



# **ALBERTA NON-GRID RISK SHARING POOL**

## **APRIL 2020 OPERATIONAL REPORT**

# **ACTUARIAL HIGHLIGHTS**

Related Bulletin: [F2020-033 Alberta RSPs April 2020 Operational Reports](#)

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**ACTUARIAL HIGHLIGHTS**  
**RSP ALBERTA NON-GRID**  
**OPERATIONAL REPORT**  
**APRIL 2020**

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## 1 Summary

### Key Points

- (a) The loss ratios being used under our current assumptions do NOT include any incurred impacts of adjustments related to COVID-19; any associated impacts and changes will be initially reflected in our March 31, 2020 valuation which will be implemented in the May 2020 Operational Reports; and
- (b) The month’s Current Accident Year recorded activities were lower than the projections from last month; the activity was reviewed and attributed to a reduction in written premium and physical damage claims experience in the month due to the impact of the COVID-19 pandemic. April’s reported claims projections for the next two months (May 2020 and June 2020) have been adjusted to reflect the impacts: a 30% decrease in Current Accident Year physical damage claim activity, as per discussion with FA’s Appointed Actuary. No adjustment has been made to this month’s premium projections.

### 1.1 Valuation Schedule (Fiscal Year 2020)

The April 2020 Operational Report leverages actuarial assumptions consistent with last month (that is, it does not reflect the results of an updated valuation). The table below summarizes the valuation implementations scheduled for fiscal year 2020.

<b>ALBERTA NON-GRID RISK SHARING POOL FISCAL YEAR 2020 – SCHEDULE OF VALUATIONS</b>			
<b>Valuation Date</b>	<b>Discount Rate (per annum)</b>	<b>Operational Report</b>	<b>Description of Changes</b>
Sep 30, 2019 (completed)	1.46% mfad 25 bp	Oct. 2019	updated valuation (roll forward) : accident year 2019 loss ratio <u>d</u> ecreased 2.6 points to 102.2%; discount rate <u>i</u> ncreased 3 basis points; no change to selected margins for adverse deviations
Dec. 31, 2019	1.64% mfad 25 bp	Mar. 2020	update valuation: 2019 loss ratio <u>d</u> ecreased 1.3 points to 100.9%; accident year 2020 loss ratio <u>d</u> ecreased 7.0 points to 99.7%; discount rate <u>i</u> ncreased 18 basis points; no change to selected margins for adverse deviations
Mar. 31, 2020	% mfad -- bp	May 2020	update valuation (partial roll-forward)
Jun. 30, 2020	% mfad -- bp	Aug. 2020	update valuation
Sep 30, 2020	% mfad -- bp	Oct. 2020	update valuation (roll-forward)

Under the proposed schedule for fiscal year 2020, the off-half valuation quarters ending March 31, 2020 and September 30, 2020 would not reflect a full valuation update of assumptions, but would rather roll-forward key assumptions from the previous valuation. However, with disruption on

the insurance environment from the COVID-19 pandemic, the valuation quarter ending March 31, 2020 will include partial update of key assumptions to reflect this impact. Other assumptions will continue and be roll-forward from the previous valuation.

## **1.2 Appointed Actuary and Hybrid Actuarial Services Model**

Mr. Cosimo Pantaleo of Ernst & Young LLP (EY) was appointed as Actuary by the FA Board at its February 18, 2020 meeting.

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<sup>1</sup>**

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

Consideration and assessment of potential impacts of legal decisions and changes in legislation / regulation constitutes a regular part of the valuation process. Descriptions of some of the more recent (i.e. within the last five years) 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). With the **most recent** valuation December 31, 2019), reform adjustments related to changes in the definition of minor injuries under the MIR, were included with the updated industry trend analysis (completed using industry data as at June 30, 2019), impacting the selection of ultimates.

## **1.4 Current Provision Summary**

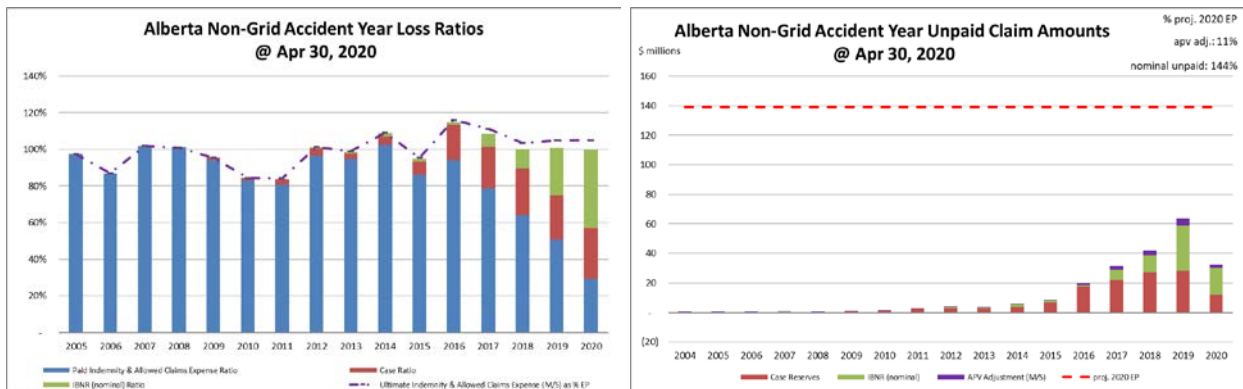
The following charts show the current levels of claim liabilities<sup>2</sup> booked by accident year<sup>3</sup>. The left chart displays life-to-date payments, case reserves, IBNR, and the total including actuarial present value adjustments against accident year earned premium. The right chart shows the associated dollar amounts for the components of the claim liabilities and the current projected amount of 2020 full year earned premium (the red hash-mark line) to provide some perspective.

