



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

### **FEBRUARY 2021 OPERATIONAL REPORT**

# **ACTUARIAL HIGHLIGHTS**

Related Bulletin: [F2021-020\\_AB\\_RSP\\_February\\_2021\\_Operational\\_Report](#)

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**ACTUARIAL HIGHLIGHTS****RSP ALBERTA NON-GRID****OPERATIONAL REPORT****FEBRUARY 2021**

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**TABLE OF CONTENTS**

<b>1</b>	<b>Summary.....</b>	<b>2</b>
1.1	Valuation Schedule (Fiscal Year 2021) .....	2
1.2	Appointed Actuary and Hybrid Actuarial Services Model.....	2
1.3	Consideration of Recent Legal Decisions and Changes in Legislation / Regulation .....	3
1.4	Current Provision Summary .....	3
<b>2</b>	<b>Activity During the Month of February 2021 .....</b>	<b>4</b>
2.1	Recorded Premium and Claims Activity .....	4
2.1.a	Actual vs. Projected (AvsP): Earned Premium.....	5
2.1.b	AvsP: Recorded Indemnity & Allowed Claims Expense .....	6
2.1.c	AvsP: Paid Indemnity & Allowed Claims Expense .....	8
2.2	Actuarial Provisions.....	10
<b>3</b>	<b>Ultimate Loss Ratio Matching Method.....</b>	<b>12</b>
<b>4</b>	<b>Calendar Year-to-Date Results.....</b>	<b>12</b>
<b>5</b>	<b>Current Operational Report – Additional Exhibits .....</b>	<b>13</b>
<b>6</b>	<b>EXHIBITS .....</b>	<b>13</b>

## 1 Summary

Note to members: we are currently reviewing our member reporting requirements and intend to provide the **Actuarial Highlights quarterly instead of the current monthly reporting**, starting with the March 2021 participation reporting and aligned with the valuation schedule; please contact us with any questions or concerns in regards to this matter.

### 1.1 Valuation Schedule (Fiscal Year 2021)

The February 2021 Operational Report leverages actuarial assumptions consistent with last month (that is, it does not reflect the results of an updated valuation). The following table summarizes the valuation implementations scheduled for fiscal year 2021.

ALBERTA NON-GRID RISK SHARING POOL FISCAL YEAR 2021 – SCHEDULE OF VALUATIONS			
Valuation Date	Discount Rate (per annum)	Operational Report	Description of Changes
Sep 30, 2020 (completed)	0.22% mfad <sup>1</sup> 25 bp	Oct. 2020	update valuation (roll-forward): accident year 2020 loss ratio <u>decreased</u> 1.7 points to 98.1%; discount rate <u>decreased</u> 4 basis points; no change to selected margins for adverse deviations
Dec. 31, 2020	% mfad -- bp	Mar. 2021	update valuation:
Mar. 31, 2021	% mfad -- bp	May 2021	update valuation (roll-forward):
Jun. 30, 2021	% mfad -- bp	Aug. 2021	update valuation:
Sep. 30, 2021	% mfad -- bp	Oct. 2021	update valuation (roll-forward):

Under the proposed schedule for fiscal year 2021, the off-half valuation quarters ending March 31, 2021 and September 30, 2021 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

The Annual General Meeting of the members of Facility Association (“FA”) appointed Mr. Cosimo Pantaleo as the Appointed Actuary at its meeting on March 4, 2021.

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

<sup>1</sup> The selected interest rate margin is limited to reducing the selected discount rate to 0%; the approach is that if the net impact is negative, the discount rate will be capped at 0%.

efficiency of resource allocation while providing access to additional expertise and capacity as needed.

### **1.3 Consideration of Recent Legal Decisions and Changes in Legislation / Regulation**

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

Consideration and assessment of potential impacts of legal decisions and changes in legislation / regulation constitutes a regular part of the valuation process. Descriptions of some of the more recent (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 September 30, 2020), consideration of changes in the definition of minor injuries under the MIR, were included with the updated industry trend analysis (completed using industry data as at December 31, 2019).

