



ALBERTA NON-GRID RISK SHARING POOL

APRIL 2018 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

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ACTUARIAL HIGHLIGHTS
RSP ALBERTA NON-GRID
OPERATIONAL REPORT
APRIL 2018

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1 Summary

1.1 Valuation Schedule (Fiscal Year 2018)

The April 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 NON-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 increased 2.9 points to 112.8%; discount rate increased by 56 basis points; no change to selected margins for adverse deviations
Dec. 31, 2017 (completed)	1.76% mfad: 25 bp	Mar. 2018	update valuation: accident year 2018 loss ratio increased 2.7 points to 108.5%; no change to selected discount rate; no change to selected margins for adverse deviations
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

This section has been updated since last month’s Highlights to include a description of the Alberta Treasury Board Notice 04-2018.

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 to the Supreme Court decision, *“The trial judge found that the ... accident caused S[aadati] psychological injuries, including personality change and cognitive difficulties. ...and awarded S[aadati] \$100,000 for non-pecuniary damages.”* The trial decision was appealed to the BC Court of Appeal where the trial's \$100,000 non-pecuniary award was dismissed. The Supreme Court upheld the \$100,000 non-pecuniary award, determining:

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

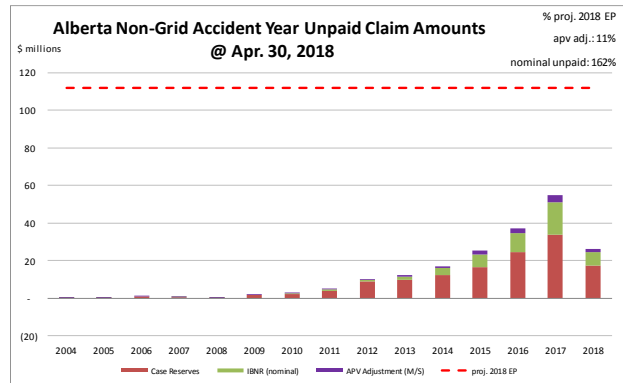
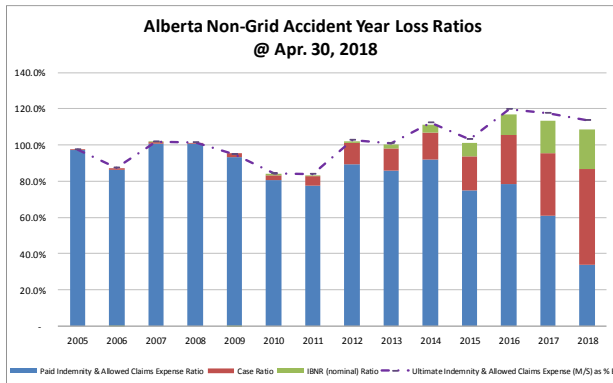
At the current time, no adjustments have been made to our valuation estimates or views based on the judgment as rendered, but we continue to review and consider the implications of the judgment.

1.4 Current Provision Summary

The charts at the top of the next page show the current levels of claim liabilities¹ booked by accident year². The left chart displays life-to-date payments, case reserves, IBNR, and the total including actuarial present value adjustments against accident year earned premium. The right chart shows the associated dollar amounts for the components of the claim liabilities and the current projected amount of 2018 full year earned premium (the red hash-mark line) to provide some perspective.

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

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



"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 (\$12.8 million – see table immediately below) represents 11% 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	132,531	68.4%
ibnr	48,423	25.0%
M/S apv adjust.	12,759	6.6%
M/S total	193,713	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 51% of the IBNR balance relates to accident years 2017 and 2018 (see Exhibit B). Approximately 83% 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	50,080	86.5%
prem def/(dpac)	4,620	8.0%
M/S apv adjust.	3,194	5.5%
M/S total	57,894	100.0%

policy liabilities (\$000s)

	amt	%
claim	180,954	71.9%
premium	54,700	21.7%
M/S apv adjust.	15,953	6.3%
M/S total	251,607	100.0%

2 Activity During the Month of April 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 Report³.

³There 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)

