ALBERTA NON-GRID RISK SHARING POOL

MARCH 2021 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

Related Bulletin: F2021-027 AB RSP March 2021 Operational Reports

For your convenience, bookmarks have been added to this document. To view them, please click on the BOOKMARK tab at the left.

Should you require any further information, please call Aidan Chen, VP Data & Analytics at (416) 863-1750 x 4804.

FACILITY ASSOCIATION

ACTUARIAL HIGHLIGHTS

RSP ALBERTA NON-GRID

OPERATIONAL REPORT

MARCH 2021

TABLE OF CONTENTS

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 May 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 March 2021 Operational Report corporates the results of an updated valuation (as at December 31, 2020) – the impact of the implementation of the valuation is discussed in section 1.2. 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[1] 25 bp	Oct. 2020	update valuation (roll-forward): accident year 2020 loss ratio decreased 1.7 points to 98.1%; discount rate decreased 4 basis points; no change to selected margins for adverse deviations
Dec. 31, 2020 (completed)	0.25% mfad 25 bp	Mar. 2021	update valuation:): accident year 2020 loss ratio decreased 2.6 points to 95.5% and accident year 2021 loss ratio decreased 8.2 points to 89.3%; discount rate increased 3 basis points; no change to selected margins for adverse deviations
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 New Valuation

A valuation of the Alberta Non-Grid Risk Sharing Pool ("RSP") as at September 30, 2020 has been

[1] 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%.

completed since last month's Operational Report and the results of that valuation have been incorporated into this month's Report. The valuation was completed by the Facility Association's internal actuarial group in conjunction with, and approved by, the Appointed Actuary, under the hybrid model for actuarial services.

The valuation implementation impact is summarized in the following two tables, where the abbreviations PAYs refers to prior accident years, CAY refers to the current accident year (2021), and "Prem Def" refers to premium deficiency / deferred acquisition costs impacts.

Summary of Impact ($000s) of Implementing Result of Valuation as at Dec. 31, 2020[2]

AB Non-Grid	unfav / (fav) for the month and ytd					
	IMPACT in $000s from changes in:					
	ults & payout patterns			dsct rate	margins	
	Nominal [1]	apv adj. [2]	sub-tot [3]	apv adj. [4]	apv adj. [5]	TOTAL [6]
PAYs	(6,170)	(220)	(6,390)	(15)	-	(6,405)
CAY	(2,490)	(308)	(2,798)	(2)	-	(2,800)
Prem Def	(4,805)	(389)	(5,194)	-	-	(5,194)
TOTAL	(13,465)	(917)	(14,382)	(17)	-	(14,399)

As indicated in the preceding table, the incorporation of the new valuation had an estimated ***$14.4 million favourable impact*** on the month's net result from operations, subtracting an estimated 48.4 points (see following table) to the **year-to-date Combined Operating Ratio** to end at **82.4%**.

Summary of Impact (% YTD EP) of Implementing Result of Valuation as at Dec. 31, 2020

AB Non-Grid	ytd EP 29,766 (actual)					
	IMPACT unfav / (fav) as % ytd EP from changes in:					
	ults & payout patterns			dsct rate	margins	
	Nominal [1]	apv adj. [2]	sub-tot [3]	apv adj. [4]	apv adj. [5]	TOTAL [6]
PAYs	(20.7%)	(0.7%)	(21.5%)	(0.1%)	-	(21.5%)
CAY	(8.4%)	(1.0%)	(9.4%)	-	-	(9.4%)
Prem Def	(16.1%)	(1.3%)	(17.4%)	-	-	(17.4%)
TOTAL	(45.2%)	(3.1%)	(48.3%)	(0.1%)	-	(48.4%)

The impact of the **nominal changes** is shown in column [1] of the two preceding summary tables. The change in the selected nominal ultimates was **favourable by $13.5 million** overall. This reflects

[2]In these tables, "PAYs" refers to prior accident years, "CAY" refers to the current accident year, and "Prem Def" refers to the provision for premium deficiency or the deferred policy acquisition asset (as applicable). "Nominal" refers to changes excluding any actuarial present value adjustments, whereas "apv adj." refers to actuarial present value adjustments.

The columns under the heading "ults & payout patterns" reflect the impact of changes in the valuation selected ultimates and claims payment patterns (i.e. based on unchanged selection of discount rates and margins for adverse deviation). The column "dsct rate" reflects the impact of the change in the selected discount rate and the column "margins" reflects the impact of any changes in selected margins for adverse deviations.

the impact attributable to the changes in the selected ultimate loss ratios (i.e. for each accident year, it is the product of life-to-date earned premium for the accident year and the change in the selected ultimate loss ratio).

The **PAYs** overall showed a **$6.2 million favourable** nominal variance or 20.7% of the PAYs nominal unpaid balance of $180.1 million determined at the end of last month (February 2021), driven by favourable claims development and updates to a priori loss ratios to include more recent data and updated trends. While the valuation implementation impact does differ from the valuation changes themselves (as they apply to different periods), the main drivers of PAY change were:

1) Favourable development of Third Party Liability - Bodily Injury claims for accident year 2019 & prior. The table below summarizes the movements for 2019& prior by government line:

Alberta Non-Grid RSP - valuation changes in selected ultimate
(favourable) / unfavourable **during Quarter**

Accident Year	Third Party Liability	Accident Benefits	Other Coverages	Total
2015 & Prior	(877)	7	(19)	(889)
2016	(324)	(22)	(24)	(370)
2017	(530)	4	(122)	(648)
2018	(1,182)	252	(50)	(980)
2019	(413)	158	148	(107)
TOTAL	**(3,326)**	**399**	**(67)**	**(2,994)**

2) Accident year 2020. Lower than expected claims frequency due to a reduction in driving as a result of the COVID-19 pandemic led to a large reduction in ultimate claims across all coverages; this is reflected in the implementation through both actual data and through revised actuarial assumptions to estimate the ultimate expected loss ratio.