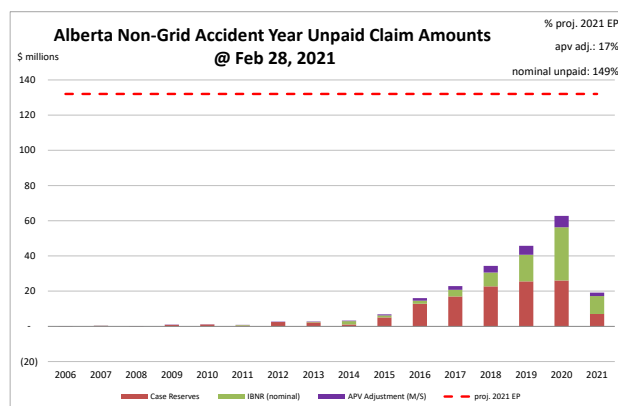
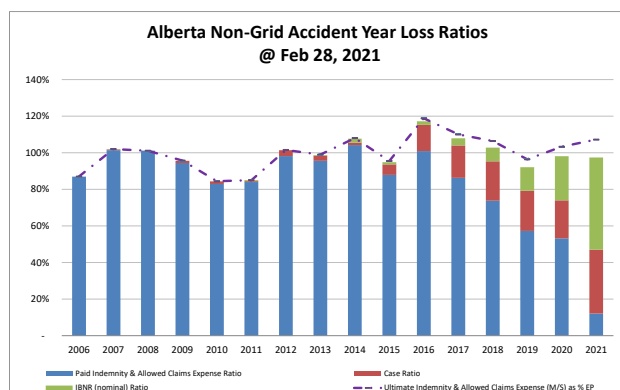
Amendments to the **Alberta Automobile Accident Insurance Benefits Regulation, Diagnostic and Treatment Protocols Regulation, and Minor Injury Regulation** came into force effective November 1, 2020, amending definitions and various benefit maximums defined in these regulations. **Alberta Bill 41** (Insurance (Enhancing Driver Affordability and Care) Amendment Act, 2020) **received royal assent on December 9, 2020**. Bill 41 amends the Insurance Act to: 1) control the use of expert witnesses in Court of Queen's Bench proceedings where damages for bodily injury or death arising from use or operation of a motor vehicle as defined in the Traffic Safety Act are claimed; 2) introduce direct compensation for property damage (DCPD) into the province; 3) amend the calculation of pre-judgment interest on damages awarded for bodily injury or death arising directly or indirectly from the use or operation of an automobile; and 4) amend provisions regarding the regulation of auto insurance rates by the Alberta Automobile Insurance Rate Board. At the current time, no explicit adjustments have been made to our valuation estimates or views based on the amendments to the various Regulations and introduction of Bill 41. The impact will be assessed with the next valuation (as at December 31, 2020) and as part of the next Industry valuation and trend analysis (as at June 30, 2020).

### **1.4 Current Provision Summary**

The following charts show the current levels of claim liabilities<sup>2</sup> booked by accident year. 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 2021 full year earned premium (the red hash-mark line) to provide some perspective.

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<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.



*“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 (\$22.5 million – see the following table) represents 17% of the earned premium projected for the full year 2021 (see the upper right corner of the preceding chart on the right). 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	124,786	56.8%
ibnr	72,511	33.0%
M/S apv adjust.	22,545	10.3%
M/S total	219,842	100.0%

The table to the left breaks down the Member Statement (M/S) claim liabilities total into component parts, showing that the majority of the claim liabilities for this RSP is in case reserves. Approximately 56% of the IBNR balance relates to accident years 2020 and 2021 (see Exhibit B).

Approximately 84% of the M/S total claim liabilities are related to accident years 2017-2021 inclusive (i.e. the most recent 5 accident years), and approximately 2% is related to accident years 2011 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	61,491	94.5%
prem def/(dpac)	(1,246)	(1.9%)
M/S apv adjust.	4,835	7.4%
M/S total	65,080	100.0%

policy liabilities (\$000s)

	amt	%
claim	197,297	69.2%
premium	60,245	21.1%
M/S apv adjust.	27,380	9.6%
M/S total	284,922	100.0%

## 2 Activity During the Month of February 2021

### 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>3</sup>.

<sup>3</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)*

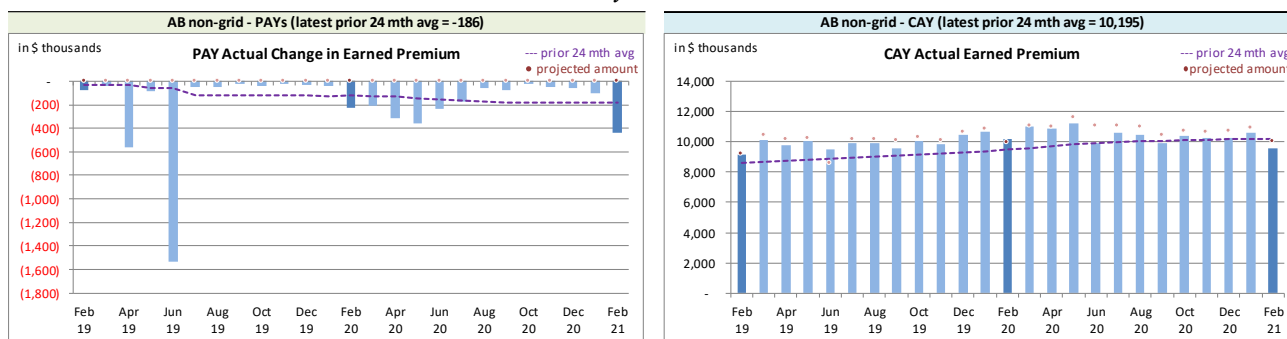
Table 01 Accident Year	Earned Premium		Paid Indemnity & Allowed Claims Expense		Case increase / (decrease)		Recorded increase / (decrease)	
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	(0)	(0)	2,808	734	(2,509)	(1,270)	300	(535)
2019	(30)	(30)	408	(126)	(10)	(35)	398	(161)
2020	(402)	(402)	2,197	(746)	(1,589)	169	608	(577)
2021	9,551	(489)	1,993	(799)	4,113	(1,570)	6,106	(2,369)
TOTAL	9,118	(922)	7,406	(937)	5	(2,705)	7,412	(3,642)

(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>4</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.