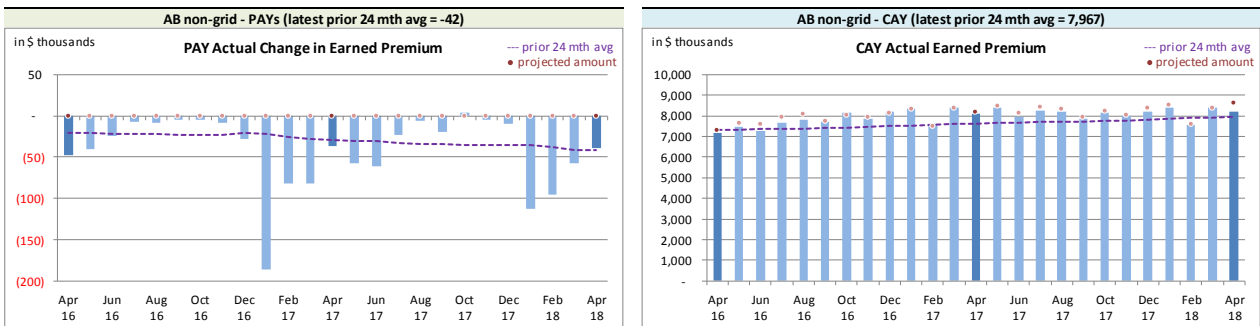
Table 01 Accident Year	Earned Premium		Paid Indemnity & Allowed Claims Expense		Case increase / (decrease)		Recorded increase / (decrease)	
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	4	4	1,707	(62)	(1,318)	279	389	217
2016	22	22	454	(247)	(197)	400	256	152
2017	(65)	(65)	1,190	(384)	(1,005)	391	185	7
2018	8,188	(442)	3,513	(15)	3,337	410	6,849	395
TOTAL	8,149	(481)	6,863	(708)	817	1,480	7,680	772

(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 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.

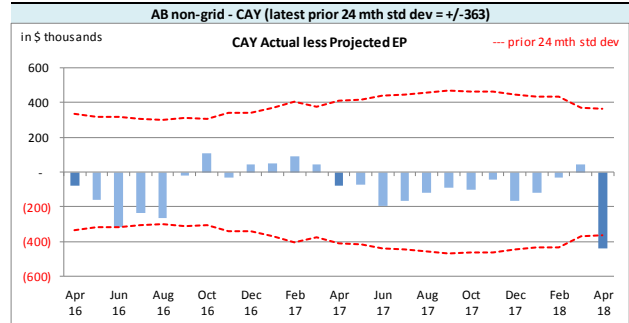
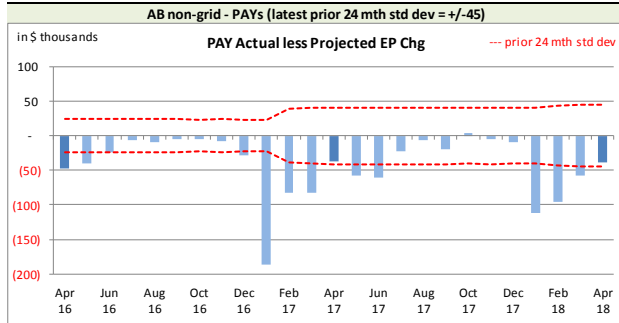
We have noted and investigated the unusually high level of PAYs earned premium activity earlier in 2017 and January through April 2018, particularly with respect to one member. Management reviewed and was satisfied with the appropriateness of the 2017 transactions, but continues its investigation of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

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

mean that the actual less projection variance will equal the actual **earned premium** change in relation to prior accident years.

*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)	(42)	7,967
std dev	45	363
A-P <> std dev	11	2
% <> std dev	44.0%	8.0%
norm <> std dev	31.7%	31.7%

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

monthly premium. In addition to the PAYS' bias, the CAY has also shown bias⁶, with actuals being generally lower than projected, and we have modified our projections processes in response. Over time, we may consider other projection approaches to narrow monthly variance levels further, but it is not currently deemed a priority.

As indicated in the right chart above, the CAY variance for the month was outside of the 1 standard deviation band. This variance was due to a \$7 million variance in written premium for the month, primarily related to a member transferring significantly less during the month than they provided as a projection.

