA NON-GRID RISK SHARING POOL
FISCAL YEAR 2017 – SCHEDULE OF VALUATIONS

Valuation Date	Discount Rate (per annum)	Operational Report	Description of Changes
Sep. 30, 2016 (completed)	0.55% mfad: 25 bp	Oct. 2016	updated valuation (roll forward): accident year 2016 loss ratio increased 7.2 points to 112.8%; discount rate decreased by 6 basis points; no change to selected margins for adverse deviations
Dec. 31, 2016 (completed)	1.08% mfad: 25 bp	Mar. 2017	updated valuation: accident year 2016 loss ratio increased 1.1 points to 113.9%; accident year 2017 loss ratio increased 5.0 points to 103.3%; discount rate increased by 53 basis points; no change to selected margins for adverse deviations
Mar. 31, 2017 (completed)	0.99% mfad: 25 bp	May 2017	updated valuation (roll forward): accident year 2017 loss ratio increased 3.1 points to 106.4%; discount rate decreased by 9 basis points; no change to selected margins for adverse deviations
Jun. 30, 2017		Aug. 2017	update valuation:
Sep. 30, 2017		Oct. 2017	update valuation (roll forward):

Under the proposed schedule for fiscal year 2017, the "off-half" valuation quarters ending March 31, 2017 and September 30, 2017 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 to the Supreme Court decision, "*The trial judge found that the ... accident caused S psychological injuries, including personality change and cognitive difficulties. ...and awarded S $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*."

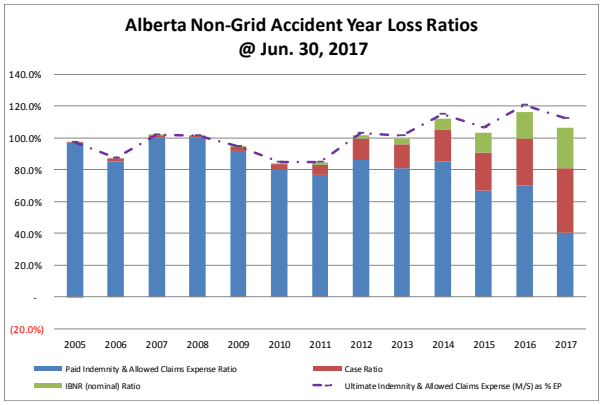
At the current time, no adjustments have been made to our valuation estimates or views based on the judgment as rendered, but we continue to review and consider the implications of the judgment.

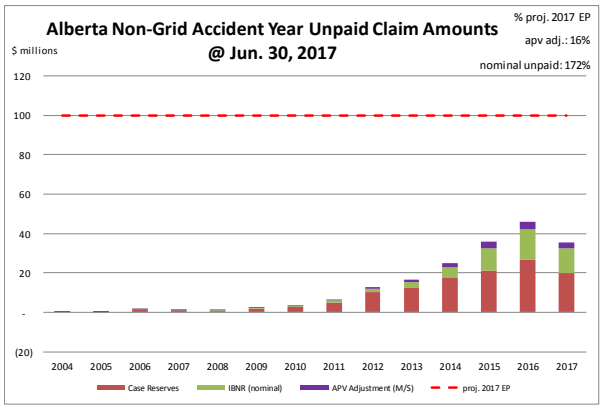
1.4 Current Provision Summary

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 2017 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 ($16.0 million – see table immediately below) represents 16% 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 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	120,397	64.2%
ibnr	51,190	27.3%
M/S apv adjust.	15,962	8.5%
M/S total	187,549	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 is in case reserves for this pool. Approximately 54% of the IBNR balance relates to accident years 2016 and 2017 (see Exhibit B). Approximately 85% of the M/S total claim liabilities are related to accident years 2013-2017 inclusive (i.e. the most recent 5 accident years).