The CAY and premium deficiency impacts are a result of the change in the selected loss ratio for accident year **2021** (decreased 8.2 points to 89.3 %). This change is also driven by revised assumptions for the continuing impact of COVID-19 on claims costs in 2021.

The impacts related to actuarial present value ("apv") adjustments are split into the impact prior to any change in the selected discount rate and selected margins for adverse deviations or "MfADs" (at the level they were selected i.e. coverage and accident half-year), the impact of then updating the discount rate, and finally the impact of any changes to the MfADs (at the level they were selected). The changes in actuarial present value adjustments are shown in the preceding summary tables in columns [2], [4], and [5].

Column [2] recognizes that changing the nominal selections also changed the unpaid estimates (including changes to the relative mix by government line, which had an impact on the weighted-average MfADs). It also reflects the fact that we updated the projected emergence of claims payments, resulting in a change in the projected cash flows. These changes generated a favourable change of $0.9 million in the actuarial present value adjustments, prior to any changes in the selected discount rate and/or MfADs.

Updated projected cash flows were reviewed against the selected risk-free yield curve, derived from Government of Canada benchmark bond yields monthly series using values for December 2020. Column [4] accounts for the change in the **discount rate** selected (increased 3 basis points to **0.25%**), indicating a favourable impact of 17 thousand. The impact *related only to claims liabilities* (i.e. PAYs plus CAY) was $17 thousand at March 2021 – this compares to the $0.2 million change one would estimate as the impact by interpolation using the interest rate sensitivity table provided in last month's Actuarial Highlights.

Column [5] accounts for any changes to selected MfADs. The selected **investment rate MfAD** was **left unchanged at 25 basis points** and the selected **claims development MfADs** at the coverage and accident year level were also left unchanged (as per our usual practice, development margins are reviewed with the June 30 valuation).

Consideration was given to recent legal decisions and changes in legislation / regulation as noted above and outlined in section 1.4

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

1.4 Consideration of Recent Legal Decisions and Changes in Legislation / Regulation

There have been no changes in these descriptions since last month's Highlights, other than updated references to reflect the new valuation.

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.

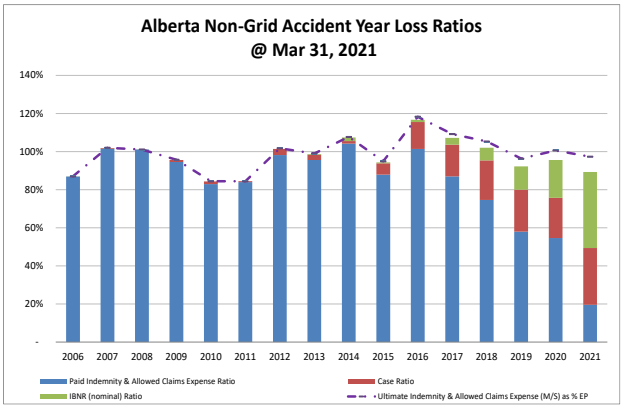
In the **Alberta Treasury Board and Finance Notice 04-2018** (Clarification of Minor Injury Regulation), dated **May 17, 2018**, the Alberta Superintendent of Insurance advised that clarifying amendments have been made to the definition of minor injuries under the Minor Injury Regulation (MIR). With the **most recent** valuation December 31, 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 June 30, 2020).

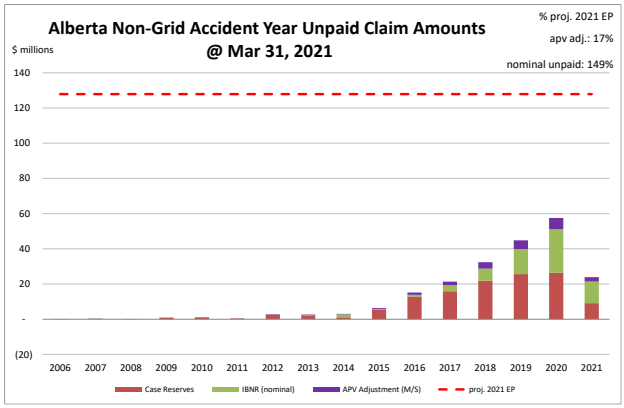
Amendments to the **Alberta Automobile Accident Insurance Benefits Regulation, Diagnostic and Treatment Protocols Regulation, and Minor Injury Regulation** came into force effective November 1, 2020, amending definitions and various benefit maximums defined in these regulations. **Alberta Bill 41** (Insurance (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 form 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. With the **most recent** valuation (December 31, 2020), consideration of changes were included with the updated industry trend analysis (completed using industry data as at June 30, 2020).

1.5 Current Provision Summary

The following charts show the current levels of claim liabilities[3] 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.





"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 ($22.2 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.