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<sup>1</sup>This url to a pdf is to a helpful guide on how bills become laws: <https://www.ola.org/sites/default/files/common/how-bills-become-law-en.pdf>.

<sup>2</sup>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.

<sup>3</sup>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 (\$15.5 million – see the following table) represents 11% of the earned premium projected for the full year 2020 (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	127,954	59.3%
ibnr	72,539	33.6%
M/S apv adjust.	15,455	7.2%
<b>M/S total</b>	<b>215,948</b>	<b>100.0%</b>

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 RSP is in case reserves. Approximately 67% of the IBNR balance relates to accident years 2019 and 2020 (see Exhibit B). Approximately 88% of the M/S total claim

liabilities are related to accident years 2016–2020 inclusive (i.e. the most recent 5 accident years), and approximately 1% is related to accident years 2010 and prior (i.e. prior to the most recent 10 accident years).

The following tables summarize the premium liabilities and the total policy liabilities.

premium liabilities (\$000s)

	amt	%
unearned prem	69,008	94.0%
prem def/(dpac)	116	0.2%
M/S apv adjust.	4,318	5.9%
<b>M/S total</b>	<b>73,442</b>	<b>100.0%</b>

policy liabilities (\$000s)

	amt	%
claim	200,493	69.3%
premium	69,124	23.9%
M/S apv adjust.	19,773	6.8%
<b>M/S total</b>	<b>289,390</b>	<b>100.0%</b>

## 2 Activity During the Month of April 2020

### 2.1 Recorded Premium and Claims Activity

The following table summarizes the extent to which premiums and claims amounts recorded during the month differ from projections reflected in the prior month's Operational Report<sup>4</sup>.

<sup>4</sup>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 Accident Year	Earned Premium		Paid Indemnity & Allowed Claims Expense		Case increase / (decrease)		Recorded increase / (decrease)	
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	(1)	(1)	2,118	623	(2,011)	(1,031)	108	(407)
2018	(74)	(74)	894	339	629	780	1,523	1,119
2019	(239)	(239)	950	(733)	(1,710)	(327)	(760)	(1,060)
2020	10,873	(93)	3,303	(777)	(124)	(2,758)	3,178	(3,535)
TOTAL	10,558	(407)	7,265	(548)	(3,216)	(3,335)	4,049	(3,883)

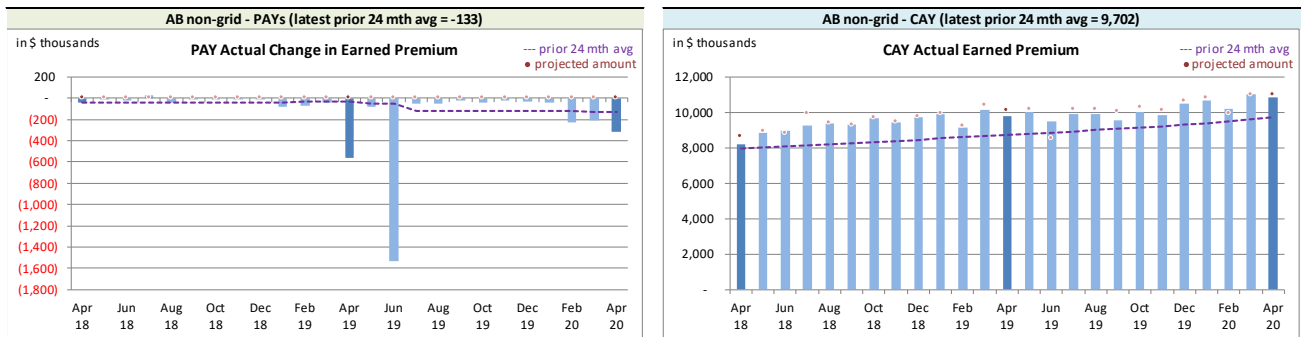
(Recorded transaction amounts exclude IBNR & other actuarial provisions)

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 following charts show actual **earned premium**<sup>5</sup> 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*

