



ALBERTA NON-GRID RISK SHARING POOL

MARCH 2020 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

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ACTUARIAL HIGHLIGHTS
RSP ALBERTA NON-GRID
OPERATIONAL REPORT
MARCH 2020

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1 Summary

Key Points

- (a) The 2019 Q4 valuation was completed and implemented into the results this month, with a \$5.4 million favourable impact, or 1.9% of beginning policy liabilities (policy liabilities ended at \$284 million) and 17.3 points of year-to-date earned premium;
- (b) The updated valuation loss ratios 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
- (c) The month’s claims activities were generally aligned with projections from last month. Our projections do NOT take into account any specific impacts that might arise due to the COVID-19 pandemic (FA is still in the process of considering impacts, which will be reflected in future projections, as deemed appropriate).

1.1 Valuation Schedule (Fiscal Year 2020)

The March 2020 Operational Report incorporates the results of an updated valuation (as at December 31, 2019) – the impact of the implementation of the valuation is discussed in section 1.2. The table below summarizes the valuation implementations scheduled for fiscal year 2020.

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

1.2 New Valuation

A valuation of the Alberta Non-Grid Risk Sharing Pool (“RSP”) as at December 31, 2019 has been 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. Additional detail will be provided in an “Actuarial Highlights – Quarterly Valuation” report which we anticipate will be posted to the FA website in June 2020.

The valuation implementation impact is summarized in the tables below, where the abbreviations PAYs refers to prior accident years, CAY refers to the current accident year (2020), and Prem Def refers to premium deficiency / deferred acquisition costs impacts.

Summary of Impact (\$000s) of Implementing Result of Valuation as at Dec. 31, 2019¹

AB Non-Grid	unfav / (fav) for the month and ytd					
	IMPACT in \$000s from changes in:					
	ults & payout patterns			dsct rate	margins	
	Nominal	apv adj.	sub-tot	apv adj.	apv adj.	TOTAL
	[1]	[2]	[3]	[4]	[5]	[6]
PAYs	2,850	525	3,375	(878)	-	2,497
CAY	(2,230)	(200)	(2,430)	(126)	-	(2,556)
Prem Def	(4,776)	(312)	(5,088)	(292)	-	(5,380)
TOTAL	(4,156)	13	(4,143)	(1,296)	-	(5,439)

As indicated in the table above, the incorporation of the new valuation had an estimated **\$5.4 million favourable impact** on the month’s net result from operations, subtracting an estimated 17.3 points (see table below) to the **year-to-date Combined Operating Ratio** to end at **127.2%**.

Summary of Impact (% YTD EP) of Implementing Result of Valuation as at Dec. 31, 2019

AB Non-Grid	ytd EP 31,389 (actual)					
	IMPACT unfav / (fav) as % ytd EP from changes in:					
	ults & payout patterns			dsct rate	margins	
	Nominal	apv adj.	sub-tot	apv adj.	apv adj.	TOTAL
	[1]	[2]	[3]	[4]	[5]	[6]
PAYs	9.1%	1.7%	10.8%	(2.8%)	-	8.0%
CAY	(7.1%)	(0.6%)	(7.7%)	(0.4%)	-	(8.1%)
Prem Def	(15.2%)	(1.0%)	(16.2%)	(0.9%)	-	(17.1%)
TOTAL	(13.2%)	-	(13.2%)	(4.1%)	-	(17.3%)

The impact of the **nominal changes** is shown in column [1] of the two preceding summary tables.

¹In 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 change in the selected nominal ultimates was **favourable by \$4.2 million** overall. This reflects 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 **\$2.9 million unfavourable** nominal variance or 1.6% of the PAYs nominal unpaid balance of \$177.4 million determined at the end of last month beginning, 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 valuation result by government line provides insight into the relative PAYs nominal changes. As per below, the primary changes were in relation to TPL for accident year 2016 and 2017.

Valuation as at Dec. 31, 2019 – PAYs Nominal Changes 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
2014 & Prior	906	-	(4)	902
2015	(258)	(5)	(148)	(411)
2016	2,106	18	(45)	2,079
2017	1,433	(11)	184	1,606
2018	(33)	(69)	277	175
TOTAL	4,154	(67)	264	4,351

The CAY and premium deficiency impacts are a result of the change in the selected loss ratios for accident year **2020** (decreased 7.0 points to **99.7%**) and accident year **2021** (decreased 9.1 points to 99.6 %).