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

premium liabilities ($000s)

	amt	%
unearned prem	49,643	87.5%
prem def/(dpac)	3,323	5.9%
M/S apv adjust.	3,756	6.6%
M/S total	56,722	100.0%

policy liabilities ($000s)

	amt	%
claim	171,587	70.2%
premium	52,966	21.7%
M/S apv adjust.	19,718	8.1%
M/S total	244,271	100.0%

2 Activity During the Month of June 2017

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 Non-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	(3)	(3)	1,732	201	(923)	334	809	535
2015	(7)	(7)	550	(445)	(92)	668	458	223
2016	(51)	(51)	1,263	(36)	327	949	1,590	913
2017	7,956	(194)	3,677	(1,457)	2,261	1,319	5,937	(138)
TOTAL	7,895	(256)	7,222	(1,737)	1,573	3,270	8,795	1,534

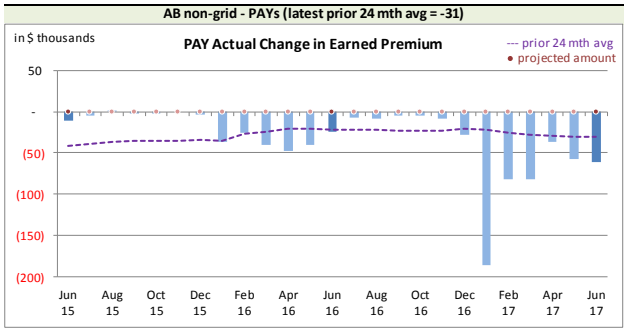
(Recorded transaction amounts exclude IBNR & other actuarial provisions)

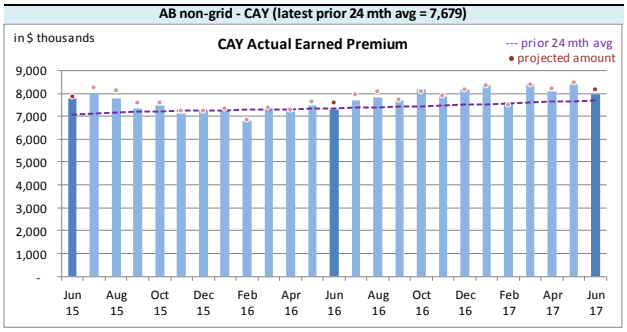
Claims transaction activity is generally volatile and changes from one month to the next are anticipated due to this natural "process variance". Each month, the projection variances are reviewed for signs of projection bias and to identify potential ways to reduce the level of the variance. Commentary 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 non-Grid RSP Actual **Earned Premium** by Calendar Month*



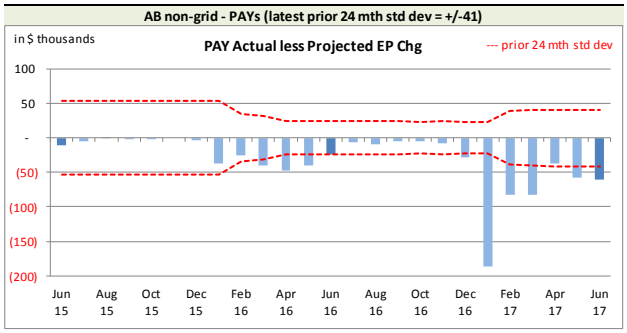


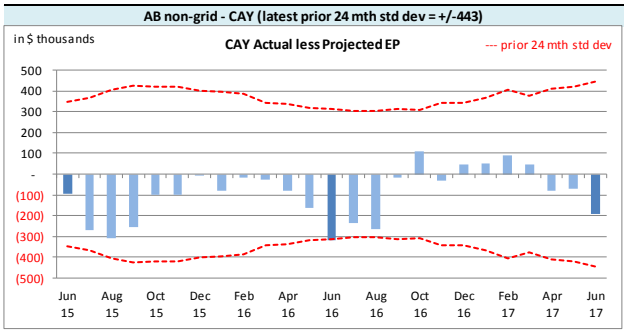
Earned premium changes during a given calendar month in relation to prior accident years tend to be at modest levels, although relatively high levels seem to occur at the beginning of each year.

The associated variance 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, but it does mean that the actual less projection variance will equal the actual **earned premium** change in relation to prior accident years.

[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.

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





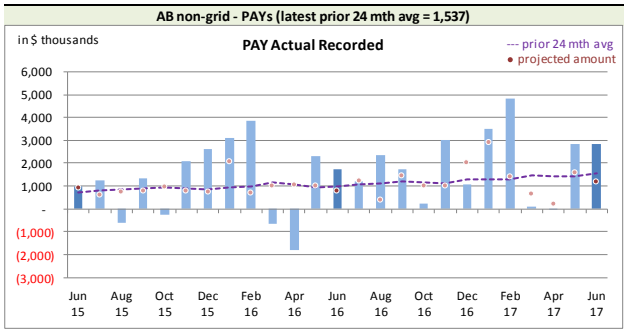
On Latest $ thousands		
Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(31)	7,679
std dev	41	443
A-P <> std dev	9	1
% <> std dev	36.0%	4.0%
norm <> std dev	31.7%	31.7%