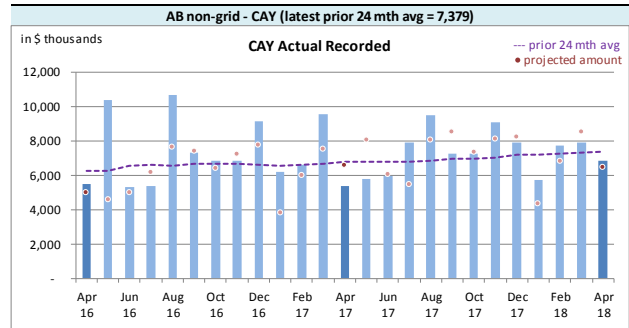
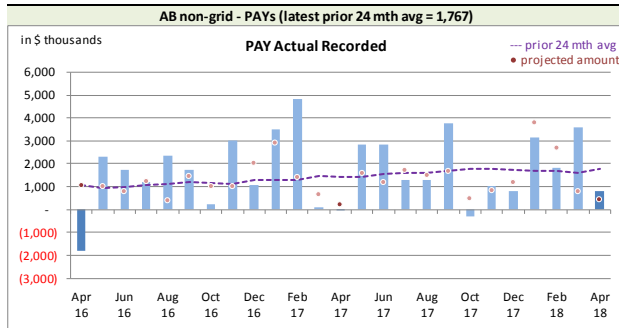
2.1.b AvsP: Recorded Indemnity & Allowed Claims Expense

The charts at the top of the next page 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.

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

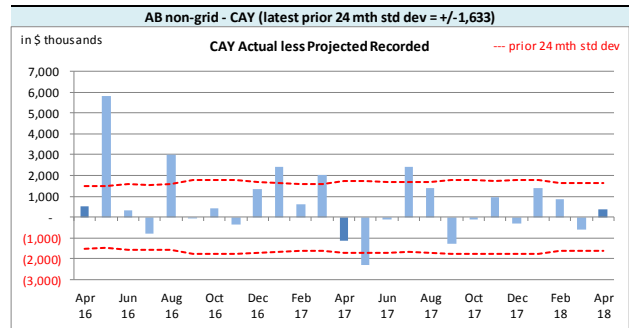
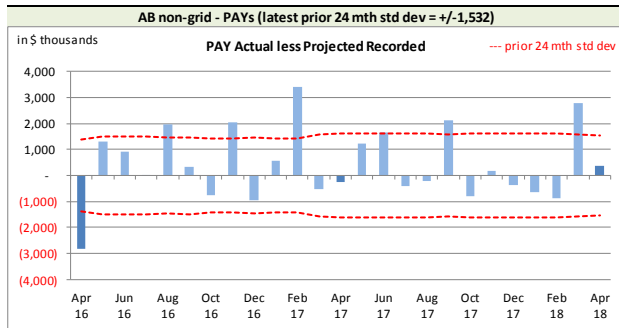
⁶We measure bias based on a 95% confidence range for a binominal distribution with trials based on the range being considered (24 in this case) and 50% probability of success. The 24-month variances at April 2018 has only 6 months where the actuals was higher than projected, and as the 95% confidence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

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



On Latest \$ thousands			
	Recorded	PAYS	CAY
Mthly Avg Recorded (prior 24 mths)	1,767	1,767	7,379
std dev	1,532	1,532	1,633
A-P <> std dev	7	7	6
% <> std dev	28.0%	28.0%	24.0%
norm <> std dev	31.7%	31.7%	31.7%

With respect to **recorded** indemnity & allowed claims expense activity, 28% of the prior accident years’ (PAYS) variances (left chart above) fell outside of the experience period’s standard deviation, suggesting the projection process has performed no better than a projection based simply on the 24-month average. We have

implemented changes in an attempt to address this. 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 24% of the time, suggesting that the projection process has performed 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.