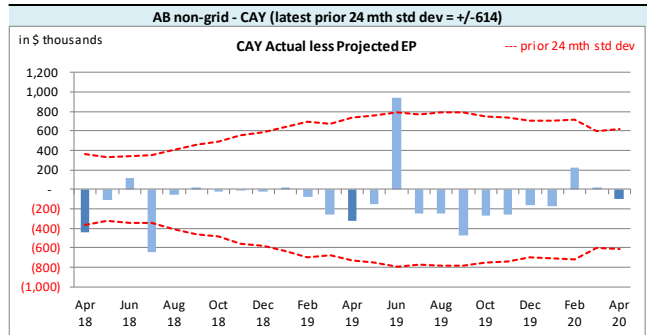
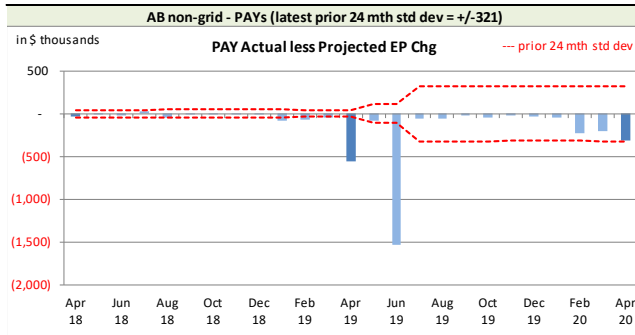


**Earned premium** changes during a given calendar month in relation to prior accident years tend to be at modest levels, although relatively high levels generally occur at the beginning of each year.

The associated variance between the actual changes and the projections from the previous month are shown in the following charts. **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.

<sup>5</sup>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)	(133)	9,702
std dev	321	614
A-P <> std dev	5	3
% <> std dev	20.0%	12.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	better

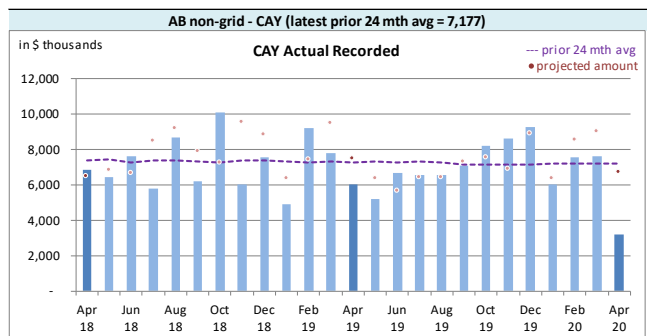
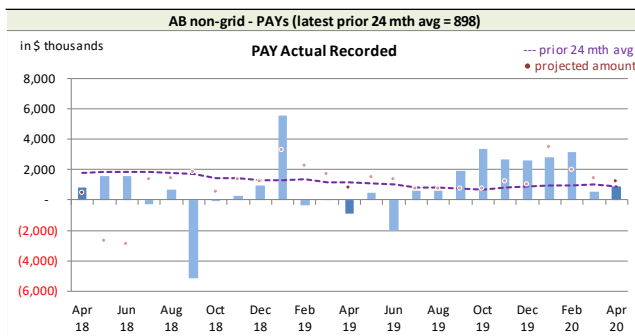
We project **earned premium** changes from known unearned premium and projected written premium levels, but upload the total projections as current accident year (CAY). This process has generated prior accident years’ (PAYS) bias<sup>6</sup>, with actuals generally lower than projected, although the magnitude is not high relative to monthly premium. In addition to the PAYS’ bias, the CAY has also

shown bias<sup>7</sup>, with actuals being generally lower than projected, modifications to our projections processes in response appears to have had a favourable impact, bias still exists. With the March 2020 projections we adjusted our written premium projection process and how we project earned premium from written premium projections with a goal of narrowing monthly variances and addressing the bias issue.

**2.1.b AvsP: Recorded Indemnity & Allowed Claims Expense**

The following charts 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



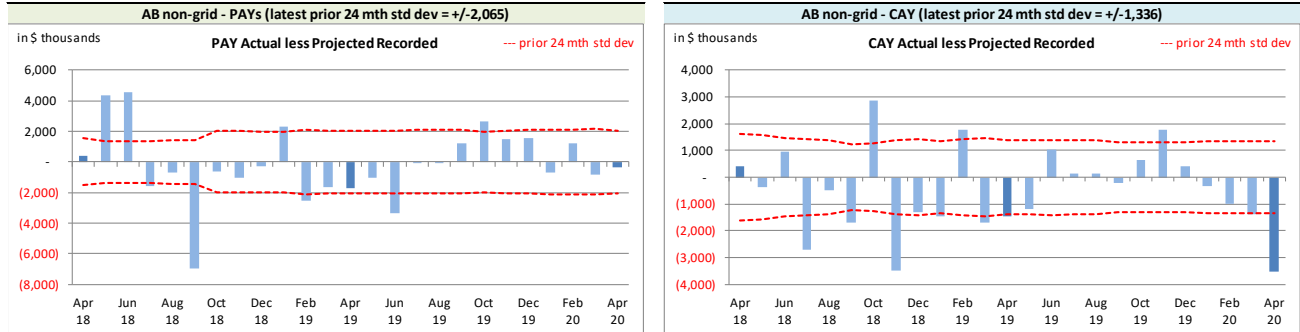
**Recorded** activity variances from the previous month’s projections are shown in the following charts,

<sup>6</sup>The PAYS’ variances will show bias as the projection upload forces all earned premium projections to be attributed to the CAY.

