ALBERTA GRID RISK SHARING POOL

AUGUST 2022 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

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FACILITY ASSOCIATION

ACTUARIAL HIGHLIGHTS
RSP ALBERTA GRID
OPERATIONAL REPORT
AUGUST 2022

TABLE OF CONTENTS

1 Summary

Note to members: this is the quarterly Actuarial Highlights we will release going forward to replace the monthly Actuarial Highlights. The next report will be available for reporting month October 2022 in November 2022, in line with the valuation implementation schedule. Please contact us with any questions or concerns in regards to this matter.

1.1 Valuation Schedule (Fiscal Year 2022)

The August 2022 Operational Report incorporates the results of an updated valuation (as at June 30, 2022) – 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 2022.

ALBERTA GRID RISK SHARING POOL FISCAL YEAR 2021 – SCHEDULE OF VALUATIONS			
Valuation Date	**Discount Rate (per annum)**	**Operational Report**	**Description of Changes**
Sep. 30, 2021 (completed)	0.81% mfad[1] 25 bp	Oct. 2021	update valuation (roll-forward): accident year 2021 loss ratio decreased 0.8 points to 65.5%; discount rate increased 9 basis points; no change to selected margins for adverse deviations
Dec. 31, 2021 (completed)	1.04% mfad 25 bp	Mar. 2022	update valuation: accident year 2021 loss ratio increased 1.2 points to 66.7% and accident year 2022 loss ratio increased 3.3 points to 82.3%; discount rate increased 23 basis points; no change to selected margins for adverse deviations
Mar. 31, 2022 (completed)	2.24% mfad 25 bp	May. 2022	update valuation (roll-forward): accident year 2022 loss ratio decreased 0.6 points to 86.3%; discount rate increased 120 basis points; no change to selected margins for adverse deviations
Jun. 30, 2022 (completed)	3.17% mfad 25 bp	Aug. 2022	update valuation: accident year 2022 loss ratio decreased 5.8 points to 75.9%; discount rate increased 93 basis points; selected margins for adverse deviations were rolled forward one year, with no changes to selections
Sep. 30, 2022	% mfad -- bp	Oct. 2022	update valuation (roll-forward):

Under the proposed schedule for fiscal year 2022, the off-half valuation quarters ending March 31, 2022 and September 30, 2022 would not reflect a full valuation update of assumptions,

[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%.

but would rather roll-forward key assumptions from the previous valuation.

1.2 New Valuation

A valuation of the Alberta Grid Risk Sharing Pool ("RSP") as at June 30, 2022 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.

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 (2022), and "Prem Def" refers to premium deficiency / deferred acquisition costs impacts.

Summary of Impact ($000s) of Implementing Result of Valuation as at Jun. 30, 2022[2]

AB 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	(13,376)	(776)	(14,152)	(5,168)	(954)	(20,274)
CAY	(10,172)	(602)	(10,774)	(2,738)	-	(13,512)
Prem Def	(8,274)	(391)	(8,665)	(2,916)	-	(11,581)
TOTAL	(31,822)	(1,769)	(33,591)	(10,822)	(954)	(45,367)

As indicated in the preceding table, the incorporation of the new valuation had an estimated ***$45.4 million favourable impact*** on the month's net result from operations, subtracting an estimated 19.7 points (see following table) from the **year-to-date Combined Operating Ratio** to end at **83.9%.** The favourable impact is due to the updates associated with the full review for the June valuation assumptions including an increase in discounting due to increases in government of Canada benchmark bond yields.

Summary of Impact (% YTD EP) of Implementing Result of Valuation as at Jun. *30, 2022*

AB Grid	ytd EP 230,128 (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	(5.8%)	(0.3%)	(6.1%)	(2.2%)	(0.4%)	(8.8%)
CAY	(4.4%)	(0.3%)	(4.7%)	(1.2%)	-	(5.9%)
Prem Def	(3.6%)	(0.2%)	(3.8%)	(1.3%)	-	(5.0%)
TOTAL	(13.8%)	(0.8%)	(14.6%)	(4.7%)	(0.4%)	(19.7%)

[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 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 $31.8 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). Due to the June valuation being a full review of assumptions, the impacts are driven by the update to method selections where methods were rolled forward from ELR-based to experience-based methods along with lower than expected levels of claims development. These positive impacts are compounded by the increase in discount rate as a result of higher government of Canada benchmark bond yields.