[3]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.

claim liabilities ($000s)

	amt	%
case	125,249	58.8%
ibnr	65,390	30.7%
M/S apv adjust.	22,235	10.4%
M/S total	212,874	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 57% of the IBNR balance relates to accident years 2020 and 2021 (see Exhibit B). Approximately 85% 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 1% 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	61,165	102.6%
prem def/(dpac)	(5,992)	(10.1%)
M/S apv adjust.	4,425	7.4%
M/S total	59,598	100.0%

policy liabilities ($000s)

	amt	%
claim	190,639	70.0%
premium	55,173	20.2%
M/S apv adjust.	26,660	9.8%
M/S total	272,472	100.0%

2 Activity During the Month of March 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[4].

Alberta Non-Grid RSP Actual vs Projected Summary: Recorded Transaction Amounts ($ thousands)

Table 01	Earned Premium		Paid Indemnity & Allowed Claims Expense		Case increase / (decrease)		Recorded increase / (decrease)	
Accident Year	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	(4)	(4)	1,980	(244)	(1,949)	(130)	30	(375)
2019	(143)	(143)	687	(127)	57	418	744	291
2020	(231)	(231)	1,650	(1,107)	236	2,691	1,886	1,584
2021	10,579	(604)	3,580	(1,124)	2,119	(2,261)	5,699	(3,385)
TOTAL	10,202	(981)	7,896	(2,603)	463	718	8,359	(1,885)

(Recorded transaction amounts exclude IBNR & other actuarial provisions)

It is unusual to see large actual earned premium transactions affecting prior accident years beyond the first prior accident year. We have identified that the prior accident years changes in the month reflects system sweep activity undertaken by two member groups in responding to audit findings.

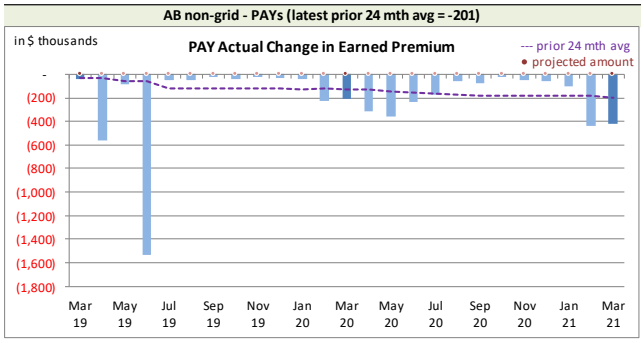
Claims transaction activity is generally volatile and changes from one month to the next are anticipated due to this natural "process variance" (i.e. random variation). Each month, the projection variances are reviewed for signs of projection bias and to identify potential ways to reduce the level of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

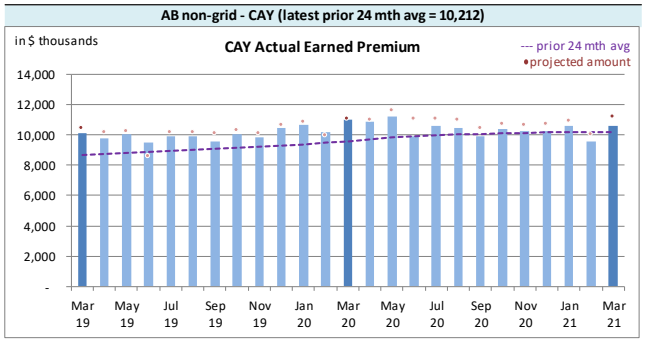
[4]There may be rounding differences in values in this document compared with the associated Bulletin and/or Operational Report.

2.1.a Actual vs. Projected (AvsP): Earned Premium

The following charts show actual **earned premium**[5] 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*

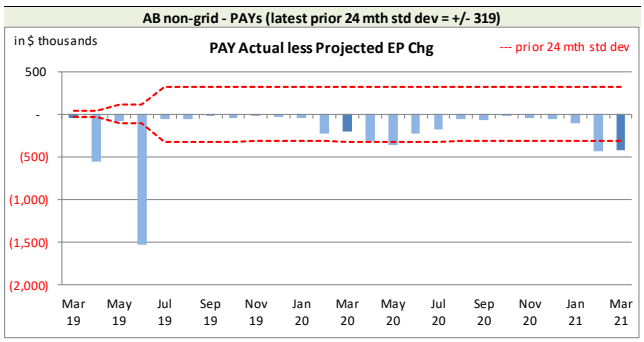


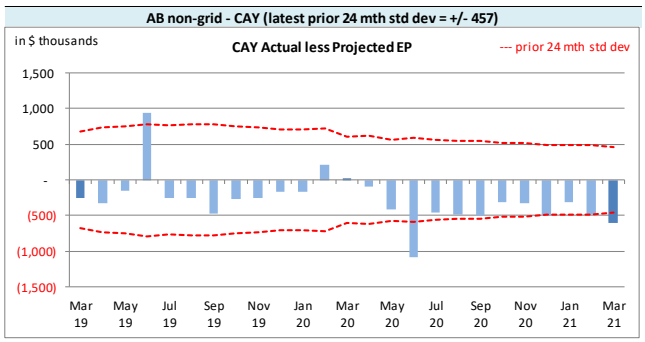


Earned premium changes during a given calendar month in relation to prior accident years tend to be at modest levels, although relatively high levels generally occur at the beginning of each year.

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.