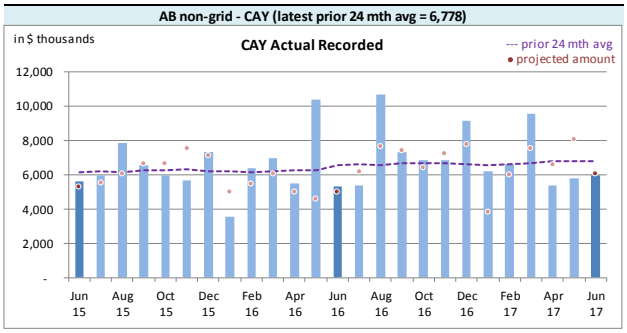
We project **earned premium** changes from known unearned premium and projected written premium levels, but upload the total projections as current accident year (CAY). This process has generated prior accident years' (PAYs) bias[5], with actuals generally lower than projected. However, the magnitude is not high relative to monthly premium. In addition to the PAYs' bias, the CAY has also shown bias, with actuals being generally lower than projected. Starting with the August 2016 projections, we have modified our projections processes in an attempt to account for CAY bias. 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 non-Grid RSP Actual ***Recorded*** *by Calendar Month*

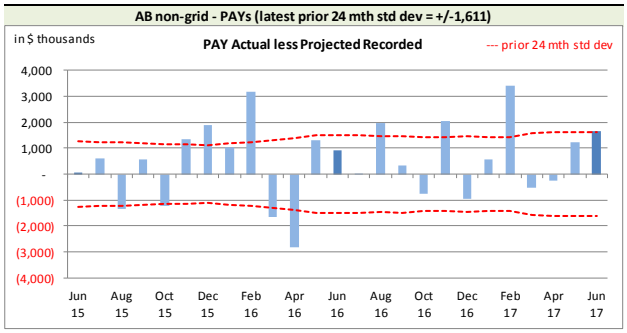


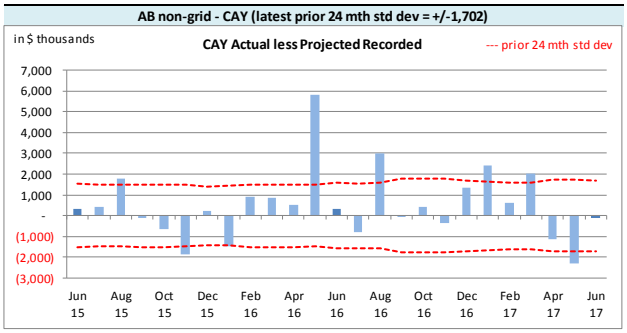


Recorded activity variances from the previous month's projections are shown in the charts at the top of the next page, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

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

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





On Latest $ thousands		
Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	1,537	6,778
std dev	1,611	1,702
A-P <> std dev	11	8
% <> std dev	44.0%	32.0%
norm <> std dev	31.7%	31.7%