As noted in the last three month’s Actuarial Highlights, FA management was notified on January 31, 2018 by a member of a potential recorded case reserve overstatement. Furthermore, during the latest valuation, FA management was advised of an additional and separate recorded case reserve understatement primarily due to incorrect reporting after FA’s October 31, 2017 fiscal year end. Management investigated and estimated the overall overstatement for the Alberta non-Grid RSP as at December 31, 2017 as indicated in the table at the top of the next page.

Estimated case reserve overstatement as at Dec 31, 2017

overstatement / (understatement)

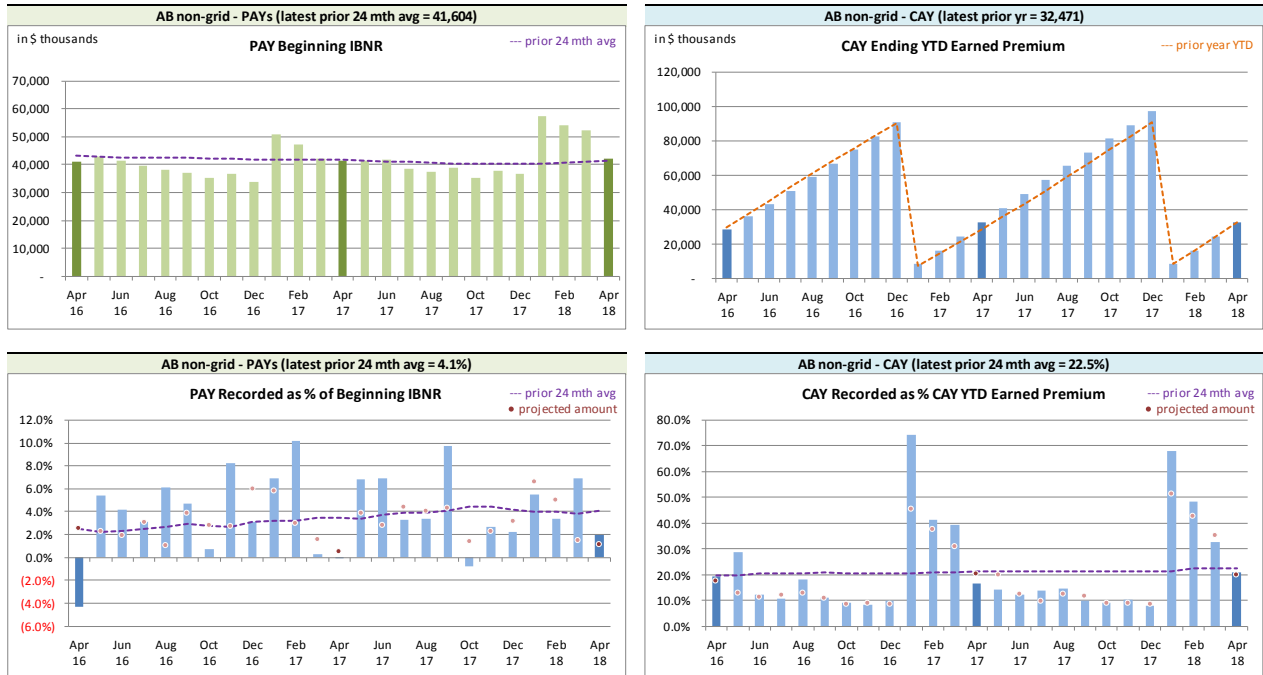
Accident Year	Total Case Reserve Adjustment (\$'000s)
2010	(171)
2011	(239)
2012	-
2013	(92)
2014	(104)
2015	518
2016	2,554
2017	2,529
Total	4,995

With this valuation, prior accident years' ultimates selections have taken into account the member's overstatement (both the original amount as notified, and the subsequent amount, with the combination of the two being summarized in the table above). FA management is working with the member on a process to correct the reported levels, and we currently anticipate that this will be either partially or entirely completed in time for the 2018 Q2 valuation.