On Latest \$ thousands			
	Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(186)	10,195	
std dev	316	489	
A-P <> std dev	6	3	
% <> std dev	24.0%	12.0%	
norm <> std dev	31.7%	31.7%	
performance vs 24-mth avg:	better	better	

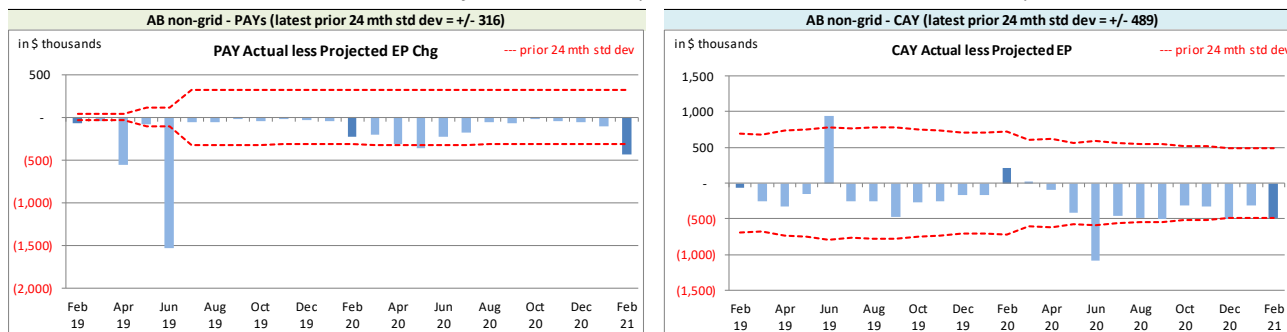
The associated variance between the actual changes and the projections from the previous month are shown in the following charts. **Earned premium** change projections are all attributed to the current accident year as the projection upload does not accept **earned premium** changes for other accident 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

<sup>4</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.

accident years.

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

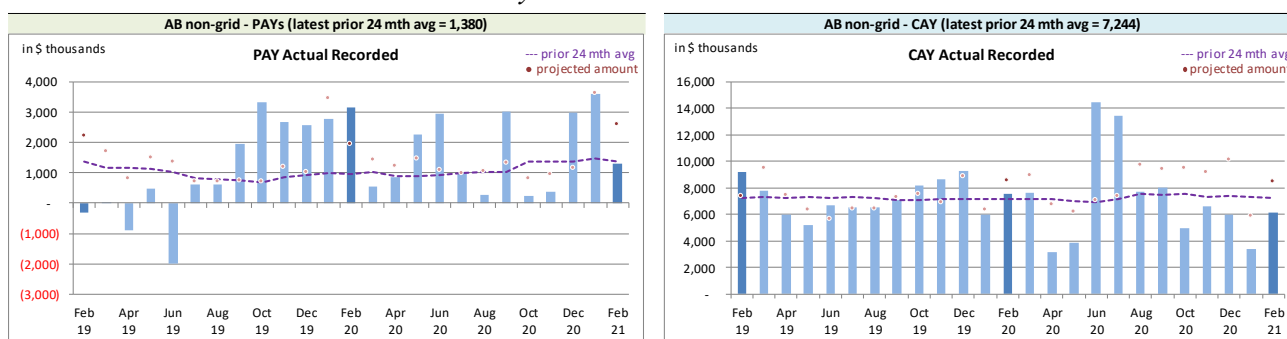


We project **earned premium** changes from known unearned premium and projected written premium levels, but upload the total projections as current accident year (CAY). This process has generated prior accident years' (PAYs) bias<sup>5</sup>, with actuals generally lower than projected, although the magnitude is not high relative to monthly premium. In addition to the PAYs' bias, the CAY has also shown bias<sup>6</sup>, with actuals being generally lower than projected, and while we modified our projections processes in response, bias still exists. Over time, we may consider other projection approaches to address the bias issue, but it is not currently deemed as priority.

### 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*

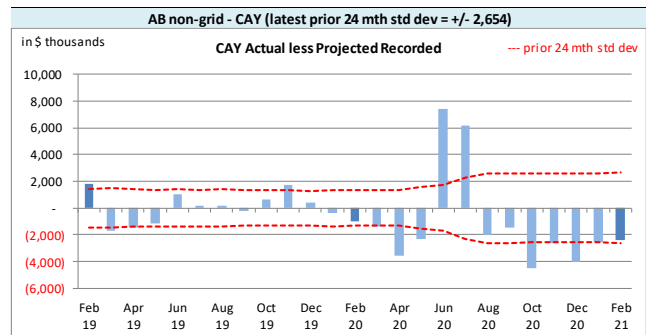
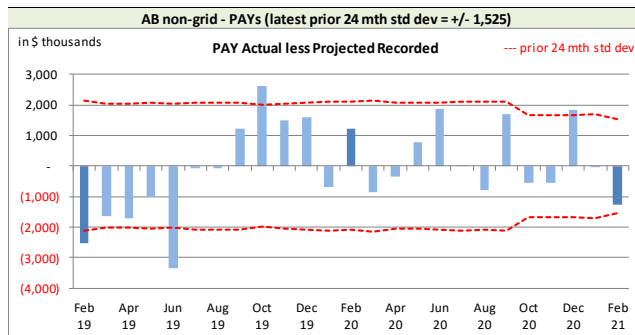


**Recorded** activity variances from the previous month's projections are shown in the following charts, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

<sup>5</sup>The PAYs' variances will show bias as the projection upload forces all earned premium projections to be attributed to the CAY.