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





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

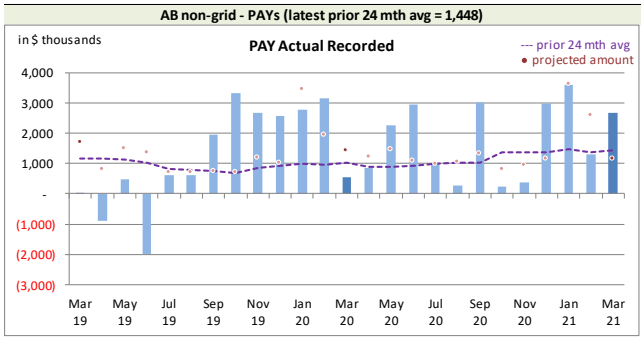
On Latest	$ thousands	
Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(201)	10,212
std dev	319	457
A-P <> std dev	6	4
% <> std dev	24.0%	16.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	better

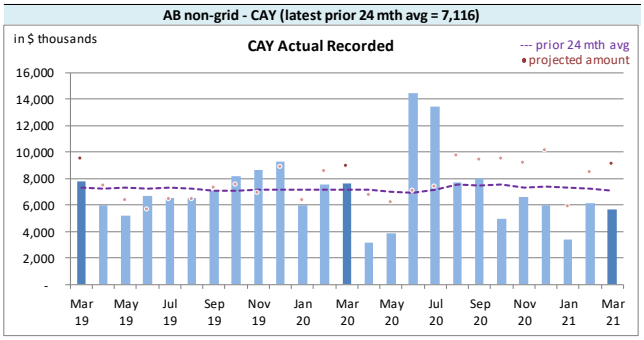
We project **earned premium** changes from known unearned premium and projected written premium levels, but upload the total projections as current accident year (CAY). This process has generated prior accident years' (PAYs) bias[6], with actuals generally lower than projected, although the magnitude is not high relative to monthly premium. In addition to the PAYs' bias, the CAY has also shown bias[7], 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*



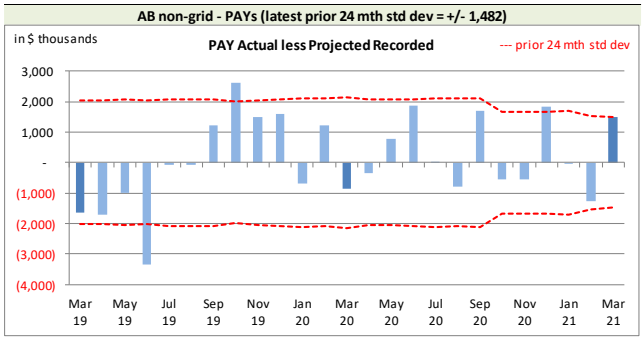


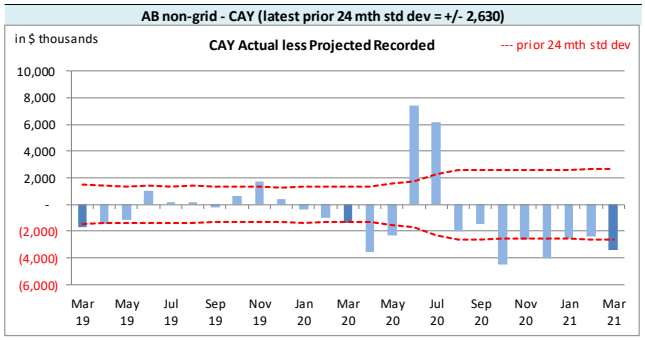
Recorded activity variances from the previous month's projections are shown in the following charts, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

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

[7]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 March 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	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	1,448	7,116
std dev	1,482	2,630
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 (11 of 25 variances are positive).

The PAY **recorded** variance was outside the one standard deviation band this month (see proceeding chart on the left) the higher than projected recorded activity was reviewed and attributed to process variance.

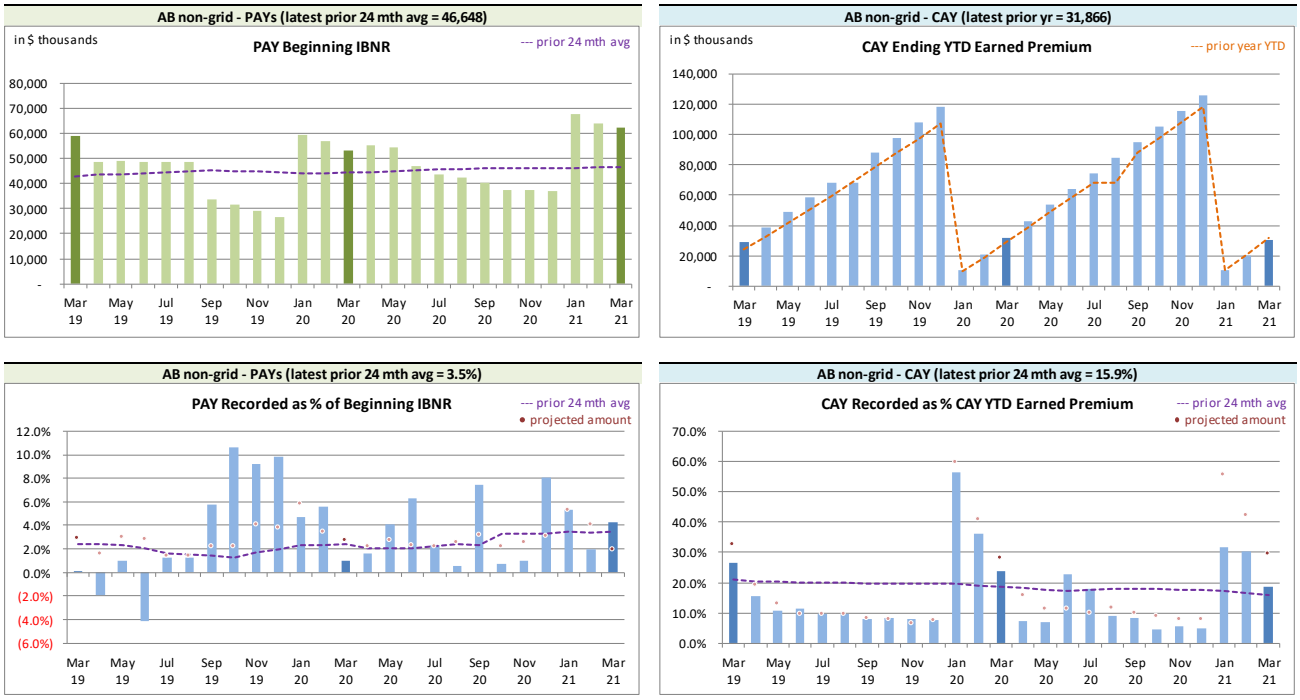
The current accident year (CAY) **recorded** variances fell outside of one standard deviation 48% of the time over the last 25 calendar months (see the preceding table on the left), suggesting that the projection process has performed worse than simply projecting the prior 24-month average amount. Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (8 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 lower than projected recorded activity was reviewed, and attributed to the reduction in transferred written premium and low levels of reported physical damage claims experience in the month.