<sup>7</sup>We measure bias based on a 95% confidence range for a binominal distribution with trials based on the range being considered (25 in this case) and 50% probability of success. The rolling 25-month CAY variances at April 2020 had only 6 months where the actuals was higher than projected, and as the 95% confidence range is 8 to 17, bias continues to be indicated.

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)	898	7,177
std dev	2,065	1,336
A-P <> std dev	8	11
% <> std dev	32.0%	44.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	no better	worse

With respect to **recorded** indemnity & allowed claims expense activity, 32% of the prior accident years’ (PAYS) variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **recorded** amounts (see table on left), suggesting the projection process has performed no better than simply projecting the prior 24-month average amount (assuming it follows a

normal distribution). Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (9 of 25 variances are positive).

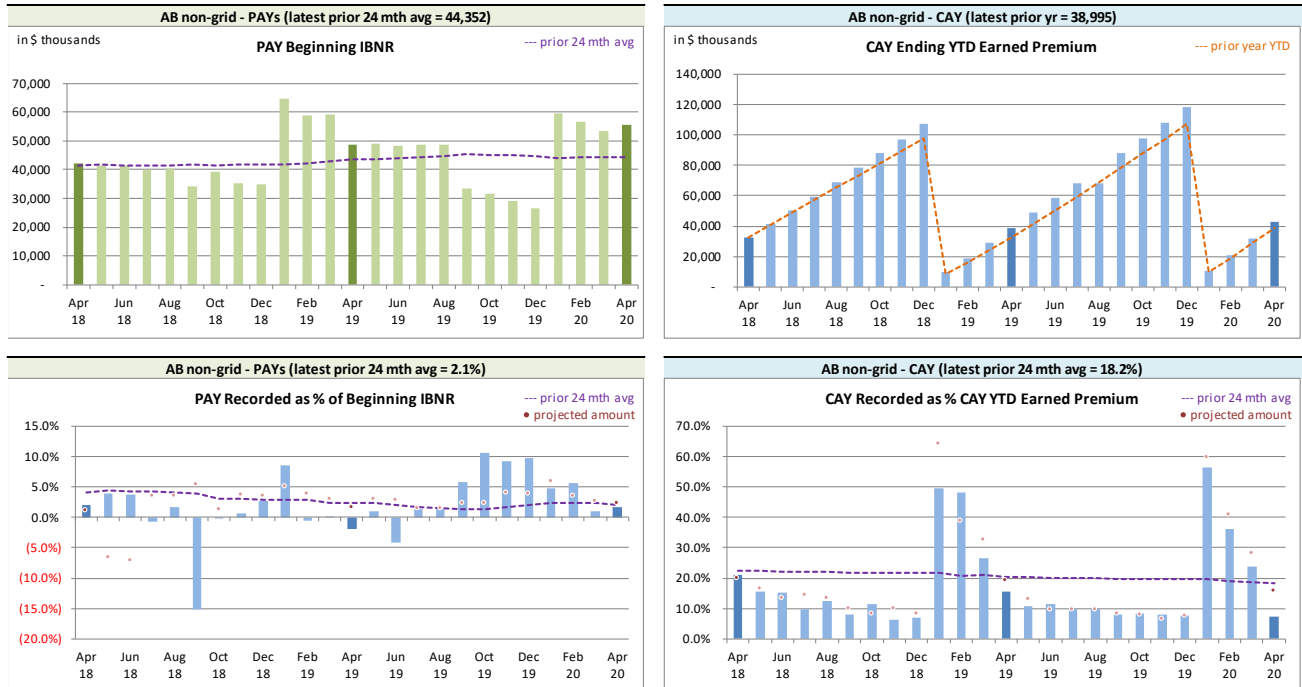
The current accident year (CAY) **recorded** variances fell outside of one standard deviation 44% of the time over the last 25 calendar months (see the preceding table), suggesting that the projection process has performed worse than simply projecting the prior 24-month average amount. Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (10 of 25 variances are positive).

The CAY **recorded** variance was outside of the one standard deviation band this month (see preceding chart on the right). The significant lower than projected recorded activity was reviewed, and attributed to a reduction in written premium and physical damage claims experience in the month; this is consistent with discussion with FA’s Appointed Actuary in relation to the COVID-19 pandemic impact. An adjustment has been made to projected CAY recorded claims activity for the next two projection months (May-June 2020).

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, the following charts related to levels influencing **recorded** activity.