<sup>6</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 February 2021 had only 3 months where the actuals was higher than projected, and as the 95% confidence range is 8 to 17, bias continues to be indicated.

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



On Latest \$ thousands		
	Recorded	
Mthly Avg Recorded (prior 24 mths)	1,380	PAYs
std dev	1,525	CAY
A-P <> std dev	4	12
% <> std dev	16.0%	48.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	worse

With respect to **recorded** indemnity & allowed claims expense activity, 16% 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 better than simply projecting the prior 24-month average amount (assuming it follows a

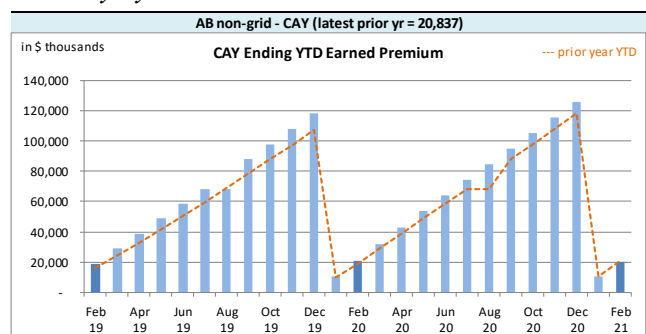
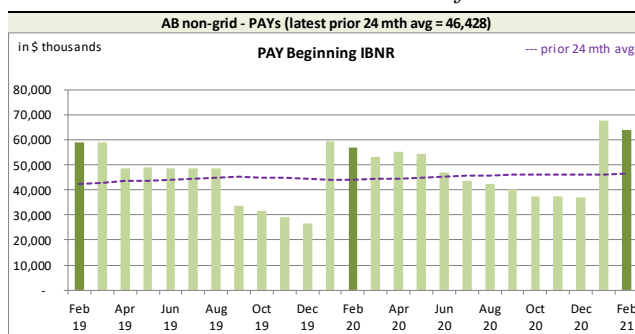
normal distribution). Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (10 of 25 variances are positive).

The current accident year (CAY) **recorded** variances fell outside of one standard deviation 48% of the time over the last 25 calendar months (see the preceding table on the left), 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 (9 of 25 variances are positive).

The method for establishing IBNR adjusts automatically for changes in **earned premium** and **recorded** claims activity level (see sections 2.2 and 3).

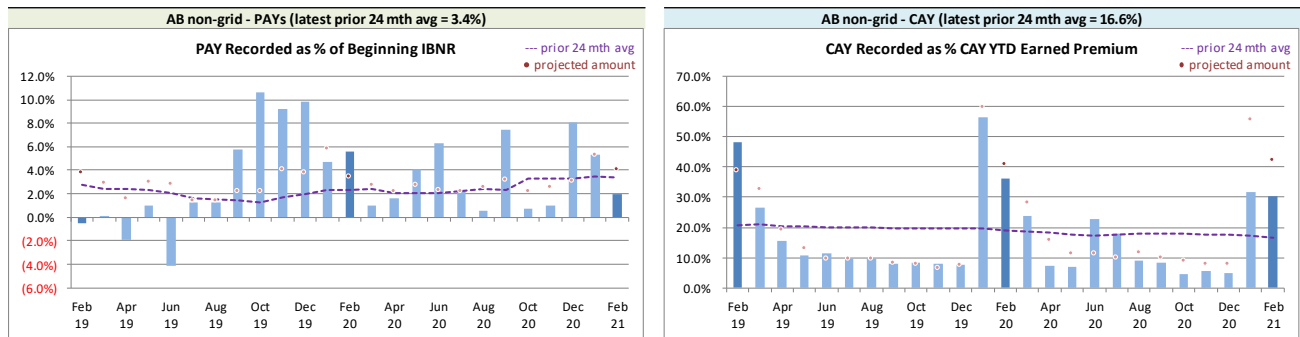
We have included, for reference, the following charts related to levels influencing **recorded** activity.