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 summary tables on the previous page 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 an unfavourable change of \$13 thousand 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 September 2019. Column [4] accounts for the change in the **discount rate** selected (increased 18 basis points to **1.64%**), indicating a favourable impact of \$1.3 million. The impact *related only to claims liabilities* (i.e. PAYs

plus CAY) was \$1.0 million at March 2020 – this compares to the \$1.0 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

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.

1.4 Consideration of Recent Legal Decisions and Changes in Legislation / Regulation²

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.

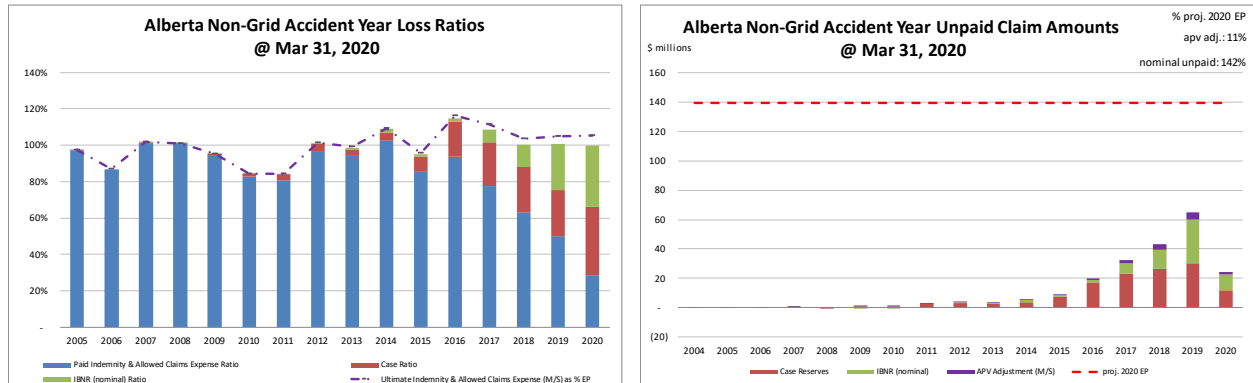
In the **Alberta Treasury Board and Finance Notice 04-2018** (Clarification of Minor Injury Regulation), dated **May 17, 2018**, the Alberta Superintendent of Insurance advised that clarifying amendments have been made to the definition of minor injuries under the Minor Injury Regulation (MIR). With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

The **Minister of Treasury Board and Finance issued Ministerial Order 14/2018**, on **October 31, 2018**, which states unless otherwise directed by the Minister, the AIRB may not approve filings from insurers for cumulative rate increases on private passenger vehicles greater than +5.0% during the period between December 1, 2018 and August 31, 2019. **This order lapsed in August 2019**. At the current time, no explicit adjustments have been made to our valuation estimates or views based on this order.

²This 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>.

1.5 Current Provision Summary

The charts below show the current levels of claim liabilities³ booked by accident year⁴. 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.



“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 (\$15.2 million – see table below) 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	131,170	61.7%
ibnr	66,068	31.1%
M/S apv adjust.	15,217	7.2%
M/S total	212,455	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 62% of the IBNR balance relates to accident years 2019 and 2020 (see Exhibit B). Approximately 87% 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 tables at the top of the next page summarize the premium liabilities and the total policy liabilities.

³Claim 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.

⁴Accident year 2004 was an incomplete year and therefore has been excluded from the loss ratio chart.

premium liabilities (\$000s)			policy liabilities (\$000s)		
	amt	%		amt	%
unearned prem	66,965	94.0%	claim	197,238	69.5%
prem def/(dpac)	115	0.2%	premium	67,080	23.6%
M/S apv adjust.	4,191	5.9%	M/S apv adjust.	19,408	6.8%
M/S total	71,271	100.0%	M/S total	283,726	100.0%

2 Activity During the Month of March 2020

2.1 Recorded Premium and Claims Activity

The table below summarizes the extent to which premiums and claims amounts recorded during the month differ from projections reflected in the prior month’s Operational Report⁵.