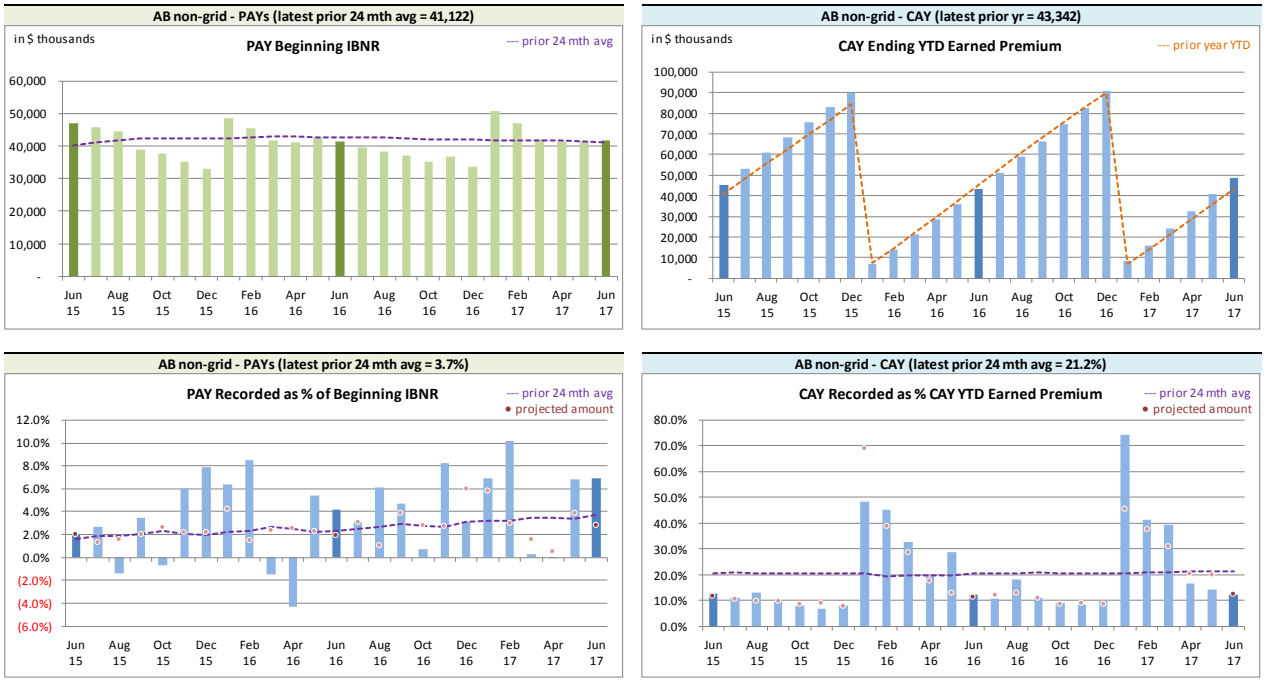
With respect to **recorded** indemnity & allowed claims expense activity, 44% of the prior accident years' (PAYs) variances (left chart above) fell outside of the experience period's standard deviation, suggesting the projection process performs worse than a projection based simply on the 24-month average. We are looking at options in an attempt to address this.

The current accident year (CAY) **recorded** variances (right chart above) have been greater than one standard deviation 32% of the time, suggesting that the projection process is no better than simply projecting the most recent prior 24-month average.

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.

Alberta non-Grid RSP Levels that influence[6] ***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:

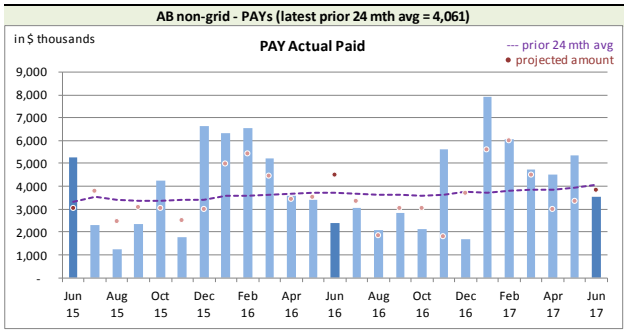
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a current accident year becomes a prior accident year (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of prior accident years' ultimate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

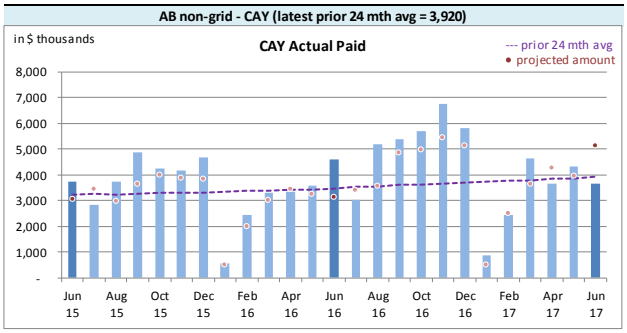
2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

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.

[6]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.

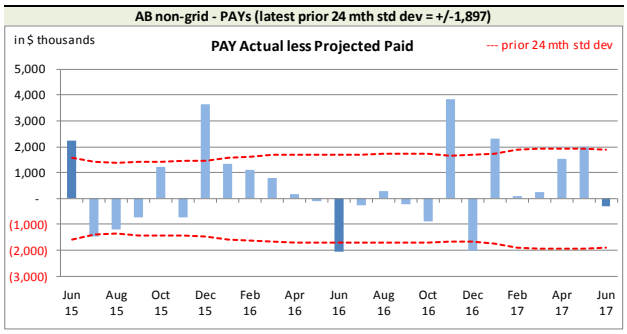
*Alberta non-Grid RSP Actual **Paid** activity by Calendar Month*