## Alberta non-Grid RSP Levels that influence<sup>7</sup> **Recorded** activity by Calendar Month



<sup>7</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





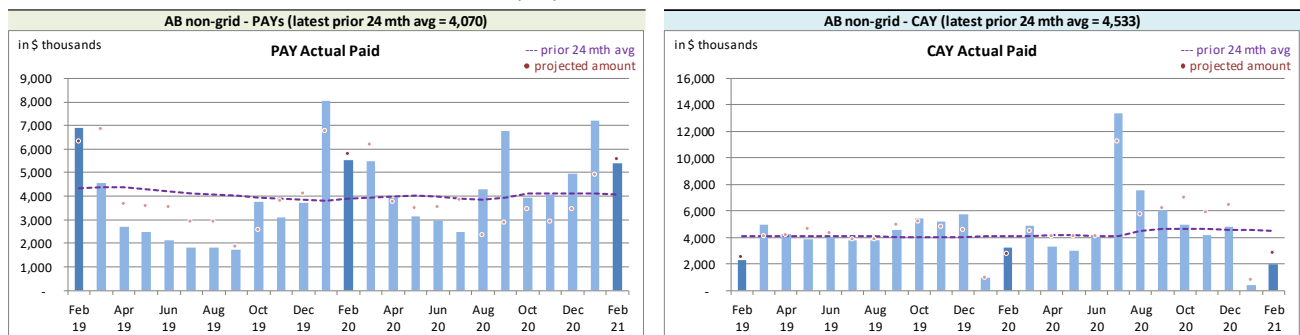
We track PAY beginning IBNR as **recorded** activity comes out of IBNR. Changes in the PAY beginning IBNR (see upper left of the preceding group of charts) occur for several possible reasons:

- 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.

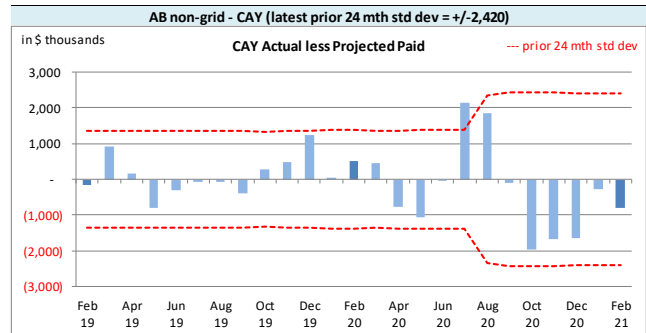
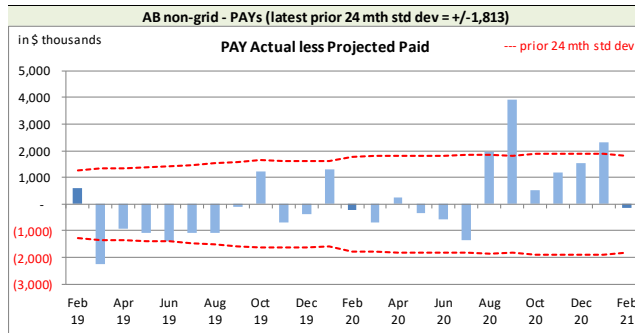
*Alberta non-Grid RSP Actual **Paid** activity by Calendar Month*



**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.

(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 vs Projected Summary: **Paid** Variances by Calendar Month



On Latest \$ thousands			
	<b>Paid</b>	PAYs	CAY
Mthly Avg Paid (prior 24 mths)		4,070	4,533
std dev		1,813	2,420
A-P <> std dev	4		1
% <> std dev	16.0%		4.0%
norm <> std dev	31.7%		31.7%
performance vs 24-mth avg:	better	better	

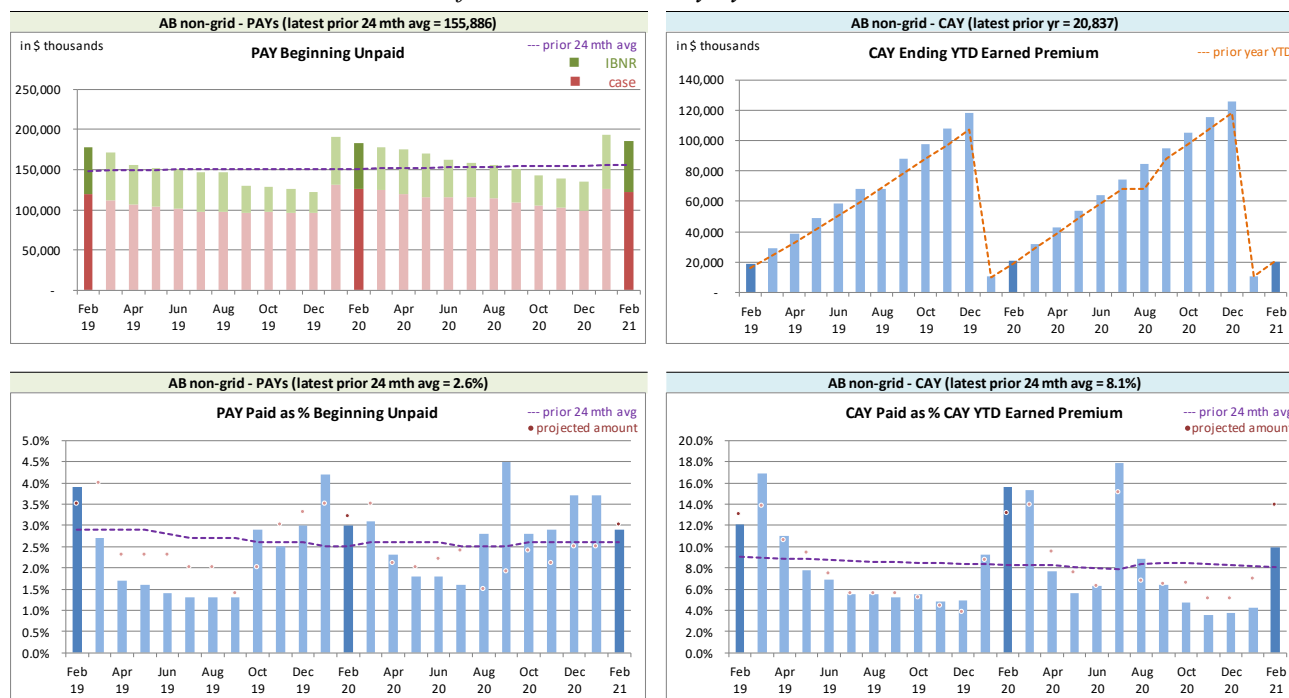
With respect to **paid** indemnity & allowed claims expense, 16% of the prior accident years' (PAYs) variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **paid** amounts (see table on left), suggesting the projection process has performed better than 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 (10 of 25 variances are positive).