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

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	(2)	(2)	3,284	1,420	(2,686)	(1,271)	598	149
2018	(33)	(33)	628	(374)	(139)	210	489	(164)
2019	(171)	(171)	1,568	(1,729)	(2,097)	888	(529)	(841)
2020	11,029	21	4,890	451	2,707	(1,816)	7,597	(1,365)
TOTAL	10,823	(184)	10,370	(232)	(2,216)	(1,990)	8,154	(2,221)

(Recorded transaction amounts exclude IBNR & other actuarial provisions)

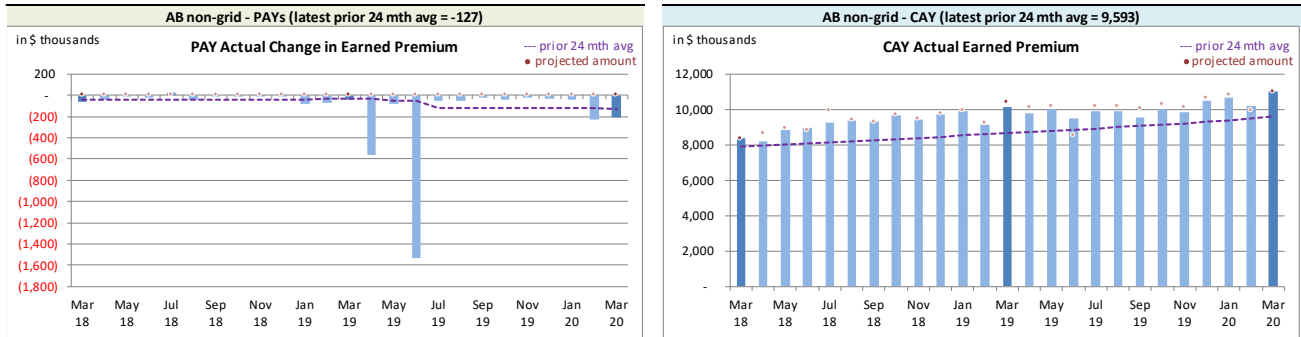
Claims transaction activity is generally volatile and changes from one month to the next are anticipated due to this natural “process variance” (i.e. random variation). Each month, the projection variances are reviewed for signs of projection bias and to identify potential ways to reduce the level of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

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

The charts at the top of the next page show actual **earned premium**⁶ 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.

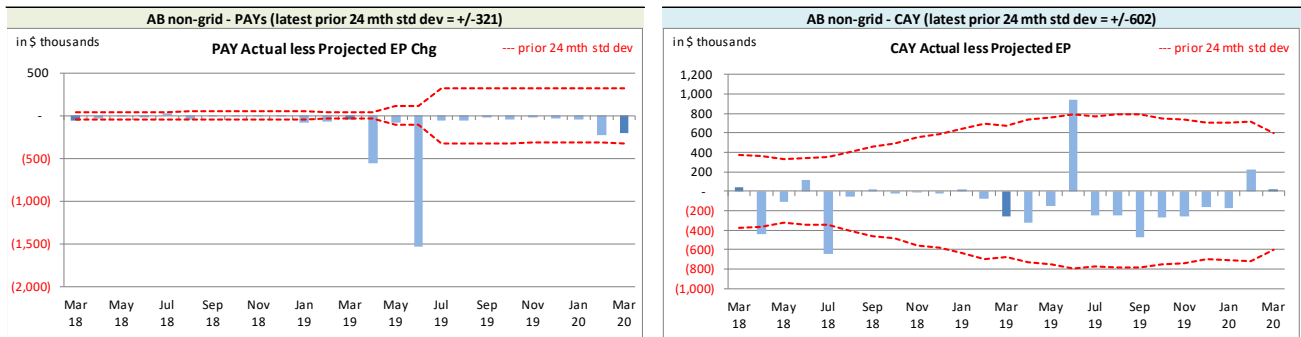
⁵There may be rounding differences in values in this document compared with the associated Bulletin and/or Operational Report.

⁶Premium 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 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 charts below. **Earned premium** change projections are all attributed to the current accident year as the projection upload does not accept **earned premium** changes for other accident years. We do not see this limitation as being significant for our purposes, but it does mean that the actual less projection variance will equal the actual **earned premium** change in relation to prior accident years.