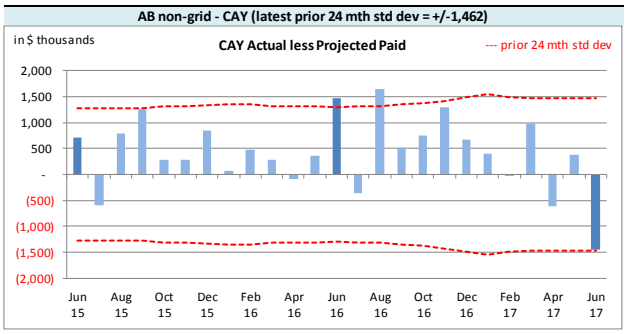




Paid activity variances from the previous month's projections are shown in the charts below, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

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





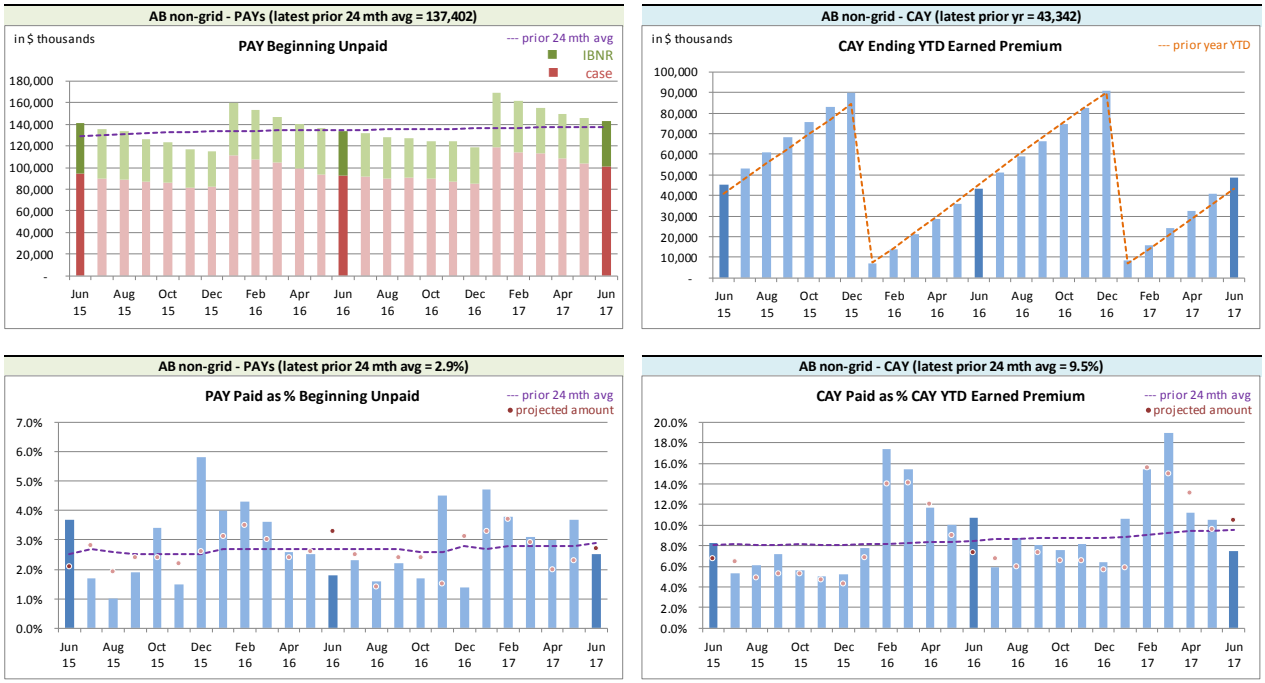
On Latest $ thousands		
Paid	PAYs	CAY
Mthly Avg Paid (prior 24 mths)	4,061	3,920
std dev	1,897	1,462
A-P <> std dev	8	2
% <> std dev	32.0%	8.0%
norm <> std dev	31.7%	31.7%

With respect to **paid** indemnity & allowed claims expense, the prior accident years' variances (left chart above) do not appear to have bias and the magnitude of the variances do not appear to be an issue. With 32% of prior accident years (PAYs) **paid** variances over the last 25 calendar months falling outside of one standard deviation, the projection process appears to have performed no better than simply projecting based on a 24-month average.

With only 8% of the current accident year (CAY) **paid** variances falling outside of one standard deviation of the experience period activity, the projection process appears to perform better than simply projecting based on a 24-month average. However, there does appear to be evidence of bias (actuals tend to be higher than our projections) and we are considering options on how to address this.