*Alberta non-Grid RSP Levels that influence<sup>8</sup> Recorded activity by Calendar Month*


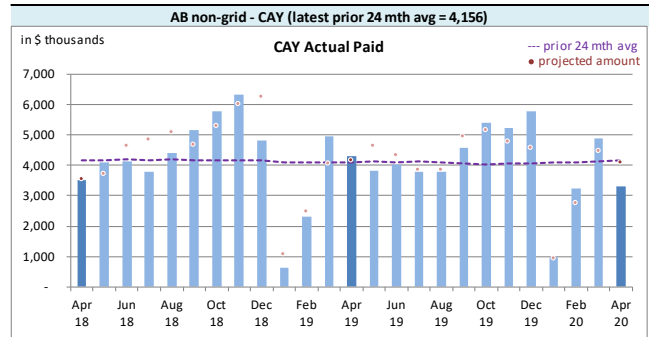
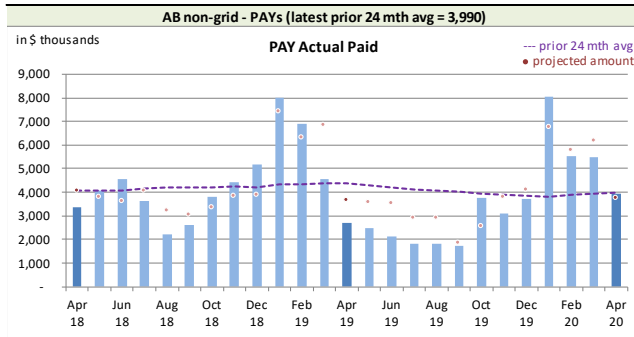
We track PAY beginning IBNR as **recorded** activity comes out of IBNR. Changes in the PAY beginning IBNR (see upper left chart above) occur for several possible reasons:

- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a CAY becomes a PAY(occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of PAYs’ ultimates (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).

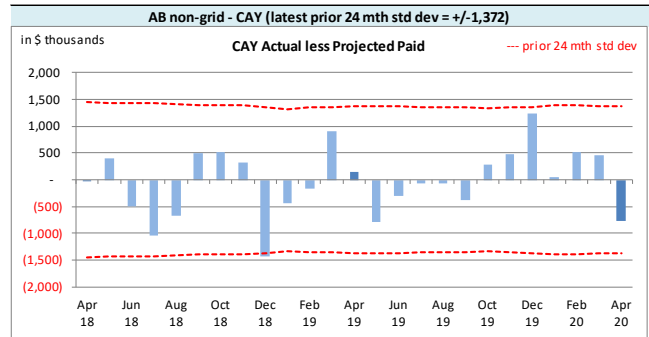
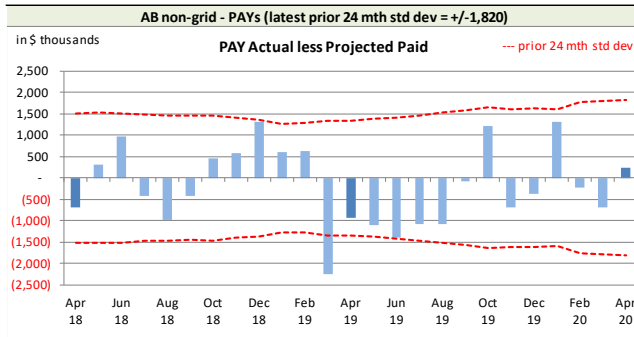
### 2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

The following charts 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.

<sup>8</sup>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 following charts, 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		
<b>Paid</b>	PAYs	CAY
Mthly Avg Paid (prior 24 mths)	3,990	4,156
std dev	1,820	1,372
A-P <> std dev	1	1
% <> std dev	4.0%	4.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	better

With respect to **paid** indemnity & allowed claims expense, 4% of the prior accident years’ (PAYs) variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **paid** amounts (see table on left), suggesting the projection process has performed better than simply projecting the prior 24-month average amount (assuming it follows a normal distribution). Bias

has not been indicated at a 95% confidence level on a lagging 24-month basis (10 of 25 variances are positive).

The current accident year (CAY) **paid** variances fell outside of one standard deviation 4% of the time over the last 25 calendar months (see the preceding table), suggesting the projection process has performed better than simply projecting the prior 24-month average amount. Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (12 of 25 variances are positive).

As discussed with respect to CAY recorded claims activity in relation to the COVID-19 pandemic impact, an adjustment has been made to projected CAY paid claims activity for the next two projection months (May-June 2020).

We have included, for reference, the following charts related to levels influencing **paid** activity.

*Alberta non-Grid RSP Levels that influence<sup>9</sup> Paid activity by Calendar Month*


We track the PAY beginning unpaid balance (case and IBNR) as **paid** activity comes out of the unpaid balance. Changes in the PAY 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 CAY becomes a PAY (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of PAYs' ultimates (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<sup>10</sup>, 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 following table summarizes variances in provisions included in this month's Operational Report

<sup>9</sup>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.

<sup>10</sup>For ease of discussion, "IBNR" is used in place of "provisions for incurred but not recorded (IBNR) and development".

and the associated 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	IBNR		actuarial present value adjustments				IBNR + actuarial present value adjustments	
	Actual	Actual less Projected	Discount Amount		Provisions for Adverse Deviations		Actual	Actual less Projected
			Actual	Actual less Projected	Actual	Actual less Projected		
Prior	12,256	404	(3,012)	28	8,098	(83)	17,342	349
2018	11,426	(1,194)	(1,585)	17	4,866	(52)	14,707	(1,229)
2019	30,554	819	(2,652)	(22)	7,447	62	35,349	859
2020	18,303	3,443	(1,298)	(29)	3,591	82	20,596	3,496
TOTAL	72,539	3,472	(8,547)	(6)	24,002	9	87,994	3,475

The IBNR provision is \$3.5 million higher than projected from last month, counterbalancing the recorded claims activity and adjusting for the earned premium variance impacts indicated in section 2.1.