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


On Latest \$ thousands		
Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(127)	9,593
std dev	321	602
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

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) bias⁷, 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 bias⁸, with actuals being generally lower than projected, modifications to our projections processes in response appears to have had a favourable impact, bias still exists. Over time, we may

⁷The PAYs' variances will show bias as the projection upload forces all earned premium projections to be attributed to the CAY.

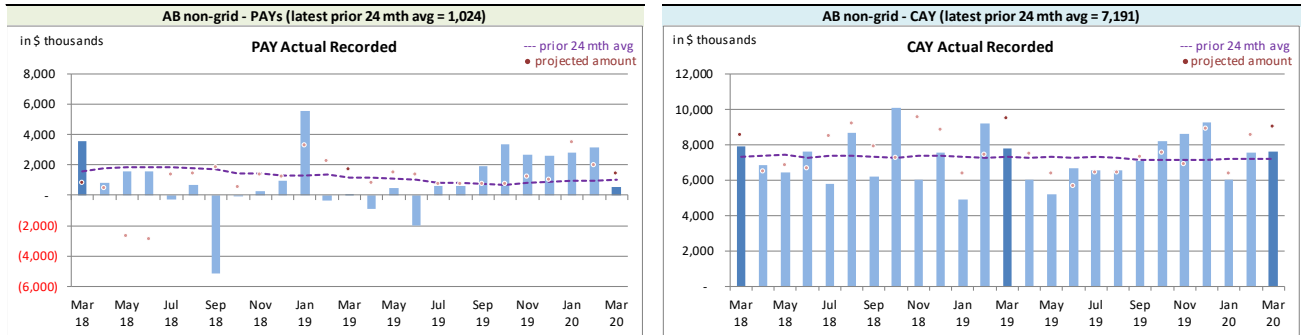
⁸We measure bias based on a 95% confidence range for a binominal distribution with trials based on the range being considered (25 in this case) and 50% probability of success. The rolling 25-month CAY variances at March 2020 had only 7 months where the actuals was higher than projected, and as the 95%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

consider other projection approaches to narrow monthly variance levels, but it is not currently deemed a priority.

2.1.b AvsP: Recorded Indemnity & Allowed Claims Expense

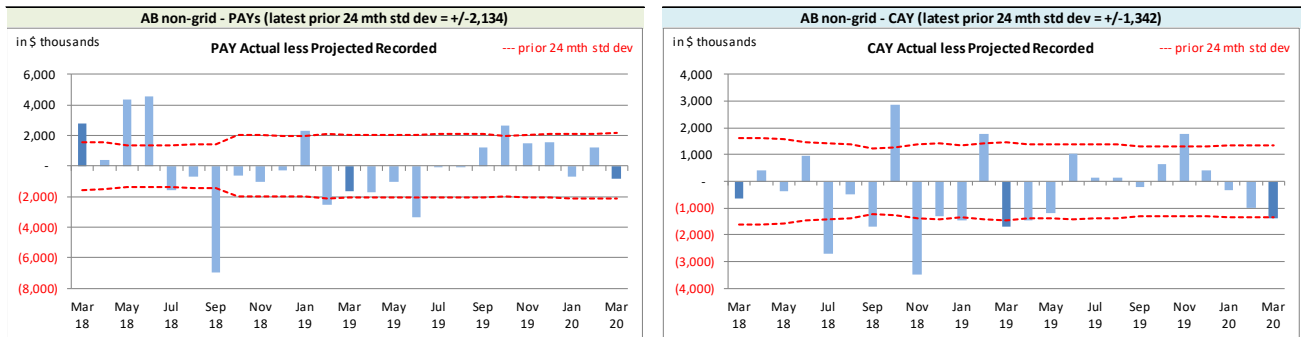
The charts immediately below show actual **recorded** activity (**paid** and case reserve changes), in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

Alberta non-Grid RSP Actual Recorded by Calendar Month



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

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



On Latest \$ thousands		
Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	1,024	7,191
std dev	2,134	1,342
A-P <> std dev	9	10
% <> std dev	36.0%	40.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	no better	worse

With respect to **recorded** indemnity & allowed claims expense activity, 36% 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 (10 of 25 variances are positive).