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

### Alberta non-Grid RSP Levels that influence<sup>8</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 of the preceding group of charts) 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>9</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>8</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>9</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			actuarial present value adjustments					
	IBNR		Discount Amount		Provisions for Adverse Deviations		IBNR + actuarial present value adjustments	
Accident Year	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	17,076	528	(496)	5	9,516	(95)	26,096	438
2019	15,093	133	(244)	(1)	5,298	13	20,147	145
2020	30,187	182	(338)	(2)	6,827	43	36,676	223
2021	10,155	1,892	(103)	(2)	2,085	39	12,137	1,929
TOTAL	72,511	2,735	(1,181)	-	23,726	-	95,056	2,735

The IBNR provision is \$2.7 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 deferred policy acquisition cost asset position (shown as a negative amount) prior to actuarial present value adjustments while in a premium deficiency position (shown as a positive amount) after the 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:	(1,246)	27	4,835	(119)	3,589	(92)
balance as % unearned premium:	(2.0%)	-	7.9%	-	5.8%	-
actual unearned premium:	61,491					
less projected:	(1,511)					

### 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>10</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>11</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 100.1% rather than 97.4% (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	(532)	(2.7%)	(1,489)	(7.6%)	(2,021)	(10.3%)	(1,086)	(1.4%)
CAY	19,628	100.1%	1,982	10.1%	21,610	110.2%	10,146	1.0%
TOTAL	19,096	97.4%	493	2.5%	19,589	99.9%	9,060	(0.4%)

(“% EP” based on 2021 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>10</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>11</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**

 IBNR + M/S actuarial present  
 value adjustments

 discount rate  
 0.22%

 interest rate margin  
 25 basis pts

Amounts in \$000s					
Accident Year	Actual Jan. 2021	Actual Feb. 2021	Projected Mar. 2021	Projected Apr. 2021	Projected Dec. 2021
2005	13	13	13	12	11
2006	83	83	81	80	59
2007	98	98	96	94	73
2008	70	70	69	68	50
2009	64	64	61	58	47
2010	95	95	91	89	68
2011	435	435	429	423	322
2012	159	99	93	88	70
2013	717	518	507	497	380
2014	2,089	2,130	2,102	2,077	1,572
2015	1,723	1,724	1,692	1,666	1,270
2016	3,347	3,220	3,152	3,096	2,369
2017	5,744	5,836	5,661	5,576	3,841
2018	12,028	11,669	11,368	11,091	7,637
2019	20,627	20,147	19,593	19,080	14,469
2020	37,977	36,676	36,056	35,590	31,412
2021	8,097	12,137	14,660	17,955	40,656
<b>TOTAL</b>	<b>93,408</b>	<b>95,056</b>	<b>95,766</b>	<b>97,582</b>	<b>104,338</b>
Change		1,648	710	1,816	

*Please see Exhibit G, page 1 for Components of Change during Current Month*

EXHIBIT B

IBNR

TABLE EXHIBIT B

Amounts in \$000s						
Ultimate Loss Ratio	Accident Year	Actual Jan. 2021	Actual Feb. 2021	Projected Mar. 2021	Projected Apr. 2021	Projected Dec. 2021
97.4%	2005	5	5	5	5	5
87.0%	2006	75	75	74	73	54
101.9%	2007	62	62	61	60	46
101.1%	2008	67	67	66	65	48
95.6%	2009	(22)	(22)	(22)	(22)	(16)
84.3%	2010	(9)	(9)	(9)	(9)	(8)
84.9%	2011	361	361	357	353	267
101.2%	2012	(72)	(131)	(130)	(129)	(98)
98.7%	2013	467	268	265	262	197
107.7%	2014	1,774	1,838	1,820	1,802	1,359
94.8%	2015	1,112	1,114	1,103	1,092	824
117.2%	2016	1,771	1,770	1,752	1,734	1,308
107.9%	2017	3,646	3,771	3,658	3,621	2,219
102.8%	2018	8,110	7,871	7,635	7,421	4,563
92.1%	2019	15,519	15,093	14,640	14,201	10,340
98.1%	2020	31,190	30,187	29,885	29,586	26,184
97.4%	2021	6,958	10,155	11,964	14,609	29,709
	TOTAL	71,050	72,511	73,160	74,760	77,028
	Change		1,461	649	1,600	