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 influence⁷ 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:

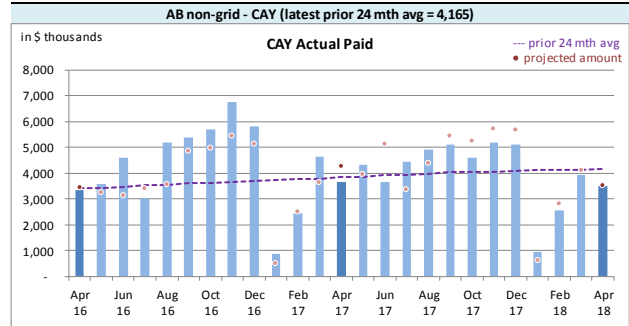
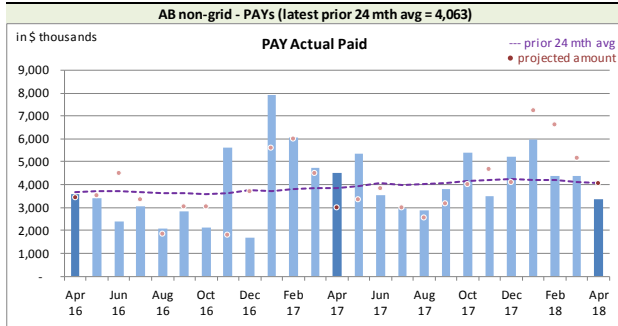
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a current accident year becomes a prior accident year (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of prior accident years’ ultimate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

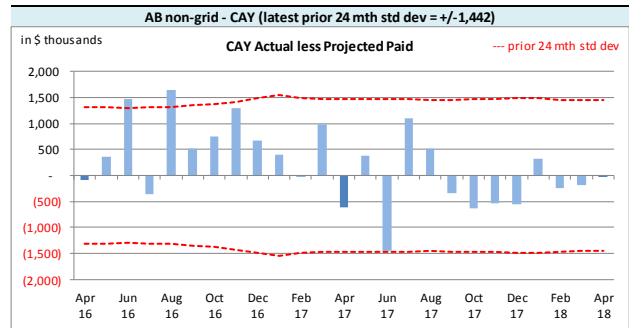
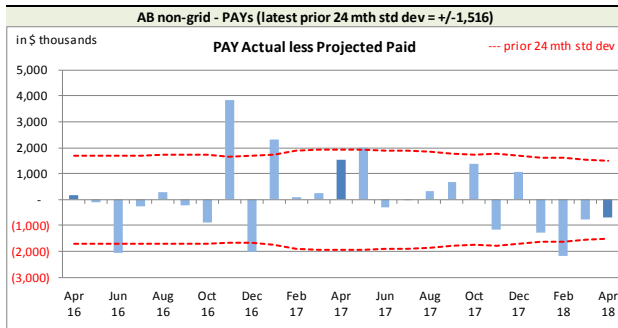
⁷Our recorded activity projections for the prior accident years are based on selected ratios of recorded activity to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date IBNR to year-to-date selected ultimate (i.e. selected LR x earned 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 immediately 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)	4,063	4,063	4,165
std dev	1,516	1,516	1,442
A-P <> std dev	6	6	2
% <> std dev	24.0%	24.0%	8.0%
norm <> std dev	31.7%	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 24% of prior accident years (PAYS) **paid** variances over the last 25 calendar months falling outside of one standard deviation,

the projection process has performed better than simply projecting based on a 24-month average. No bias has been indicated at a 95% confidence level on a lagging 24-month basis.

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 has performed better than simply projecting based on a 24-month average. While no bias has been indicated at a 95% confidence level on a lagging 24-month basis this month, it was indicated for each month from November 2015 through to September 2017. We made adjustments to our projection process to reflect this, and they appear to have been somewhat successful.

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 influence⁸ 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 IBNR⁹, 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 April 2018 Operational Report and the associated

⁸Our 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.