The current accident year (CAY) **recorded** variances fell outside of one standard deviation 40% of the time over the last 25 calendar months (see table above), suggesting that the projection process has

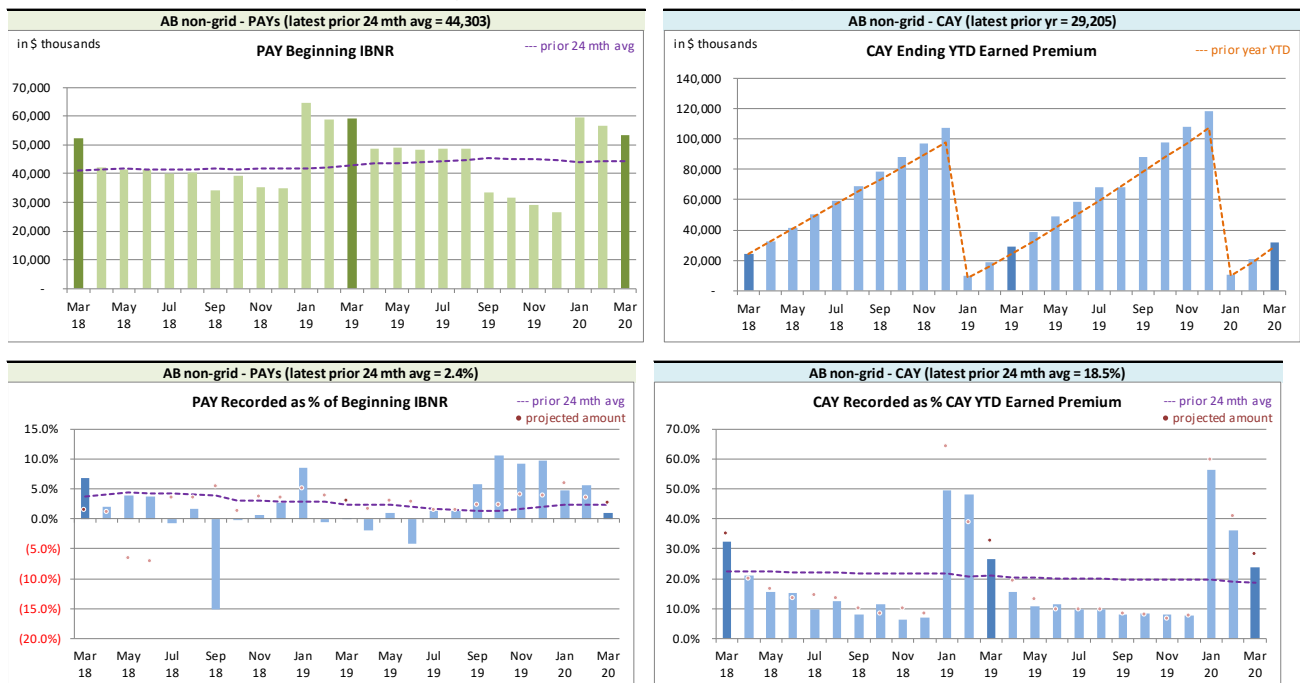
performed worse than simply projecting the prior 24-month average amount. Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (10 of 25 variances are positive).

The CAY **recorded** variance was slightly outside of the one standard deviation band this month (see right chart above). Being the highest of the 25 calendar months, the activity was reviewed and verified, and attributed to process variance.

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

We have included, for reference, additional charts below related to levels influencing **recorded** activity.

Alberta non-Grid RSP Levels that influence⁹ 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:

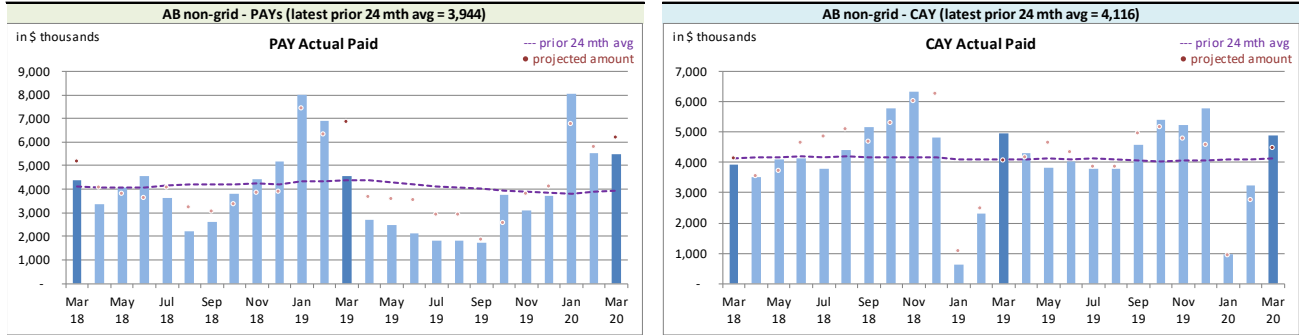
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a CAY becomes a PAY(occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of PAYs’ ultimates (will show up as a beginning IBNR change one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