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[8] ***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 of the preceding group of charts) occur for several possible reasons:

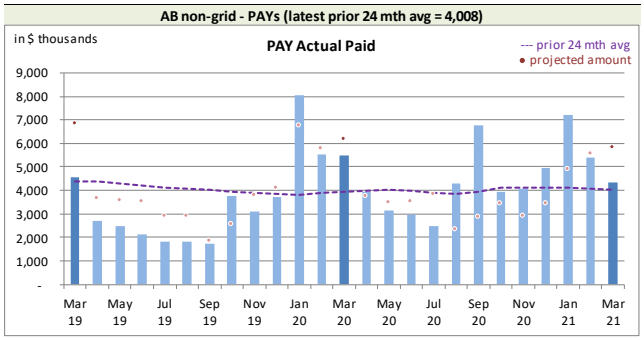
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a CAY becomes a PAY(occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of PAYs' ultimates (will show up as a beginning IBNR change one month after the valuation is implemented, i.e. the change will generally show in April, June, September, and November).

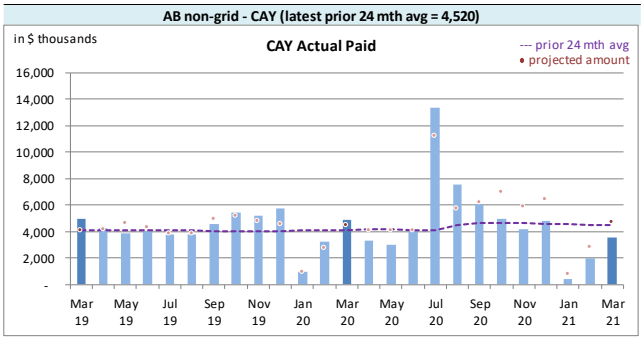
2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

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.

[8]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.

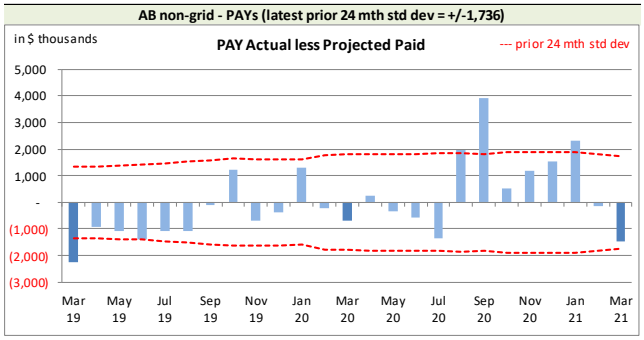
*Alberta non-Grid RSP Actual **Paid** activity by Calendar Month*

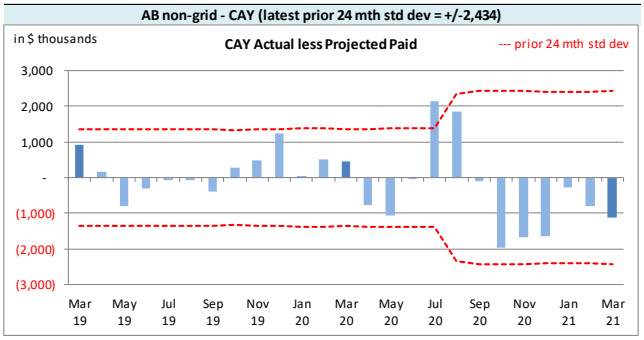




Paid activity variances from the previous month's projections are shown in the following charts, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