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



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

	Amounts in \$000s				
Premium Liabilities	Actual Jan. 2021	Actual Feb. 2021	Projected Mar. 2021	Projected Apr. 2021	Projected Dec. 2021
(1) unearned premium (UP)	61,289	61,491	62,594	65,965	75,037
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	105.8%	105.8%	105.9%	106.1%	108.5%
(3) expected future costs {(1) x (2)}	64,835	65,080	66,315	69,987	81,393
(4) premium deficiency / (deferred policy acquisition cost)	3,546	3,589	3,721	4,022	6,356
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	97.9%	98.0%	98.1%	98.2%	100.4%
(6) expected future costs {(1) x (5)}	60,018	60,245	61,387	64,787	75,345
(7) premium deficiency / (deferred policy acquisition cost)	(1,271)	(1,246)	(1,207)	(1,178)	308

## EXHIBIT D

### Projected Year-end Policy Liabilities

The table below presents the projected policy liabilities as at December 31, 2021, broken down by component.

Alberta non-Grid ending 2021		Projected Balances as at Dec. 31, 2021 (\$000s)								
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
2005	53	5	58	-	-	6	-	6	6	64
2006	-	54	54	-	-	5	-	5	5	59
2007	221	46	267	-	-	27	-	27	27	294
2008	(26)	48	22	-	-	2	-	2	2	24
2009	641	(16)	625	-	-	63	-	63	63	688
2010	767	(8)	759	(3)	3	76	-	76	76	835
2011	279	267	546	(2)	2	55	-	55	55	601
2012	1,790	(98)	1,692	(10)	10	169	(1)	168	168	1,860
2013	1,639	197	1,836	(9)	9	184	(1)	183	183	2,019
2014	786	1,359	2,145	(11)	11	214	(1)	213	213	2,358
2015	3,710	824	4,534	(27)	27	449	(3)	446	446	4,980
2016	9,370	1,308	10,678	(75)	75	1,068	(7)	1,061	1,061	11,739
2017	14,103	2,219	16,322	(98)	98	1,632	(10)	1,622	1,622	17,944
2018	20,181	4,563	24,744	(148)	148	3,093	(19)	3,074	3,074	27,818
2019	22,891	10,340	33,231	(199)	199	4,154	(25)	4,129	4,129	37,360
2020	19,165	26,184	45,349	(272)	272	5,260	(32)	5,228	5,228	50,577
PAYs (sub-total):	95,588	47,319	142,907	(854)	854	16,462	(99)	16,363	16,363	159,270
CAY (2021)	65,231	29,709	94,940	(570)	570	11,013	(66)	10,947	10,947	105,887
claims liabilities:	160,819	77,028	237,847	(1,424)	1,424	27,475	(165)	27,310	27,310	265,157
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	75,037	308	75,345	(300)	300	6,072	(24)	6,048	6,048	81,393
*Total may not be sum of parts, as apvs apply to future costs within UPR										
policy liabilities:			313,192	(1,724)	1,724	33,547	(189)	33,358	33,358	346,550

**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 (Sep. 30,  
 2020)**

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%	5.0%	10.0%
2014	10.0%	10.0%	9.3%	10.0%
2015	10.0%	10.0%	10.0%	9.9%
2016	10.0%	10.0%	10.0%	10.0%
2017	10.0%	10.0%	10.0%	10.0%
2018	12.5%	10.0%	12.5%	12.5%
2019	12.5%	10.0%	7.5%	12.5%
2020	12.2%	10.0%	12.5%	11.6%
2021	11.9%	10.0%	5.1%	8.1%
prem liab	11.9%	10.0%	5.1%	8.1%

discount rate: 0.22%  
 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 (0.22%), the prior valuation assumption (0.26%) 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