The **PAYs** overall showed a **$13.4 million favourable** nominal variance or 5.4% of the PAYs nominal unpaid balance of $249.5 million determined at the end of last month (July 2022), due to favourable development on Bodily Injury 2019 and prior accident year claims.

The **CAY** and **premium deficiency** impacts are a result of the change in the selected loss ratio for accident year **2022** (decreased 5.8 points to 75.9%). This change is a result of two main factors:

- The valuation expected loss ratio update, which incorporates updated loss and premium trends and updated prior year ultimate loss ratios.
- Better than expected current year results for short-tailed lines in recent quarter.

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 coverage, 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 $1.8 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 June 2022. Column [4] accounts for the change in the **discount rate** selected (increased 93 basis points to **3.17%**), indicating a favourable impact of $10.8 million. The impact *related only to claims liabilities* (i.e. PAYs plus CAY) was $7.9 million at August 2022 – this compares to the $8.8 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 rolled forward one year with no changes to the selection of the MfADs themselves, in accordance with the Q2 full review (as per our usual practice, development margins

are reviewed with the June 30 valuation). This roll forward of the claims development MfADs had a favourable implementation impact of $1.0 million.

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 3, 2022.

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

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 **October 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). Consideration of these changes were included in the industry trend analysis supporting the calculation of our valuation expected loss ratios.

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. Consideration of these changes were included in the industry trend analysis supporting the calculation of our valuation expected loss ratios. There is an estimated 20% reduction to loss costs for Bodily Injury claims in Alberta, as well as an estimated 8% increase in accident benefits loss costs, effective Jan. 1, 2021, which have been reflected in our estimates.

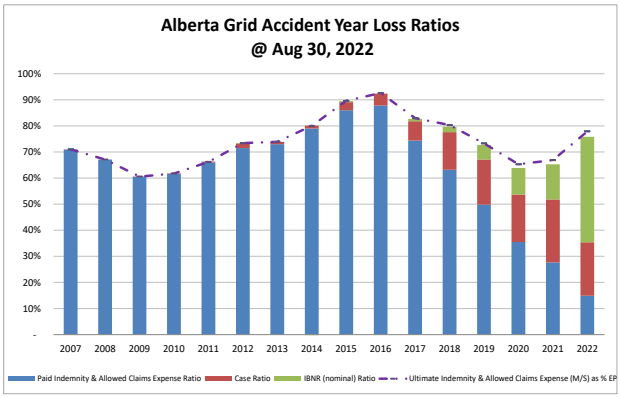
NEW In **Jackson v. Cooper, 2022 ABKB 609**, the decision, released on September 9, 2022, clarified the interest rates to be used in the calculation of pre-judgement interest awards on pecuniary damages. As described above, Bill 41 (effective December 9, 2020) amended calculation of pre-

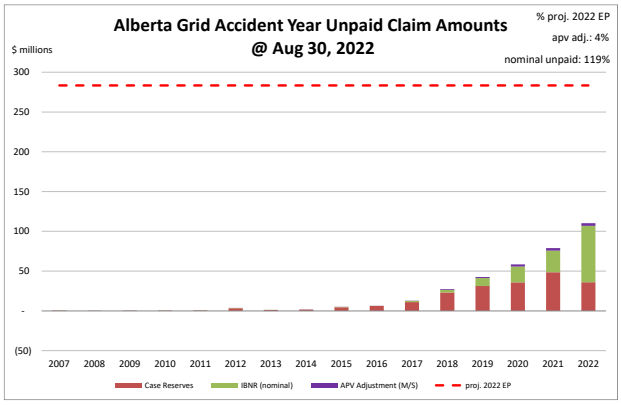
judgement interest on non-pecuniary damages in s. 585.2(2) of the Insurance Act. Up for debate was the question of whether this change applied retroactively. The court concluded it does not apply retroactively, and awarded pre-judgement interest at the old rate (4%) from the date of the accident up to the coming into force of s. 585.2(2) (December 9, 2020), and thereafter pre-judgment interest in accordance with section 4(2) of the Judgment Interest Act.