⁹For 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

Accident Year	actuarial present value adjustments							
	IBNR		Discount Amount		Provisions for Adverse Deviations		IBNR + actuarial present value adjustments	
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	13,580	(213)	(2,994)	(11)	7,734	9	18,320	(215)
2016	10,152	(127)	(1,697)	(14)	4,292	34	12,747	(107)
2017	17,546	(81)	(2,662)	(16)	6,423	38	21,307	(59)
2018	7,145	(876)	(1,193)	23	2,856	(55)	8,808	(908)
TOTAL	48,423	(1,297)	(8,546)	(18)	21,305	26	61,182	(1,289)

The IBNR provision is \$1.3 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 April 2018 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:	4,620	(421)	3,194	(278)	7,814	(699)
balance as % unearned premium:	9.2%	(0.1%)	6.4%	0.1%	15.6%	-
actual unearned premium:	50,080					
less projected:	(4,360)					

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 loss¹⁰ 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 expenses¹¹, 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 109.5% rather than 108.5% (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 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	(6,709)	(20.8%)	(1,127)	(3.5%)	(7,836)	(24.3%)	(290)	7.0%
CAY	35,325	109.5%	1,663	5.2%	36,988	114.7%	9,250	(0.4%)
TOTAL	28,617	88.7%	536	1.7%	29,153	90.4%	8,961	6.6%

(“% 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.

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).

¹¹Allowed 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	Accident Year	Actual Mar. 2018	Actual Apr. 2018	Projected May. 2018	Projected Jun. 2018	Projected Dec. 2018
	2004	42	42	42	42	42
	2005	13	13	13	13	11
	2006	113	(89)	(82)	(79)	(62)
	2007	133	132	125	121	97
	2008	53	24	22	23	19
	2009	52	(276)	(253)	(242)	(195)
	2010	745	646	608	587	474
	2011	785	896	843	815	658
	2012	1,355	1,193	1,133	1,098	890
discount rate	2013	2,271	2,521	2,371	2,288	1,850
1.76%	2014	4,389	4,513	4,156	3,752	2,785
	2015	8,872	8,705	8,260	7,647	5,812
interest rate margin	2016	13,011	12,747	13,914	13,523	11,614
25 basis pts	2017	21,660	21,307	23,688	23,179	20,528
	2018	6,407	8,808	12,064	15,663	29,567
TOTAL		59,901	61,182	66,904	68,430	74,090
Change			1,281	5,722	1,526	

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 Mar. 2018	Actual Apr. 2018	Projected May. 2018	Projected Jun. 2018	Projected Dec. 2018
	349.1%	2004	36	36	36	36	36
	97.4%	2005	5	5	5	5	5
	87.2%	2006	9	(136)	(126)	(121)	(98)
	101.8%	2007	84	84	78	75	60
	101.2%	2008	39	10	9	9	7
	94.9%	2009	(33)	(361)	(336)	(323)	(261)
	84.1%	2010	587	489	455	437	352
	83.4%	2011	533	644	599	575	462
	101.9%	2012	828	614	571	548	441
	100.2%	2013	1,571	1,863	1,733	1,664	1,340
	111.0%	2014	3,372	3,536	3,218	2,832	1,995
	101.0%	2015	6,934	6,796	6,388	5,813	4,220
	117.0%	2016	10,383	10,152	11,370	11,029	9,472
	113.5%	2017	17,805	17,546	20,002	19,602	17,360
	108.5%	2018	5,111	7,145	9,992	13,181	24,987
		TOTAL	47,264	48,423	53,994	55,362	60,378
		Change		1,159	5,571	1,368	

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

EXHIBIT C

Premium Liabilities

TABLE EXHIBIT C

Premium Liabilities	Amounts in \$000s				
	Actual	Actual	Projected	Projected	Projected
	Mar. 2018	Apr. 2018	May. 2018	Jun. 2018	Dec. 2018
(1) unearned premium (UP)	48,409	50,080	57,779	60,946	64,456
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	115.5%	115.6%	115.8%	116.0%	117.7%
(3) expected future costs {(1) x (2)}	55,903	57,894	66,915	70,693	75,847
(4) premium deficiency / (deferred policy acquisition cost)	7,494	7,814	9,136	9,747	11,391
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	109.1%	109.2%	109.4%	109.6%	111.2%
(6) expected future costs {(1) x (5)}	52,819	54,700	63,223	66,792	71,662
(7) premium deficiency / (deferred policy acquisition cost)	4,410	4,620	5,444	5,846	7,206