⁹Our 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.

2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

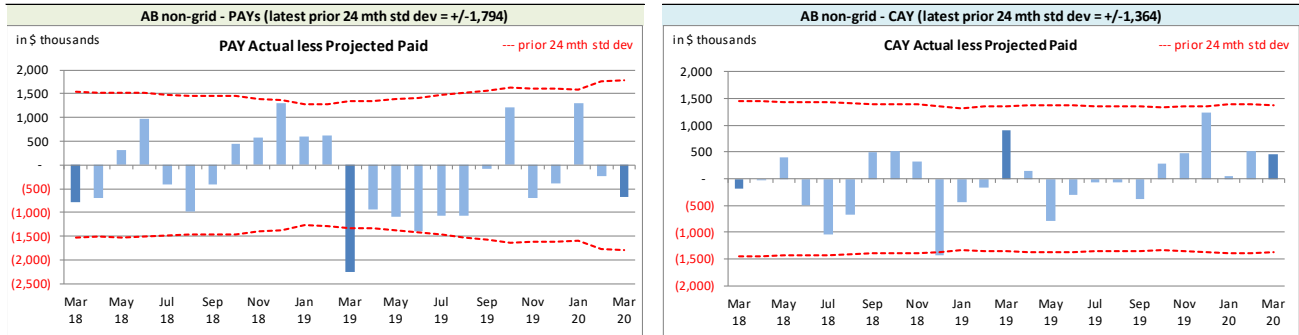
The charts immediately below show actual **paid** activity in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

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



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

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



On Latest \$ thousands		
	Paid	
Mthly Avg Paid (prior 24 mths)	3,944	CAY 4,116
std dev	1,794	1,364
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 (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 table above), 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).

We have included, for reference, additional charts immediately below related to levels influencing **paid** activity.

Alberta non-Grid RSP Levels that influence¹⁰ 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 IBNR¹¹, 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

¹⁰Our 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.

¹¹For ease of discussion, “IBNR” is used in place of “provisions for incurred but not recorded (IBNR) and development”.

and actuals were based on the applicable valuation.

The table immediately below 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

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	12,367	4,022	(3,102)	(517)	8,343	297	17,608	3,802
2018	13,024	342	(1,625)	(140)	4,988	56	16,387	258
2019	30,035	(867)	(2,705)	(301)	7,598	313	34,928	(855)
2020	10,642	(843)	(974)	39	2,694	(399)	12,362	(1,203)
TOTAL	66,068	2,654	(8,406)	(919)	23,623	267	81,285	2,002

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, and due to 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 table at the top of the next page 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, and due to 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:	115	(4,697)	4,191	(530)	4,306	(5,227)
balance as % unearned premium:	0.2%	(7.1%)	6.3%	(1.0%)	6.4%	(8.1%)
actual unearned premium:	66,965					
less projected:		1,034				

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 loss¹² ratio per latest valuation
- (c) Estimated ultimate incurred = (a) x (b)
- (d) Recorded indemnity & allowed claims expense to-date
- (e) IBNR = (c) – (d)

4 Calendar Year-to-Date Results

The table at the top of the next page summarizes the calendar year-to-date results for indemnity & allowed claims expenses¹³, 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 101.2% 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.)

¹²“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).