It is unclear whether the estimated impact of Bill 41 (20% reduction to loss cost for Bodily Injury claims, as described above) is affected by this decision. If the underlying assumption of that reduction was a retroactive application of the amendment to pre-judgement interest, it is possible the 20% reduction could be overstated. At this time, no changes have been made in our estimates to reflect this until we can assess whether this ruling represents a material change in the underlying Bill 41 impact assumptions.

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 2022 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.

claim liabilities ($000s)

	amt	%
case	204,299	58.4%
ibnr	133,335	38.1%
M/S apv adjust.	12,340	3.5%
M/S total	349,974	100.0%

The current actuarial present value adjustments balance ($12.3 million – see the table above) represents 4% of the earned premium projected for the full year 2022 (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.

The table above breaks down the Member Statement (M/S) claim liabilities total into component

[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.

parts, showing that the majority of the claim liabilities for this RSP is in case reserves. Approximately 73.6% of the IBNR balance relates to accident years 2021 and 2022 (see Exhibit B). Approximately 91% of the M/S total claim liabilities are related to accident years 2018-2022 inclusive (i.e. the most recent 5 accident years), and approximately 2% is related to accident years 2012 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	169,461	122.4%
prem def/(dpac)	(34,981)	(25.3%)
M/S apv adjust.	3,930	2.8%
M/S total	138,410	100.0%

policy liabilities ($000s)

	amt	%
claim	337,634	69.1%
premium	134,480	27.5%
M/S apv adjust.	16,270	3.3%
M/S total	488,384	100.0%

2 Activity since previous valuation implementation

2.1 Recorded Premium and Claims Activity

The following table summarizes the extent to which premiums and claims amounts recorded since the prior implementation differ from the prior projection.

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

AY Group	Share Year	Share Month	Actual Earned Premium (000s)	Actual minus Projected Earned Premium (000s)	Actual Paid Claims (000s)	Actual minus Projected Paid Claims (000s)	Actual Recorded Claims (000s)	Actual minus Projected Recorded Claims (000s)
PAY	**2022**	June	(43)	(43)	5,118	(1,089)	3,225	(930)
		July	(9)	(9)	8,648	3,129	3,200	(963)
		August	(449)	(449)	5,094	(1,092)	3,925	25
PAY Total			**(501)**	**(501)**	**18,860**	**948**	**10,350**	**(1,868)**
CAY	**2022**	June	22,959	(2,614)	3,993	895	8,989	1,112
		July	24,534	(2,666)	4,254	929	8,376	(1,568)
		August	25,360	(2,509)	5,575	1,652	12,030	1,480
CAY Total			**72,853**	**(7,789)**	**13,822**	**3,476**	**29,395**	**1,024**
Grand Total			**72,352**	**(8,290)**	**32,682**	**4,424**	**39,745**	**(844)**

(Recorded transaction amounts exclude IBNR & other actuarial provisions)

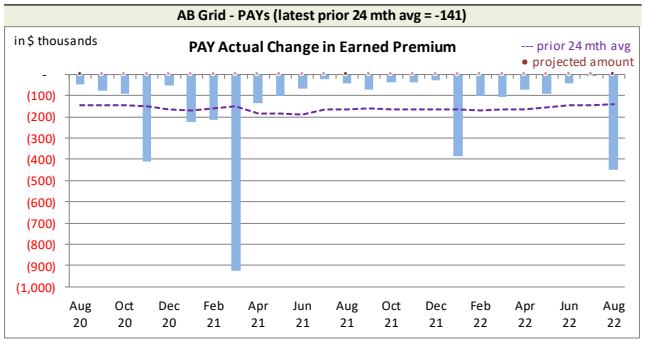
Claims transaction activity is generally volatile; changes from one month to the next are anticipated due to this natural "process variance" (i.e. random variation). Each month, the projection variances are reviewed for signs of projection bias and to identify potential ways to reduce the level of the variance. The variances are also reviewed as part of the quarterly valuation process, as an indicator of changes in the claims development process or potential bias in ultimate claims estimates.