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 non-Grid ending 2018		Projected Balances as at Dec. 31, 2018 (\$000s)								
Acc Yr	nominal values			actuarial present value adjustments (apvs)					TOTAL	
	Case	IBNR	Total Unpaid	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD		Total apvs
2004	26	36	62	-	-	6	-	6	6	68
2005	57	5	62	-	-	6	-	6	6	68
2006	591	(98)	493	(14)	2	49	(1)	48	36	529
2007	468	60	528	(16)	2	53	(2)	51	37	565
2008	148	7	155	(5)	1	16	-	16	12	167
2009	1,250	(261)	989	(34)	4	99	(3)	96	66	1,055
2010	1,621	352	1,973	(79)	12	197	(8)	189	122	2,095
2011	3,068	462	3,530	(162)	21	353	(16)	337	196	3,726
2012	7,077	441	7,518	(316)	45	752	(32)	720	449	7,967
2013	7,686	1,340	9,026	(406)	54	903	(41)	862	510	9,536
2014	10,973	1,995	12,968	(532)	78	1,297	(53)	1,244	790	13,758
2015	15,270	4,220	19,490	(838)	117	2,417	(104)	2,313	1,592	21,082
2016	19,087	9,472	28,559	(1,399)	200	3,513	(172)	3,341	2,142	30,701
2017	25,740	17,360	43,100	(2,241)	302	5,387	(280)	5,107	3,168	46,268
PAYs (sub-total):	93,062	35,391	128,453	(6,042)	838	15,048	(712)	14,336	9,132	137,585
CAY (2018)	42,052	24,987	67,039	(3,285)	469	7,777	(381)	7,396	4,580	71,619
claims liabilities:	135,114	60,378	195,492	(9,327)	1,307	22,825	(1,093)	21,732	13,712	209,204
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	64,456	7,206	71,662	(2,569)	357	6,636	(239)	6,397	4,185	75,847
policy liabilities:			267,154	(11,896)	1,664	29,461	(1,332)	28,129	17,897	285,051

*Total may not be sum of parts, as apvs apply to future costs within UPR

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 (Dec. 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%	10.0%	10.0%
2011	10.0%	10.0%	10.0%	10.0%
2012	10.0%	10.0%	10.0%	10.0%
2013	10.0%	10.0%	9.3%	10.0%
2014	10.0%	10.0%	9.9%	10.0%
2015	12.5%	10.0%	11.4%	12.4%
2016	12.5%	10.0%	8.8%	12.3%
2017	12.4%	10.0%	12.5%	12.5%
2018	12.2%	10.0%	7.4%	11.6%
prem liab	11.8%	10.0%	5.2%	9.3%

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, 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 (1.76%), the prior valuation assumption (1.76%) 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

AY	Actuarial Present Value of Provisions at Various Discount Rates - Dec. 31, 2018 projected Unpaid							
	0.76%	1.26%	1.76%	2.26%	2.76%	3.26%	1.76%	1.76%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	861	854	847	840	833	826	847	847
2007	331	328	325	322	319	317	325	325
2008	225	223	222	220	218	216	222	222
2009	1,190	1,179	1,168	1,157	1,147	1,137	1,168	1,168
2010	2,047	2,025	2,003	1,982	1,962	1,942	2,003	2,003
2011	2,944	2,903	2,864	2,825	2,787	2,750	2,864	2,864
2012	6,507	6,424	6,344	6,266	6,190	6,116	6,344	6,344
2013	9,413	9,285	9,164	9,045	8,930	8,817	9,164	9,164
2014	13,466	13,304	13,149	12,996	12,848	12,705	13,149	13,149
2015	21,631	21,356	21,096	20,837	20,588	20,346	21,096	21,096
2016	32,743	32,274	31,825	31,384	30,955	30,543	31,825	31,825
2017	47,560	46,833	46,139	45,457	44,795	44,159	46,139	46,139
2018	70,886	69,869	68,899	67,946	67,024	66,137	68,899	68,899
Total	209,804	206,857	204,045	201,277	198,596	196,011	204,045	204,045
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

AY	Dollar Impact Relative to Valuation Assumption							
	0.76%	1.26%	1.76%	2.26%	2.76%	3.26%	1.76%	1.76%
Total	5,759	2,812	-	(2,768)	(5,449)	(8,034)	-	-
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