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

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

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

The following table summarizes the variances in the provisions for premium deficiency liability / (deferred policy acquisition cost asset) included in this month’s 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:	116	0	4,318	18	4,434	18
balance as % unearned premium:	0.2%	-	6.3%	-	6.4%	-
actual unearned premium:	69,008					
less projected:	300					

### 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<sup>11</sup> 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 following table summarizes the calendar year-to-date results for indemnity & allowed claims expenses<sup>12</sup>, 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 101.6% rather than 99.7% (the valuation ultimate ratio for accident year 2020), 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	2,046	4.9%	(2,145)	(5.1%)	(99)	(0.2%)	(654)	(2.0%)
CAY	42,610	101.6%	2,293	5.5%	44,903	107.0%	11,412	0.3%
<b>TOTAL</b>	<b>44,656</b>	<b>106.5%</b>	<b>148</b>	<b>0.4%</b>	<b>44,804</b>	<b>106.8%</b>	<b>10,758</b>	<b>(1.7%)</b>

(“% EP” based on 2020 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.

<sup>11</sup>“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).

<sup>12</sup>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	Accident Year	Actual Mar. 2020	Actual Apr. 2020	Projected May. 2020	Projected Jun. 2020	Projected Dec. 2020
	2004	42	42	42	40	33
	2005	13	13	13	13	11
	2006	18	18	18	16	15
	2007	128	114	112	108	90
	2008	67	67	66	63	53
	2009	(178)	(178)	(178)	(170)	(147)
	2010	80	63	61	59	47
	2011	191	183	178	172	144
	2012	638	603	591	569	481
	2013	969	922	910	873	739
	2014	1,885	1,902	1,876	1,800	1,530
discount rate	2015	1,637	1,818	1,792	1,721	1,459
1.64%	2016	2,725	2,278	2,160	2,021	1,694
	2017	9,393	9,497	8,964	8,325	6,549
interest rate margin	2018	16,387	14,707	14,137	13,974	11,601
25 basis pts	2019	34,928	35,349	34,943	34,541	31,272
	2020	12,362	20,596	26,596	31,672	45,292
	<b>TOTAL</b>	<b>81,285</b>	<b>87,994</b>	<b>92,281</b>	<b>95,797</b>	<b>100,863</b>
	Change		6,709	4,287	3,516	

*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. 2020	Actual Apr. 2020	Projected May. 2020	Projected Jun. 2020	Projected Dec. 2020
349.1%	2004	36	36	36	34	28
97.4%	2005	5	5	5	5	5
86.9%	2006	16	16	16	15	14
101.9%	2007	96	83	82	79	66
101.1%	2008	64	64	63	60	51
95.3%	2009	(233)	(233)	(231)	(221)	(189)
84.3%	2010	(2)	(16)	(16)	(15)	(14)
83.9%	2011	15	12	12	11	10
101.0%	2012	402	370	366	351	300
98.7%	2013	760	718	711	681	580
108.8%	2014	1,571	1,596	1,580	1,514	1,292
95.0%	2015	1,202	1,408	1,394	1,335	1,139
114.8%	2016	1,591	1,160	1,066	947	771
108.7%	2017	6,844	7,037	6,537	5,949	4,480
100.4%	2018	13,024	11,426	10,912	10,803	8,813
100.9%	2019	30,035	30,554	30,248	29,946	27,096
99.7%	2020	10,642	18,303	23,733	28,270	39,045
	<b>TOTAL</b>	<b>66,068</b>	<b>72,539</b>	<b>76,514</b>	<b>79,764</b>	<b>83,487</b>
	Change		6,471	3,975	3,250	

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



**EXHIBIT C**
**Premium Liabilities**

TABLE EXHIBIT C

	Amounts in \$000s				
	Actual	Actual	Projected	Projected	Projected
	Mar. 2020	Apr. 2020	May. 2020	Jun. 2020	Dec. 2020
Premium Liabilities					
(1) unearned premium (UP)	66,965	69,008	71,657	74,524	76,156
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	106.4%	106.4%	106.4%	106.4%	106.3%
(3) expected future costs {(1) x (2)}	71,271	73,442	76,259	79,300	80,978
(4) premium deficiency / (deferred policy acquisition cost)	4,306	4,434	4,602	4,776	4,822
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	100.2%	100.2%	100.2%	100.2%	100.1%
(6) expected future costs {(1) x (5)}	67,080	69,124	71,773	74,637	76,217
(7) premium deficiency / (deferred policy acquisition cost)	115	116	116	113	61

EXHIBIT D

Projected Year-end Policy Liabilities

The table below presents the projected policy liabilities as at December 31, 2020, broken down by component.