¹³Allowed 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	2,365	7.5%	(1,810)	(5.8%)	555	1.8%	1,860	8.1%
CAY	31,770	101.2%	1,720	5.5%	33,490	106.7%	9,776	(8.6%)
TOTAL	34,135	108.7%	(90)	(0.3%)	34,045	108.5%	11,635	(0.5%)

(“% 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, 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

		Amounts in \$000s				
IBNR + M/S actuarial present value adjustments	Accident Year	Actual Feb. 2020	Actual Mar. 2020	Projected Apr. 2020	Projected May. 2020	Projected Dec. 2020
	2004	42	42	42	42	33
	2005	13	13	13	13	11
	2006	18	18	18	18	15
	2007	(209)	128	126	124	101
	2008	66	67	66	65	52
	2009	(144)	(178)	(177)	(177)	(147)
	2010	(149)	80	76	74	59
	2011	407	191	189	182	147
	2012	696	638	628	617	501
	2013	451	969	955	942	766
	2014	1,416	1,885	1,862	1,838	1,499
discount rate	2015	2,373	1,637	1,615	1,589	1,293
1.64%	2016	1,110	2,725	2,679	2,525	1,956
	2017	8,299	9,393	8,901	8,412	6,181
interest rate margin	2018	16,871	16,387	15,936	15,311	12,550
25 basis pts	2019	36,361	34,928	34,490	34,093	30,513
	2020	10,183	12,362	17,100	22,271	45,276
	TOTAL	77,804	81,285	84,519	87,939	100,806
	Change		3,481	3,234	3,420	

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. 2020	Actual Mar. 2020	Projected Apr. 2020	Projected May. 2020	Projected Dec. 2020
	349.1%	2004	36	36	36	36	28
	97.4%	2005	5	5	5	5	5
	86.9%	2006	16	16	16	16	14
	101.9%	2007	(218)	96	95	94	77
	101.1%	2008	64	64	63	62	50
	95.3%	2009	(221)	(233)	(231)	(229)	(187)
	84.3%	2010	(218)	(2)	(2)	(2)	(2)
	83.9%	2011	208	15	15	15	13
	101.0%	2012	385	402	398	394	322
	98.7%	2013	251	760	752	744	608
	108.8%	2014	1,061	1,571	1,555	1,539	1,259
	95.0%	2015	1,754	1,202	1,190	1,178	963
	114.8%	2016	(46)	1,591	1,575	1,447	1,046
	108.7%	2017	5,717	6,844	6,385	5,932	4,064
	100.4%	2018	13,335	13,024	12,620	12,052	9,732
	100.9%	2019	31,214	30,035	29,735	29,438	26,371
	99.7%	2020	8,702	10,642	14,860	19,471	39,031
		TOTAL	62,045	66,068	69,067	72,192	83,394
		Change		4,023	2,999	3,125	

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

EXHIBIT C
Premium Liabilities

TABLE EXHIBIT C

	Amounts in \$000s				
	Actual Feb. 2020	Actual Mar. 2020	Projected Apr. 2020	Projected May. 2020	Projected Dec. 2020
Premium Liabilities					
(1) unearned premium (UP)	65,648	66,965	68,708	71,148	77,379
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	114.4%	106.4%	106.4%	106.4%	106.3%
(3) expected future costs {(1) x (2)}	75,092	71,271	73,124	75,716	82,279
(4) premium deficiency / (deferred policy acquisition cost)	9,444	4,306	4,416	4,568	4,900
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	107.2%	100.2%	100.2%	100.2%	100.1%
(6) expected future costs {(1) x (5)}	70,396	67,080	68,824	71,264	77,441
(7) premium deficiency / (deferred policy acquisition cost)	4,748	115	116	116	62