AY	Percentage Impact Relative to Valuation Assumption							
	0.76%	1.26%	1.76%	2.26%	2.76%	3.26%	1.76%	1.76%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	1.7%	0.8%	-	(0.8%)	(1.7%)	(2.5%)	-	-
2007	1.8%	0.9%	-	(0.9%)	(1.8%)	(2.5%)	-	-
2008	1.4%	0.5%	-	(0.9%)	(1.8%)	(2.7%)	-	-
2009	1.9%	0.9%	-	(0.9%)	(1.8%)	(2.7%)	-	-
2010	2.2%	1.1%	-	(1.0%)	(2.0%)	(3.0%)	-	-
2011	2.8%	1.4%	-	(1.4%)	(2.7%)	(4.0%)	-	-
2012	2.6%	1.3%	-	(1.2%)	(2.4%)	(3.6%)	-	-
2013	2.7%	1.3%	-	(1.3%)	(2.6%)	(3.8%)	-	-
2014	2.4%	1.2%	-	(1.2%)	(2.3%)	(3.4%)	-	-
2015	2.5%	1.2%	-	(1.2%)	(2.4%)	(3.6%)	-	-
2016	2.9%	1.4%	-	(1.4%)	(2.7%)	(4.0%)	-	-
2017	3.1%	1.5%	-	(1.5%)	(2.9%)	(4.3%)	-	-
2018	2.9%	1.4%	-	(1.4%)	(2.7%)	(4.0%)	-	-
Total	2.8%	1.4%	-	(1.4%)	(2.7%)	(3.9%)	-	-
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

EXHIBIT G

Page 1 of 2

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

RSP		Alberta Non-Grid			M/S IBNR - in \$000s		
AccountCode Desc		IBNR - Discou					
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	42	-	-	-	-	-	42
2005	13	-	-	-	-	-	13
2006	113	(3)	(199)	-	(202)	(178.8%)	(89)
2007	133	(3)	2	-	(1)	(0.8%)	132
2008	53	(1)	(28)	-	(29)	(54.7%)	24
2009	52	(2)	(326)	-	(328)	(630.8%)	(276)
2010	745	(11)	(88)	-	(99)	(13.3%)	646
2011	785	(13)	124	-	111	14.1%	896
2012	1,355	(24)	(138)	-	(162)	(12.0%)	1,193
2013	2,271	(36)	286	-	250	11.0%	2,521
2014	4,389	(88)	212	-	124	2.8%	4,513
2015	8,872	(107)	(60)	-	(167)	(1.9%)	8,705
2016	13,011	(157)	(107)	-	(264)	(2.0%)	12,747
2017	21,660	(294)	(59)	-	(353)	(1.6%)	21,307
2018	6,407	3,309	(908)	-	2,401	37.5%	8,808
Grand Total	59,901	2,570	(1,289)	-	1,281	2.1%	61,182

EXHIBIT G

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

RSP		Alberta Non-Grid			IBNR - in \$000s		
AccountCode Desc		IBNR - Undiscounted					
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	36	-	-	-	-	-	36
2005	5	-	-	-	-	-	5
2006	9	-	(145)	-	(145)	(1,611.1%)	(136)
2007	84	(1)	1	-	-	-	84
2008	39	-	(29)	-	(29)	(74.4%)	10
2009	(33)	-	(328)	-	(328)	993.9%	(361)
2010	587	(6)	(92)	-	(98)	(16.7%)	489
2011	533	(5)	116	-	111	20.8%	644
2012	828	(8)	(206)	-	(214)	(25.8%)	614
2013	1,571	(16)	308	-	292	18.6%	1,863
2014	3,372	(67)	231	-	164	4.9%	3,536
2015	6,934	(69)	(69)	-	(138)	(2.0%)	6,796
2016	10,383	(104)	(127)	-	(231)	(2.2%)	10,152
2017	17,805	(178)	(81)	-	(259)	(1.5%)	17,546
2018	5,111	2,910	(876)	-	2,034	39.8%	7,145
Grand Total	47,264	2,456	(1,297)	-	1,159	2.5%	48,423