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





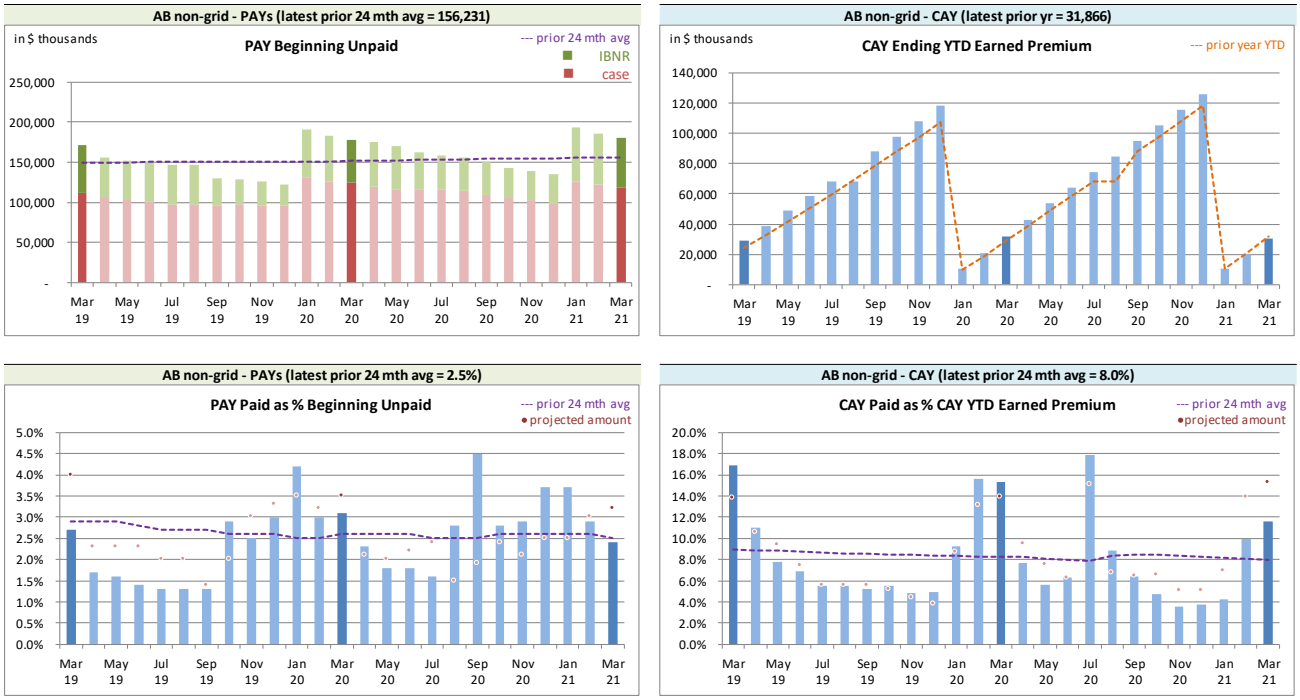
On Latest $ thousands		
Paid	PAYs	CAY
Mthly Avg Paid (prior 24 mths)	4,008	4,520
std dev	1,736	2,434
A-P <> std dev	4	1
% <> std dev	16.0%	4.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	better

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 (9 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[9] **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[10], 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.

[9]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.

[10]For ease of discussion, "IBNR" is used in place of "provisions for incurred but not recorded (IBNR) and development".

The following table summarizes variances in provisions included in this month's Operational Report 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	14,078	(2,593)	(494)	(12)	8,982	(286)	22,566	(2,891)
2019	14,217	(423)	(239)	-	5,191	(1)	19,169	(424)
2020	24,824	(5,061)	(358)	(37)	6,706	214	31,172	(4,884)
2021	12,271	307	(150)	(10)	2,597	(239)	14,718	58
TOTAL	65,390	(7,770)	(1,241)	(59)	23,476	(312)	87,625	(8,141)

The IBNR provision is $7.8 million lower than projected from last month, counterbalancing the recorded claims activity and adjusting for the earned premium variance impacts indicated in section 2.1, and due to the valuation implementation.

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 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, and the valuation implementation.

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:	(5,992)	(4,785)	4,425	(503)	(1,567)	(5,288)
balance as % unearned premium:	(9.8%)	(7.9%)	7.2%	(0.6%)	(2.6%)	(8.5%)
actual unearned premium:	61,165					
less projected:	(1,429)					

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[11] 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[12], 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 92.2% rather than 89.3% (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.)

[11]"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).

[12]Allowed claims expenses are first party legal and other expenses as listed in the RSP Claims Guide. Claims expenses paid through the member company expense allowance are NOT included in this analysis.

Alberta 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	(7,109)	(23.9%)	(2,264)	(7.6%)	(9,373)	(31.5%)	(7,352)	(21.2%)
CAY	27,443	92.2%	2,447	8.2%	29,890	100.4%	8,280	(9.8%)
TOTAL	20,334	68.3%	183	0.6%	20,517	68.9%	928	(31.0%)

("% 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, and due to the valuation implementation.

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, and due to the valuation implementation.

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
0.25%

interest rate margin
25 basis pts

Amounts in $000s					
Accident Year	Actual Feb. 2021	Actual Mar. 2021	Projected Apr. 2021	Projected May. 2021	Projected Dec. 2021
2005	13	13	13	13	11
2006	83	83	81	77	61
2007	98	100	98	93	74
2008	70	70	69	66	50
2009	64	57	55	53	44
2010	95	110	107	104	85
2011	435	3	2	3	3
2012	99	269	262	253	202
2013	518	525	515	493	392
2014	2,130	1,902	1,878	1,788	1,408
2015	1,724	1,013	993	953	757
2016	3,220	2,491	2,442	2,343	1,862
2017	5,836	5,391	5,310	4,941	3,594
2018	11,669	10,497	10,236	9,706	6,985
2019	20,147	19,169	18,669	17,758	14,040
2020	36,676	31,172	30,747	30,371	27,059
2021	12,137	14,718	18,089	21,301	36,119
TOTAL	95,056	87,625	89,608	90,356	92,778
Change		(7,431)	1,983	748	