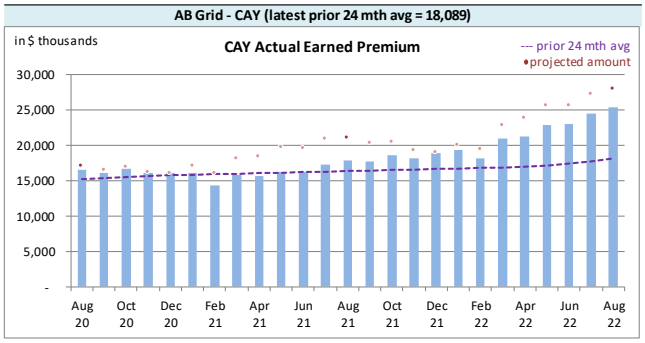
More detailed analysis and commentary on actual vs. projected for the most recent reporting months is provided below.

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

The following charts show actual **earned premium**[4] activity in each of the most recent 25 calendar months, along with a "prior 24-month average" to show how each month's actual compares with the average amount of the preceding 24 calendar months.

*Alberta Grid RSP Actual **Earned Premium** by Calendar Month*



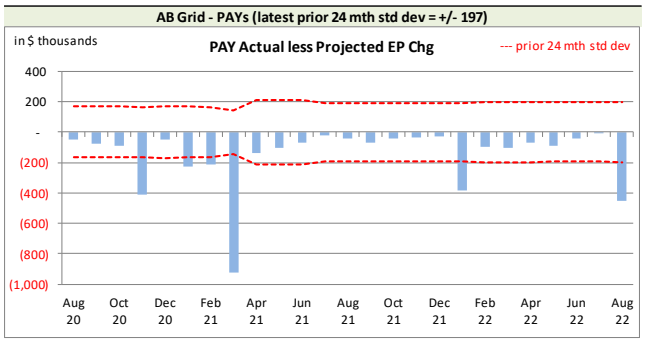


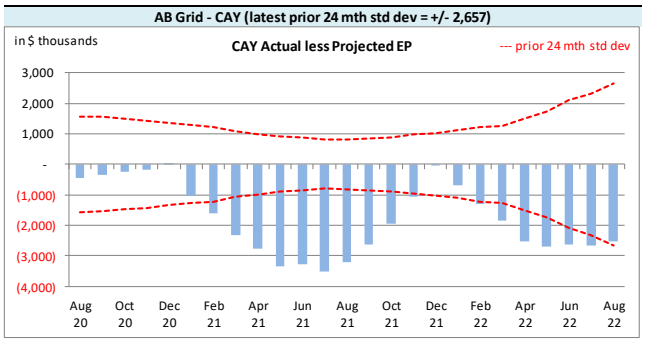
Earned premium changes during a given calendar month in relation to prior accident years tend to be at modest levels, although relatively high levels generally occur at the beginning of each year.

On Latest $ thousands		
Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(141)	18,089
std dev	197	2,657
A-P <> std dev	6	16
% <> std dev	24.0%	64.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	worse

The associated variances 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 Grid RSP Actual vs. Projected Summary: **Earned Premium** Variances by Calendar Month*





We project **earned premium** changes from known unearned premium balances and projected written premium levels, but upload the total projections as current accident year (CAY). This process