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 ending 2020		Projected Balances as at Dec. 31, 2020 (\$000s)								
Acc Yr	nominal values			actuarial present value adjustments (apvs)					TOTAL	
	Case	IBNR	Total Unpaid	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD		Total apvs
2004	19	28	47	-	-	5	-	5	5	52
2005	56	5	61	-	-	6	-	6	6	67
2006	(1)	14	13	-	-	1	-	1	1	14
2007	227	77	304	(6)	1	30	(1)	29	24	328
2008	(30)	50	20	-	-	2	-	2	2	22
2009	762	(187)	575	(17)	2	57	(2)	55	40	615
2010	849	(2)	847	(25)	4	85	(3)	82	61	908
2011	2,006	13	2,019	(73)	12	202	(7)	195	134	2,153
2012	2,367	322	2,689	(94)	13	269	(9)	260	179	2,868
2013	1,904	608	2,512	(98)	15	251	(10)	241	158	2,670
2014	2,818	1,259	4,077	(179)	29	408	(18)	390	240	4,317
2015	5,511	963	6,474	(324)	45	641	(32)	609	330	6,804
2016	14,172	1,046	15,218	(639)	91	1,522	(64)	1,458	910	16,128
2017	20,872	4,064	24,936	(1,022)	150	3,117	(128)	2,989	2,117	27,053
2018	23,471	9,732	33,203	(1,361)	199	4,150	(170)	3,980	2,818	36,021
2019	24,523	26,371	50,894	(2,290)	356	6,362	(286)	6,076	4,142	55,036
PAYs (sub-total):	99,526	44,363	143,889	(6,128)	917	17,108	(730)	16,378	11,167	155,056
CAY (2020)	43,212	39,031	82,243	(3,536)	493	9,705	(417)	9,288	6,245	88,488
claims liabilities:	142,738	83,394	226,132	(9,664)	1,410	26,813	(1,147)	25,666	17,412	243,544
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	77,379	62	77,441	(2,620)	385	7,322	(249)	7,073	4,838	82,279
*Total may not be sum of parts, as apvs apply to future costs within UPR										
policy liabilities:			303,573	(12,284)	1,795	34,135	(1,396)	32,739	22,250	325,823

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
Total	230,611	227,532	224,558	221,682	218,884	216,152	225,630	225,630
	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%
Total	6,053	2,974	-	(2,876)	(5,674)	(8,406)	1,072	1,072
	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%
Total	2.7%	1.3%	-	(1.3%)	(2.5%)	(3.7%)	0.5%	0.5%
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

EXHIBIT G

Page 1 of 2

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

RSP **Alberta Non-Grid**
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
2004	42	(2)	2	-	-	-	42
2005	13	-	-	-	-	-	13
2006	18	(1)	1	-	-	-	18
2007	(209)	9	24	304	337	(161.2%)	128
2008	66	(3)	3	1	1	1.5%	67
2009	(144)	7	(20)	(21)	(34)	23.6%	(178)
2010	(149)	5	(9)	233	229	(153.7%)	80
2011	407	(15)	(24)	(177)	(216)	(53.1%)	191
2012	696	(25)	(30)	(3)	(58)	(8.3%)	638
2013	451	(17)	37	498	518	114.9%	969
2014	1,416	(56)	561	(36)	469	33.1%	1,885
2015	2,373	(94)	(147)	(495)	(736)	(31.0%)	1,637
2016	1,110	(27)	(455)	2,097	1,615	145.5%	2,725
2017	8,299	(364)	(188)	1,646	1,094	13.2%	9,393
2018	16,871	(742)	161	97	(484)	(2.9%)	16,387
2019	36,361	(578)	792	(1,647)	(1,433)	(3.9%)	34,928
2020	10,183	3,382	1,353	(2,556)	2,179	21.4%	12,362
Grand Total	77,804	1,479	2,061	(59)	3,481	4.5%	81,285

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	(2)	2	-	-	-	36	
2005	5	-	-	-	-	-	5	
2006	16	(1)	1	-	-	-	16	
2007	(218)	9	23	282	314	(144.0%)	96	
2008	64	(3)	3	-	-	-	64	
2009	(221)	9	(21)	-	(12)	5.4%	(233)	
2010	(218)	9	(12)	219	216	(99.1%)	(2)	
2011	208	(9)	(27)	(157)	(193)	(92.8%)	15	
2012	385	(16)	33	-	17	4.4%	402	
2013	251	(11)	34	486	509	202.8%	760	
2014	1,061	(45)	555	-	510	48.1%	1,571	
2015	1,754	(74)	(119)	(359)	(552)	(31.5%)	1,202	
2016	(46)	5	(434)	2,066	1,637	(3,558.7%)	1,591	
2017	5,717	(320)	(188)	1,635	1,127	19.7%	6,844	
2018	13,335	(653)	130	212	(311)	(2.3%)	13,024	
2019	31,214	(312)	667	(1,534)	(1,179)	(3.8%)	30,035	
2020	8,702	2,783	1,387	(2,230)	1,940	22.3%	10,642	
Grand Total	62,045	1,369	2,034	620	4,023	6.5%	66,068	