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 Feb. 2021	Actual Mar. 2021	Projected Apr. 2021	Projected May. 2021	Projected Dec. 2021
97.4%	2005	5	5	5	5	5
87.0%	2006	75	75	74	70	55
101.9%	2007	62	63	62	59	46
101.1%	2008	67	67	66	63	48
95.6%	2009	(22)	(22)	(22)	(21)	(16)
84.3%	2010	(9)	7	7	7	7
84.4%	2011	361	(32)	(32)	(30)	(24)
101.4%	2012	(131)	23	23	22	17
98.7%	2013	268	274	271	257	203
107.4%	2014	1,838	1,631	1,615	1,533	1,203
94.3%	2015	1,114	444	440	418	327
116.8%	2016	1,770	1,120	1,109	1,052	826
107.2%	2017	3,771	3,465	3,430	3,104	2,036
101.9%	2018	7,871	6,922	6,721	6,244	4,047
92.1%	2019	15,093	14,217	13,790	12,963	9,916
95.5%	2020	30,187	24,824	24,576	24,330	21,685
89.3%	2021	10,155	12,271	15,016	17,588	26,462
	TOTAL	72,511	65,390	67,187	67,698	66,870
	Change		(7,121)	1,797	511	

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 Feb. 2021	Actual Mar. 2021	Projected Apr. 2021	Projected May. 2021	Projected Dec. 2021
(1) unearned premium (UP)	61,491	61,165	63,399	66,777	71,504
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	105.8%	97.4%	97.8%	98.4%	104.1%
(3) expected future costs {(1) x (2)}	65,080	59,598	62,033	65,687	74,469
(4) premium deficiency / (deferred policy acquisition cost)	3,589	(1,567)	(1,366)	(1,090)	2,965
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	98.0%	90.2%	90.6%	91.1%	96.4%
(6) expected future costs {(1) x (5)}	60,245	55,173	57,426	60,809	68,937
(7) premium deficiency / (deferred policy acquisition cost)	(1,246)	(5,992)	(5,973)	(5,968)	(2,567)

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	Projected Balances as at Dec. 31, 2021 ($000s)									
ending 2021	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	56	5	61	-	-	6	-	6	6	67
2006	2	55	57	-	-	6	-	6	6	63
2007	231	46	277	(1)	1	28	-	28	28	305
2008	(25)	48	23	-	-	2	-	2	2	25
2009	612	(16)	596	(2)	2	60	-	60	60	656
2010	772	7	779	(3)	3	78	-	78	78	857
2011	289	(24)	265	(2)	2	27	-	27	27	292
2012	1,847	17	1,864	(11)	11	186	(1)	185	185	2,049
2013	1,698	203	1,901	(10)	10	190	(1)	189	189	2,090
2014	858	1,203	2,061	(12)	12	206	(1)	205	205	2,266
2015	4,002	327	4,329	(30)	30	433	(3)	430	430	4,759
2016	9,615	826	10,441	(84)	84	1,044	(8)	1,036	1,036	11,477
2017	13,630	2,036	15,666	(94)	94	1,567	(9)	1,558	1,558	17,224
2018	19,603	4,047	23,650	(142)	142	2,956	(18)	2,938	2,938	26,588
2019	23,279	9,916	33,195	(199)	199	4,149	(25)	4,124	4,124	37,319
2020	21,611	21,685	43,296	(303)	303	5,412	(38)	5,374	5,374	48,670
PAYs (sub-total):	98,099	40,408	138,507	(893)	893	16,355	(104)	16,251	16,251	154,758
CAY (2021)	58,102	26,462	84,564	(592)	592	9,725	(68)	9,657	9,657	94,221
claims liabilities:	156,201	66,870	223,071	(1,485)	1,485	26,080	(172)	25,908	25,908	248,979
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	71,504	(2,567)	68,937	(274)	274	5,554	(22)	5,532	5,532	74,469
										*Total may not be sum of parts, as apvs apply to future costs within UPR
policy liabilities:			**292,008**	**(1,759)**	**1,759**	**31,634**	**(194)**	**31,440**	**31,440**	**323,448**

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, 2021 from the valuation), followed by the selected discount rate and the associated margin for investment income.

Selected Claims Development MfADs (Dec. 31, 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%	10.0%	10.0%
2014	10.0%	10.0%	10.0%	10.0%
2015	10.0%	10.0%	10.0%	10.0%
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%	12.5%	12.5%
2020	12.5%	10.0%	12.5%	12.5%
2021	12.1%	10.0%	8.1%	11.6%
prem liab	11.9%	10.0%	5.1%	8.1%