Alberta non-Grid		Projected Balances as at Dec. 31, 2020 (\$000s)								
ending 2020		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	20	28	48	-	-	5	-	5	5	53
2005	57	5	62	-	-	6	-	6	6	68
2006	(1)	14	13	-	-	1	-	1	1	14
2007	234	66	300	(6)	1	30	(1)	29	24	324
2008	(30)	51	21	-	-	2	-	2	2	23
2009	778	(189)	589	(17)	2	59	(2)	57	42	631
2010	869	(14)	855	(26)	4	86	(3)	83	61	916
2011	1,995	10	2,005	(72)	12	201	(7)	194	134	2,139
2012	2,421	300	2,721	(95)	14	272	(10)	262	181	2,902
2013	1,947	580	2,527	(99)	15	253	(10)	243	159	2,686
2014	2,765	1,292	4,057	(178)	28	406	(18)	388	238	4,295
2015	5,124	1,139	6,263	(313)	44	620	(31)	589	320	6,583
2016	14,660	771	15,431	(648)	93	1,543	(65)	1,478	923	16,354
2017	19,903	4,480	24,383	(1,000)	146	3,048	(125)	2,923	2,069	26,452
2018	24,037	8,813	32,850	(1,347)	197	4,106	(168)	3,938	2,788	35,638
2019	24,225	27,096	51,321	(2,309)	359	6,415	(289)	6,126	4,176	55,497
PAYs (sub-total):	99,004	44,442	143,446	(6,110)	915	17,053	(729)	16,324	11,129	154,575
CAY (2020)	43,229	39,045	82,274	(3,538)	494	9,708	(417)	9,291	6,247	88,521
claims liabilities:	142,233	83,487	225,720	(9,648)	1,409	26,761	(1,146)	25,615	17,376	243,096
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	76,156	61	76,217	(2,579)	379	7,206	(245)	6,961	4,761	80,978
*Total may not be sum of parts, as apvs apply to future costs within UPR										
policy liabilities:			301,937	(12,227)	1,788	33,967	(1,391)	32,576	22,137	324,074

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, 2020 from the valuation), followed by the selected discount rate and the associated margin for investment income.

Selected Claims Development MfADs (Dec. 31,  
2019)

Accident Year	Third Party Liability Margins	Accident Benefits Margins	Other Coverages Margins	Total Margins
2004	10.0%	10.0%	10.0%	10.0%
2005	10.0%	10.0%	10.0%	10.0%
2006	10.0%	10.0%	10.0%	10.0%
2007	10.0%	10.0%	10.0%	10.0%
2008	10.0%	10.0%	10.0%	10.0%
2009	10.0%	10.0%	10.0%	10.0%
2010	10.0%	10.0%	10.0%	10.0%
2011	10.0%	10.0%	10.0%	10.0%
2012	10.0%	10.0%	10.0%	10.0%
2013	10.0%	10.0%	8.4%	10.0%
2014	10.0%	10.0%	10.0%	10.0%
2015	10.0%	10.0%	8.4%	9.9%
2016	10.0%	10.0%	10.0%	10.0%
2017	12.5%	10.0%	12.5%	12.5%
2018	12.5%	10.0%	12.5%	12.5%
2019	12.5%	10.0%	12.5%	12.5%
2020	12.2%	10.0%	8.9%	11.8%
prem liab	11.8%	10.0%	5.2%	9.5%