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

Alberta non-Grid RSP Levels that influence[7] ***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[8], 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 2017 Operational Report and the associated

[7]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.

[8]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 Non-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	12,105	(540)	(1,599)	5	7,280	(20)	17,786	(555)
2015	11,301	(230)	(946)	(13)	4,188	58	14,543	(185)
2016	15,287	(973)	(1,301)	1	5,379	(3)	19,365	(975)
2017	12,497	(69)	(937)	(36)	3,898	149	15,458	44
TOTAL	51,190	(1,812)	(4,783)	(43)	20,745	184	67,152	(1,671)

The IBNR provision is $1.8 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 below summarizes the variances in the provisions for premium deficiency liability / (deferred policy acquisition cost asset) included in the June 2017 Operational Report and the one-month projections from last month's Report. This RSP is in a premium deficiency position (shown as a positive amount) prior to and after actuarial present value adjustments. Actuarial present value adjustments increase the liability 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 Non-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:	3,323	(55)	3,756	(64)	7,079	(119)
balance as % unearned premium:	6.7%	-	7.6%	-	14.3%	-
actual unearned premium:	49,643					
less projected:	(837)					

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[9] 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[10], 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 107.5% rather than 106.4% (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 Non-Grid RSP Summary of Operations due to rounding.)

Alberta Non-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	1,977	4.1%	(4,557)	(9.4%)	(2,580)	(5.3%)	(408)	0.1%
CAY	51,935	107.5%	2,961	6.1%	54,896	113.6%	8,903	(0.2%)
TOTAL	53,913	111.6%	(1,596)	(3.3%)	52,317	108.3%	8,496	(0.1%)

("% 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.

[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).

[10] 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.

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 detailed in section 6, Exhibit B, refer to the estimates derived on the basis of various actuarial methodologies applied to the experience of the Alberta Non-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

discount rate 0.99%

interest rate margin 25 basis pts

Accident Year	Actual May. 2017	Actual Jun. 2017	Projected Jul. 2017	Projected Aug. 2017	Projected Dec. 2017
2004	42	42	42	42	42
2005	1	(31)	(30)	(29)	(26)
2006	146	146	143	141	131
2007	150	150	147	145	134
2008	325	325	318	312	287
2009	237	286	280	275	254
2010	654	694	679	666	606
2011	1,444	1,606	1,574	1,542	1,403
2012	2,699	2,649	2,596	2,545	2,316
2013	4,811	4,311	4,256	4,171	3,791
2014	8,244	7,608	7,433	7,180	6,438
2015	15,063	14,543	13,913	13,389	11,549
2016	21,143	19,365	18,366	17,384	14,442
2017	12,492	15,458	19,496	21,959	23,715
TOTAL	67,451	67,152	69,213	69,722	65,082
Change		(299)	2,061	509	

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. 2017	Actual Jun. 2017	Projected Jul. 2017	Projected Aug. 2017	Projected Dec. 2017
349.1%	2004	36	36	36	36	36
97.1%	2005	(6)	(34)	(33)	(32)	(28)
87.2%	2006	20	20	20	20	20
101.7%	2007	67	67	66	65	61
101.3%	2008	240	240	235	230	212
94.6%	2009	60	110	108	106	98
84.3%	2010	415	455	446	437	394
84.3%	2011	939	1,129	1,106	1,084	980
101.7%	2012	1,739	1,699	1,665	1,632	1,474
99.8%	2013	3,553	3,102	3,071	3,010	2,720
111.8%	2014	5,856	5,281	5,175	4,968	4,398
103.1%	2015	11,766	11,301	10,736	10,307	8,750
116.3%	2016	16,937	15,287	14,370	13,508	10,994
106.4%	2017	9,969	12,497	16,019	18,006	18,565
	TOTAL	51,591	51,190	53,020	53,377	48,674
	Change		(401)	1,830	357	

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

EXHIBIT C

Premium Liabilities

TABLE EXHIBIT C

Premium Liabilities	Actual May. 2017	Actual Jun. 2017	Projected Jul. 2017	Projected Aug. 2017	Projected Dec. 2017
	Amounts in $000s				
(1) unearned premium (UP)	49,349	49,643	50,560	51,251	50,590
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	114.3%	114.3%	114.2%	114.1%	113.7%
(3) expected future costs {(1) x (2)}	56,414	56,722	57,734	58,485	57,522
(4) premium deficiency / (deferred policy acquisition cost)	7,065	7,079	7,174	7,234	6,932
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	106.7%	106.7%	106.6%	106.6%	106.2%
(6) expected future costs {(1) x (5)}	52,677	52,966	53,911	54,610	53,712
(7) premium deficiency / (deferred policy acquisition cost)	3,328	3,323	3,351	3,359	3,122

EXHIBIT D

Projected Year-end Policy Liabilities

The table below presents the projected policy liabilities as at December 31, 2017, broken down by component.