AY	Actuarial Present Value of Provisions at Various Discount Rates - Dec. 31, 2020 projected Unpaid							
	0.00%	0.00%	0.22%	0.72%	1.22%	1.72%	0.26%	1.46%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	1	1	1	1	1	1	1	1
2007	301	301	301	299	298	296	301	297
2008	-	-	-	-	-	-	-	-
2009	802	802	801	794	787	780	801	784
2010	1,083	1,083	1,083	1,073	1,063	1,054	1,082	1,059
2011	738	738	738	729	720	711	738	715
2012	2,567	2,567	2,566	2,541	2,514	2,489	2,566	2,502
2013	3,191	3,191	3,189	3,156	3,121	3,087	3,188	3,105
2014	4,054	4,054	4,052	3,998	3,941	3,886	4,051	3,914
2015	6,867	6,867	6,862	6,758	6,651	6,547	6,860	6,600
2016	16,713	16,713	16,704	16,485	16,259	16,042	16,699	16,155
2017	23,606	23,606	23,593	23,305	23,008	22,723	23,586	22,870
2018	36,747	36,747	36,722	36,281	35,821	35,385	36,711	35,612
2019	48,433	48,433	48,401	47,758	47,092	46,456	48,385	46,787
2020	69,268	69,268	69,224	68,330	67,411	66,534	69,204	66,986
Total	214,371	214,371	214,237	211,508	208,687	205,991	214,173	207,387
	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							
	0.00%	0.00%	0.22%	0.72%	1.22%	1.72%	0.26%	1.46%
Total	134	134	-	(2,729)	(5,550)	(8,246)	(64)	(6,850)
	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							
	0.00%	0.00%	0.22%	0.72%	1.22%	1.72%	0.26%	1.46%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-
2007	-	-	-	(0.7%)	(1.0%)	(1.7%)	-	(1.3%)
2008	-	-	-	-	-	-	-	-
2009	0.1%	0.1%	-	(0.9%)	(1.7%)	(2.6%)	-	(2.1%)
2010	-	-	-	(0.9%)	(1.8%)	(2.7%)	(0.1%)	(2.2%)
2011	-	-	-	(1.2%)	(2.4%)	(3.7%)	-	(3.1%)
2012	0.0%	0.0%	-	(1.0%)	(2.0%)	(3.0%)	-	(2.5%)
2013	0.1%	0.1%	-	(1.0%)	(2.1%)	(3.2%)	(0.0%)	(2.6%)
2014	0.0%	0.0%	-	(1.3%)	(2.7%)	(4.1%)	(0.0%)	(3.4%)
2015	0.1%	0.1%	-	(1.5%)	(3.1%)	(4.6%)	(0.0%)	(3.8%)
2016	0.1%	0.1%	-	(1.3%)	(2.7%)	(4.0%)	(0.0%)	(3.3%)
2017	0.1%	0.1%	-	(1.2%)	(2.5%)	(3.7%)	(0.0%)	(3.1%)
2018	0.1%	0.1%	-	(1.2%)	(2.5%)	(3.6%)	(0.0%)	(3.0%)
2019	0.1%	0.1%	-	(1.3%)	(2.7%)	(4.0%)	(0.0%)	(3.3%)
2020	0.1%	0.1%	-	(1.3%)	(2.6%)	(3.9%)	(0.0%)	(3.2%)
Total	0.1%	0.1%	-	(1.3%)	(2.6%)	(3.8%)	(0.0%)	(3.2%)
	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  
AccountCode Desc **Alberta Non-Grid  
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			
2005	13	-	-	-	-	-	13
2006	83	(2)	2	-	-	-	83
2007	98	(2)	2	-	-	-	98
2008	70	(1)	1	-	-	-	70
2009	64	(4)	4	-	-	-	64
2010	95	(5)	5	-	-	-	95
2011	435	(7)	7	-	-	-	435
2012	159	(9)	(51)	-	(60)	(37.7%)	99
2013	717	(15)	(184)	-	(199)	(27.8%)	518
2014	2,089	(32)	73	-	41	2.0%	2,130
2015	1,723	(37)	38	-	1	0.1%	1,724
2016	3,347	(85)	(42)	-	(127)	(3.8%)	3,220
2017	5,744	(334)	426	-	92	1.6%	5,836
2018	12,028	(516)	157	-	(359)	(3.0%)	11,669
2019	20,627	(625)	145	-	(480)	(2.3%)	20,147
2020	37,977	(1,524)	223	-	(1,301)	(3.4%)	36,676
2021	8,097	2,111	1,929	-	4,040	49.9%	12,137
<b>Grand Total</b>	<b>93,408</b>	<b>(1,087)</b>	<b>2,735</b>	<b>-</b>	<b>1,648</b>	<b>1.8%</b>	<b>95,056</b>

EXHIBIT G

Page 2 of 2

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

RSP  
AccountCode Desc

Alberta Non-Grid  
IBNR - Undiscounted

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			
2005	5	-	-	-	-	-	5
2006	75	(1)	1	-	-	-	75
2007	62	(1)	1	-	-	-	62
2008	67	(1)	1	-	-	-	67
2009	(22)	-	-	-	-	-	(22)
2010	(9)	-	-	-	-	-	(9)
2011	361	(4)	4	-	-	-	361
2012	(72)	1	(60)	-	(59)	81.9%	(131)
2013	467	(5)	(194)	-	(199)	(42.6%)	268
2014	1,774	(18)	82	-	64	3.6%	1,838
2015	1,112	(11)	13	-	2	0.2%	1,114
2016	1,771	(18)	17	-	(1)	(0.1%)	1,770
2017	3,646	(299)	424	-	125	3.4%	3,771
2018	8,110	(478)	239	-	(239)	(2.9%)	7,871
2019	15,519	(559)	133	-	(426)	(2.7%)	15,093
2020	31,190	(1,185)	182	-	(1,003)	(3.2%)	30,187
2021	6,958	1,305	1,892	-	3,197	45.9%	10,155
Grand Total	71,050	(1,274)	2,735	-	1,461	2.1%	72,511