discount rate:	0.25%
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, 2021 from the latest valuation date (projections in exhibits A to D are to Dec. 31, 2021, and are based on more up-to-date information). We have included the most recent valuation selection (0.25%), the prior valuation assumption (0.22%) and the prior fiscal year end valuation assumption (0.22%) 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, 2021 projected Unpaid							
AY	0.00%	0.00%	0.25%	0.75%	1.25%	1.75%	0.22%	0.22%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-
2007	200	200	200	200	199	198	200	200
2008	-	-	-	-	-	-	-	-
2009	626	626	626	621	616	611	626	626
2010	722	722	721	715	710	704	721	721
2011	341	341	341	336	332	328	341	341
2012	1,757	1,757	1,756	1,736	1,717	1,697	1,756	1,756
2013	1,889	1,889	1,888	1,869	1,850	1,832	1,888	1,888
2014	2,690	2,690	2,689	2,658	2,628	2,599	2,689	2,689
2015	4,793	4,793	4,790	4,723	4,659	4,596	4,790	4,790
2016	10,644	10,644	10,637	10,475	10,319	10,166	10,638	10,638
2017	15,076	15,076	15,068	14,878	14,695	14,518	15,068	15,068
2018	23,763	23,763	23,747	23,453	23,168	22,889	23,747	23,747
2019	36,420	36,420	36,396	35,946	35,509	35,082	36,400	36,400
2020	48,841	48,841	48,803	48,122	47,468	46,828	48,808	48,808
Total	147,762	147,762	147,662	145,732	143,870	142,048	147,672	147,672
	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	0.00%	0.00%	0.25%	0.75%	1.25%	1.75%	0.22%	0.22%
Total	100	100	-	(1,930)	(3,792)	(5,614)	10	10
	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	0.00%	0.00%	0.25%	0.75%	1.25%	1.75%	0.22%	0.22%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-
2007	-	-	-	-	(0.5%)	(1.0%)	-	-
2008	-	-	-	-	-	-	-	-
2009	-	-	-	(0.8%)	(1.6%)	(2.4%)	-	-
2010	0.1%	0.1%	-	(0.8%)	(1.5%)	(2.4%)	-	-
2011	-	-	-	(1.5%)	(2.6%)	(3.8%)	-	-
2012	0.1%	0.1%	-	(1.1%)	(2.2%)	(3.4%)	-	-
2013	0.1%	0.1%	-	(1.0%)	(2.0%)	(3.0%)	-	-
2014	0.0%	0.0%	-	(1.2%)	(2.3%)	(3.3%)	-	-
2015	0.1%	0.1%	-	(1.4%)	(2.7%)	(4.1%)	-	-
2016	0.1%	0.1%	-	(1.5%)	(3.0%)	(4.4%)	0.0%	0.0%
2017	0.1%	0.1%	-	(1.3%)	(2.5%)	(3.7%)	-	-
2018	0.1%	0.1%	-	(1.2%)	(2.4%)	(3.6%)	-	-
2019	0.1%	0.1%	-	(1.2%)	(2.4%)	(3.6%)	0.0%	0.0%
2020	0.1%	0.1%	-	(1.4%)	(2.7%)	(4.0%)	0.0%	0.0%
Total	0.1%	0.1%	-	(1.3%)	(2.6%)	(3.8%)	0.0%	0.0%
	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 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
2005	13	-	-	-	-	-	13
2006	83	(2)	2	-	-	-	83
2007	98	(2)	4	-	2	2.0%	100
2008	70	(1)	1	-	-	-	70
2009	64	(3)	(4)	-	(7)	(10.9%)	57
2010	95	(4)	19	-	15	15.8%	110
2011	435	(6)	6	(432)	(432)	(99.3%)	3
2012	99	(6)	5	171	170	171.7%	269
2013	518	(11)	18	-	7	1.4%	525
2014	2,130	(28)	78	(278)	(228)	(10.7%)	1,902
2015	1,724	(32)	(191)	(488)	(711)	(41.2%)	1,013
2016	3,220	(68)	(265)	(396)	(729)	(22.6%)	2,491
2017	5,836	(175)	470	(740)	(445)	(7.6%)	5,391
2018	11,669	(301)	196	(1,067)	(1,172)	(10.0%)	10,497
2019	20,147	(554)	(424)	-	(978)	(4.9%)	19,169
2020	36,676	(620)	(1,709)	(3,175)	(5,504)	(15.0%)	31,172
2021	12,137	2,523	2,858	(2,800)	2,581	21.3%	14,718
Grand Total	**95,056**	**710**	**1,064**	**(9,205)**	**(7,431)**	**(7.8%)**	**87,625**

EXHIBIT G

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

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

IBNR - in $000s

AccYear	Values Sum of Prior Month Actual Amount	Sum of Projected Change	Sum of Change Due to AvsP Variances	Sum of Change Due to Valuation Implementation	Sum of Total Change	Sum of % Total Change	Sum of Current Month Final Amount
2005	5	-	-	-	-	-	5
2006	75	(1)	1	-	-	-	75
2007	62	(1)	2	-	1	1.6%	63
2008	67	(1)	1	-	-	-	67
2009	(22)	-	-	-	-	-	(22)
2010	(9)	-	16	-	16	(177.8%)	7
2011	361	(4)	4	(393)	(393)	(108.9%)	(32)
2012	(131)	1	(2)	155	154	(117.6%)	23
2013	268	(3)	9	-	6	2.2%	274
2014	1,838	(18)	63	(252)	(207)	(11.3%)	1,631
2015	1,114	(11)	(210)	(449)	(670)	(60.1%)	444
2016	1,770	(18)	(273)	(359)	(650)	(36.7%)	1,120
2017	3,771	(113)	480	(673)	(306)	(8.1%)	3,465
2018	7,871	(236)	235	(948)	(949)	(12.1%)	6,922
2019	15,093	(453)	(423)	-	(876)	(5.8%)	14,217
2020	30,187	(302)	(1,810)	(3,251)	(5,363)	(17.8%)	24,824
2021	10,155	1,809	2,797	(2,490)	2,116	20.8%	12,271
Grand Total	**72,511**	**649**	**890**	**(8,660)**	**(7,121)**	**(9.8%)**	**65,390**