Alberta non-Grid	**Projected Balances as at Dec. 31, 2017 ($000s)**							
ending 2017	**nominal values**			**actuarial present value adjustments (apvs)**				
Acc Yr	Case	IBNR	Total Unpaid	discount	investment PfAD	development PfAD	Total apvs	TOTAL
2004	26	36	62	-	-	6	6	68
2005	63	(28)	35	(1)	-	3	2	37
2006	1,266	20	1,286	(21)	5	127	111	1,397
2007	791	61	852	(14)	3	84	73	925
2008	675	212	887	(16)	4	87	75	962
2009	1,781	98	1,879	(39)	11	184	156	2,035
2010	2,228	394	2,622	(60)	16	256	212	2,834
2011	4,407	980	5,387	(135)	32	526	423	5,810
2012	9,103	1,474	10,577	(254)	63	1,033	842	11,419
2013	10,937	2,720	13,657	(355)	96	1,330	1,071	14,728
2014	15,459	4,398	19,857	(516)	139	2,417	2,040	21,897
2015	19,400	8,750	28,150	(816)	225	3,390	2,799	30,949
2016	24,489	10,994	35,483	(1,100)	284	4,264	3,448	38,931
PAYs (sub-total):	90,625	30,109	120,734	(3,327)	878	13,707	11,258	131,992
CAY (2017)	37,660	18,565	56,225	(1,631)	394	6,387	5,150	61,375
claims liabilities:	128,285	48,674	176,959	(4,958)	1,272	20,094	16,408	193,367
	Unearned Premium	Premium Defiency / (DPAC)	Total Provision	discount	investment PfAD	development PfAD	Total apvs	TOTAL*
premium liabilities:	50,590	3,122	53,712	(1,069)	267	4,612	3,810	57,522
							*Total may not be sum of parts, as apvs apply to future costs within UPR	
policy liabilities:			**230,671**	**(6,027)**	**1,539**	**24,706**	**20,218**	**250,889**

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 (Mar. 31, 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%	9.7%	10.0%
2011	10.0%	10.0%	10.0%	10.0%
2012	10.0%	10.0%	8.9%	10.0%
2013	10.0%	10.0%	10.0%	10.0%
2014	12.5%	10.0%	12.1%	12.5%
2015	12.5%	10.0%	12.3%	12.4%
2016	12.4%	10.0%	12.5%	12.4%
2017	12.1%	10.0%	7.8%	11.7%
2018	12.5%	10.0%	12.5%	12.5%
prem liab	11.8%	10.0%	5.1%	8.8%

discount rate:	0.99%
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 also to Dec. 31, 2017, but are based on more up-to-date information). We have included the current valuation selection (0.99%), the prior valuation assumption (1.08%) and the prior fiscal year end valuation assumption (0.55%) 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	0.49%	0.99%	1.49%	1.99%	2.49%	2.99%	1.08%	0.55%
2004	-	-	-	-	-	-	-	-
2005	5	5	5	5	5	5	5	5
2006	1,008	1,000	992	984	976	968	998	1,007
2007	656	651	645	640	635	630	650	655
2008	706	699	693	687	681	675	698	705
2009	2,507	2,481	2,455	2,430	2,406	2,382	2,477	2,504
2010	2,554	2,524	2,495	2,467	2,440	2,413	2,519	2,550
2011	5,720	5,647	5,576	5,508	5,441	5,375	5,634	5,711
2012	10,410	10,283	10,157	10,037	9,920	9,805	10,260	10,394
2013	14,333	14,147	13,965	13,791	13,620	13,454	14,114	14,311
2014	23,910	23,600	23,297	23,005	22,719	22,442	23,544	23,874
2016	42,400	41,733	41,082	40,461	39,855	39,263	41,611	42,318
2017	65,158	64,193	63,247	62,339	61,459	60,602	64,015	65,038
Total	201,258	198,390	195,587	192,896	190,276	187,723	197,870	200,905
	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	curr + 200bp	prior val assumption	prior fyr end assumption