discount rate: 1.64%  
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, 2020 from the latest valuation date (projections in exhibits A to D are to Dec. 31, 2020, and are based on more up-to-date information). We have included the most recent valuation selection (1.64%), the prior valuation assumption (1.46%) and the prior fiscal year end valuation assumption (1.46%) 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, 2020 projected Unpaid								
AY	0.64%	1.14%	1.64%	2.14%	2.64%	3.14%	1.46%	1.46%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	1	1	1	1	1	1	1	1
2007	234	233	231	230	228	227	232	232
2009	517	512	508	503	499	494	509	509
2010	798	791	784	777	770	763	786	786
2011	1,859	1,838	1,818	1,798	1,779	1,760	1,825	1,825
2012	3,334	3,298	3,262	3,228	3,194	3,161	3,275	3,275
2013	3,142	3,104	3,067	3,032	2,997	2,963	3,081	3,081
2014	5,715	5,637	5,562	5,489	5,417	5,347	5,589	5,589
2015	6,309	6,210	6,114	6,020	5,929	5,840	6,148	6,148
2016	14,645	14,453	14,268	14,088	13,913	13,743	14,334	14,334
2017	23,354	23,055	22,767	22,488	22,217	21,953	22,870	22,870
2018	34,926	34,479	34,046	33,626	33,219	32,821	34,200	34,200
2019	52,418	51,682	50,975	50,289	49,625	48,976	51,232	51,232
2020	83,359	82,239	81,155	80,113	79,096	78,103	81,548	81,548
<b>Total</b>	<b>230,611</b>	<b>227,532</b>	<b>224,558</b>	<b>221,682</b>	<b>218,884</b>	<b>216,152</b>	<b>225,630</b>	<b>225,630</b>
	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	0.64%	1.14%	1.64%	2.14%	2.64%	3.14%	1.46%	1.46%
<b>Total</b>	<b>6,053</b>	<b>2,974</b>	<b>-</b>	<b>(2,876)</b>	<b>(5,674)</b>	<b>(8,406)</b>	<b>1,072</b>	<b>1,072</b>
	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	0.64%	1.14%	1.64%	2.14%	2.64%	3.14%	1.46%	1.46%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-
2007	1.3%	0.9%	-	(0.4%)	(1.3%)	(1.7%)	0.4%	0.4%
2008	-	-	-	-	-	-	-	-
2010	1.8%	0.9%	-	(0.9%)	(1.8%)	(2.7%)	0.3%	0.3%
2011	2.3%	1.1%	-	(1.1%)	(2.1%)	(3.2%)	0.4%	0.4%
2012	2.2%	1.1%	-	(1.0%)	(2.1%)	(3.1%)	0.4%	0.4%
2013	2.4%	1.2%	-	(1.1%)	(2.3%)	(3.4%)	0.5%	0.5%
2014	2.8%	1.3%	-	(1.3%)	(2.6%)	(3.9%)	0.5%	0.5%
2015	3.2%	1.6%	-	(1.5%)	(3.0%)	(4.5%)	0.6%	0.6%
2016	2.6%	1.3%	-	(1.3%)	(2.5%)	(3.7%)	0.5%	0.5%
2017	2.6%	1.3%	-	(1.2%)	(2.4%)	(3.6%)	0.5%	0.5%
2018	2.6%	1.3%	-	(1.2%)	(2.4%)	(3.6%)	0.5%	0.5%
2019	2.8%	1.4%	-	(1.3%)	(2.6%)	(3.9%)	0.5%	0.5%
2020	2.7%	1.3%	-	(1.3%)	(2.5%)	(3.8%)	0.5%	0.5%
<b>Total</b>	<b>2.7%</b>	<b>1.3%</b>	<b>-</b>	<b>(1.3%)</b>	<b>(2.5%)</b>	<b>(3.7%)</b>	<b>0.5%</b>	<b>0.5%</b>
	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 Non-Grid**  
AccountCode Desc **IBNR - Discounted**

M/S IBNR - in \$000s

AccYear	Values				Sum of Total Change	Sum of % Total Change	Sum of Current Month Final Amount
	Sum of Prior Month Actual Amount	Sum of Projected Change	Sum of Change Due to AvsP Variances	Sum of Change Due to Valuation Implementation			
2004	42	-	-	-	-	-	42
2005	13	-	-	-	-	-	13
2006	18	-	-	-	-	-	18
2007	128	(2)	(12)	-	(14)	(10.9%)	114
2008	67	(1)	1	-	-	-	67
2009	(178)	1	(1)	-	-	-	(178)
2010	80	(4)	(13)	-	(17)	(21.3%)	63
2011	191	(2)	(6)	-	(8)	(4.2%)	183
2012	638	(10)	(25)	-	(35)	(5.5%)	603
2013	969	(14)	(33)	-	(47)	(4.9%)	922
2014	1,885	(23)	40	-	17	0.9%	1,902
2015	1,637	(22)	203	-	181	11.1%	1,818
2016	2,725	(46)	(401)	-	(447)	(16.4%)	2,278
2017	9,393	(492)	596	-	104	1.1%	9,497
2018	16,387	(451)	(1,229)	-	(1,680)	(10.3%)	14,707
2019	34,928	(438)	859	-	421	1.2%	35,349
2020	12,362	4,738	3,496	-	8,234	66.6%	20,596
<b>Grand Total</b>	<b>81,285</b>	<b>3,234</b>	<b>3,475</b>	<b>-</b>	<b>6,709</b>	<b>8.3%</b>	<b>87,994</b>

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	16	-	-	-	-	-	16
2007	96	(1)	(12)	-	(13)	(13.5%)	83
2008	64	(1)	1	-	-	-	64
2009	(233)	2	(2)	-	-	-	(233)
2010	(2)	-	(14)	-	(14)	700.0%	(16)
2011	15	-	(3)	-	(3)	(20.0%)	12
2012	402	(4)	(28)	-	(32)	(8.0%)	370
2013	760	(8)	(34)	-	(42)	(5.5%)	718
2014	1,571	(16)	41	-	25	1.6%	1,596
2015	1,202	(12)	218	-	206	17.1%	1,408
2016	1,591	(16)	(415)	-	(431)	(27.1%)	1,160
2017	6,844	(459)	652	-	193	2.8%	7,037
2018	13,024	(404)	(1,194)	-	(1,598)	(12.3%)	11,426
2019	30,035	(300)	819	-	519	1.7%	30,554
2020	10,642	4,218	3,443	-	7,661	72.0%	18,303
<b>Grand Total</b>	<b>66,068</b>	<b>2,999</b>	<b>3,472</b>	<b>-</b>	<b>6,471</b>	<b>9.8%</b>	<b>72,539</b>