	Dollar Impact Relative to Valuation Assumption							
AY	0.49%	0.99%	1.49%	1.99%	2.49%	2.99%	1.08%	0.55%
Total	2,868	-	(2,803)	(5,494)	(8,114)	(10,667)	(520)	2,515
	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	curr + 200bp	prior val assumption	prior fyr end assumption

	Percentage Impact Relative to Valuation Assumption							
AY	0.49%	0.99%	1.49%	1.99%	2.49%	2.99%	1.08%	0.55%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	0.8%	-	(0.8%)	(1.6%)	(2.4%)	(3.2%)	(0.2%)	0.7%
2007	0.8%	-	(0.9%)	(1.7%)	(2.5%)	(3.2%)	(0.2%)	0.6%
2008	1.0%	-	(0.9%)	(1.7%)	(2.6%)	(3.4%)	(0.1%)	0.9%
2009	1.0%	-	(1.0%)	(2.1%)	(3.0%)	(4.0%)	(0.2%)	0.9%
2010	1.2%	-	(1.1%)	(2.3%)	(3.3%)	(4.4%)	(0.2%)	1.0%
2011	1.3%	-	(1.3%)	(2.5%)	(3.6%)	(4.8%)	(0.2%)	1.1%
2012	1.2%	-	(1.2%)	(2.4%)	(3.5%)	(4.6%)	(0.2%)	1.1%
2013	1.3%	-	(1.3%)	(2.5%)	(3.7%)	(4.9%)	(0.2%)	1.2%
2014	1.3%	-	(1.3%)	(2.5%)	(3.7%)	(4.9%)	(0.2%)	1.2%
2016	1.6%	-	(1.6%)	(3.0%)	(4.5%)	(5.9%)	(0.3%)	1.4%
2017	1.5%	-	(1.5%)	(2.9%)	(4.3%)	(5.6%)	(0.3%)	1.3%
Total	1.4%	-	(1.4%)	(2.8%)	(4.1%)	(5.4%)	(0.3%)	1.3%
	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	curr + 200bp	prior val assumption	prior fyr end assumption

EXHIBIT G

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

RSP	**Alberta Non-Grid**
AccountCode Desc	**IBNR - Discounted**

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	42	-	-	-	-	-	42
2005	1	(1)	(31)	-	(32)	(3,200.0%)	(31)
2006	146	(3)	3	-	-	-	146
2007	150	(3)	3	-	-	-	150
2008	325	(7)	7	-	-	-	325
2009	237	(4)	53	-	49	20.7%	286
2010	654	(10)	50	-	40	6.1%	694
2011	1,444	(29)	191	-	162	11.2%	1,606
2012	2,699	(71)	21	-	(50)	(1.9%)	2,649
2013	4,811	(96)	(404)	-	(500)	(10.4%)	4,311
2014	8,244	(188)	(448)	-	(636)	(7.7%)	7,608
2015	15,063	(335)	(185)	-	(520)	(3.5%)	14,543
2016	21,143	(803)	(975)	-	(1,778)	(8.4%)	19,365
2017	12,492	2,922	44	-	2,966	23.7%	15,458
Grand Total	**67,451**	**1,372**	**(1,671)**	**-**	**(299)**	**(0.4%)**	**67,152**

EXHIBIT G

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

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

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	36	-	-	-	-	-	36
2005	(6)	-	(28)	-	(28)	466.7%	(34)
2006	20	-	-	-	-	-	20
2007	67	(1)	1	-	-	-	67
2008	240	(5)	5	-	-	-	240
2009	60	(1)	51	-	50	83.3%	110
2010	415	(8)	48	-	40	9.6%	455
2011	939	(19)	209	-	190	20.2%	1,129
2012	1,739	(52)	12	-	(40)	(2.3%)	1,699
2013	3,553	(71)	(380)	-	(451)	(12.7%)	3,102
2014	5,856	(117)	(458)	-	(575)	(9.8%)	5,281
2015	11,766	(235)	(230)	-	(465)	(4.0%)	11,301
2016	16,937	(677)	(973)	-	(1,650)	(9.7%)	15,287
2017	9,969	2,597	(69)	-	2,528	25.4%	12,497
Grand Total	**51,591**	**1,411**	**(1,812)**	**-**	**(401)**	**(0.8%)**	**51,190**