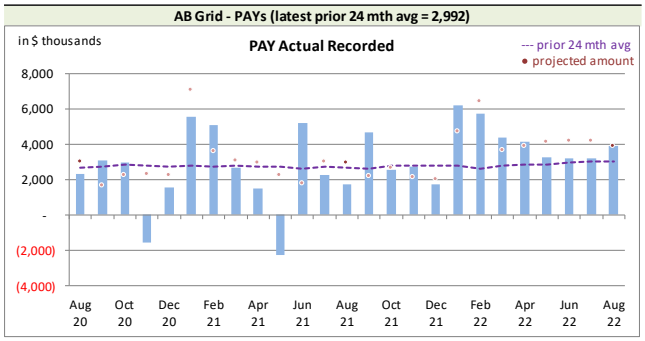
[4]Premium is earned on a daily basis based on the transaction term measured in days. As a result, months with 31 days earned relatively more than those with 30 days, and February earns the least.

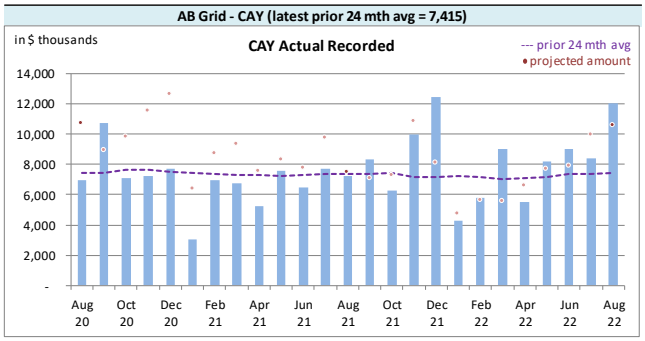
has generated prior accident years' (PAYs) bias[5], with actuals generally lower than projected, although the magnitude is not high relative to monthly premium. In addition to the PAYs' bias, the CAY has also shown bias[6], with actuals being generally lower than projected, and while we modified our projections processes in response, bias still exists. Over time, we may consider other projection approaches to address the bias issue, but it has not currently deemed as a 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.

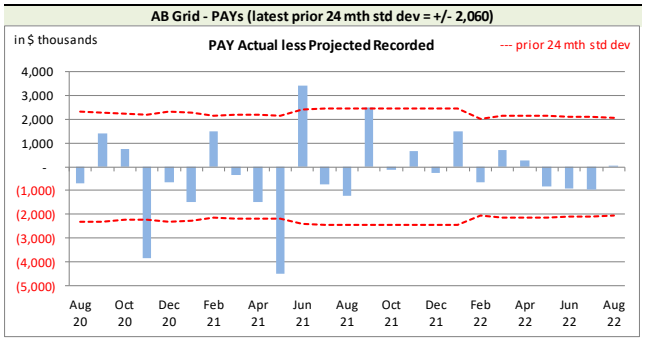
Alberta Grid RSP Actual **Recorded** *by Calendar Month*

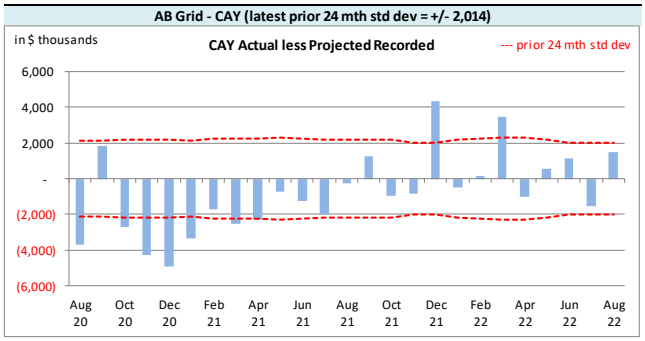




Recorded activity variances from the previous month's projections shown in the following charts, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

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





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

[6]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 May 2022 has only 2 months where the actuals were higher than projected, and as the 95% confidence range is 8 to 17, bias continues to be indicated.

On Latest $ thousands		
Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	2,992	7,415
std dev	2,060	2,014
A-P <> std dev	4	9
% <> std dev	16.0%	36.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	no better

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[7] has not been indicated at a 95% confidence level on a rolling 25-month basis (10 of 25 variances were positive).

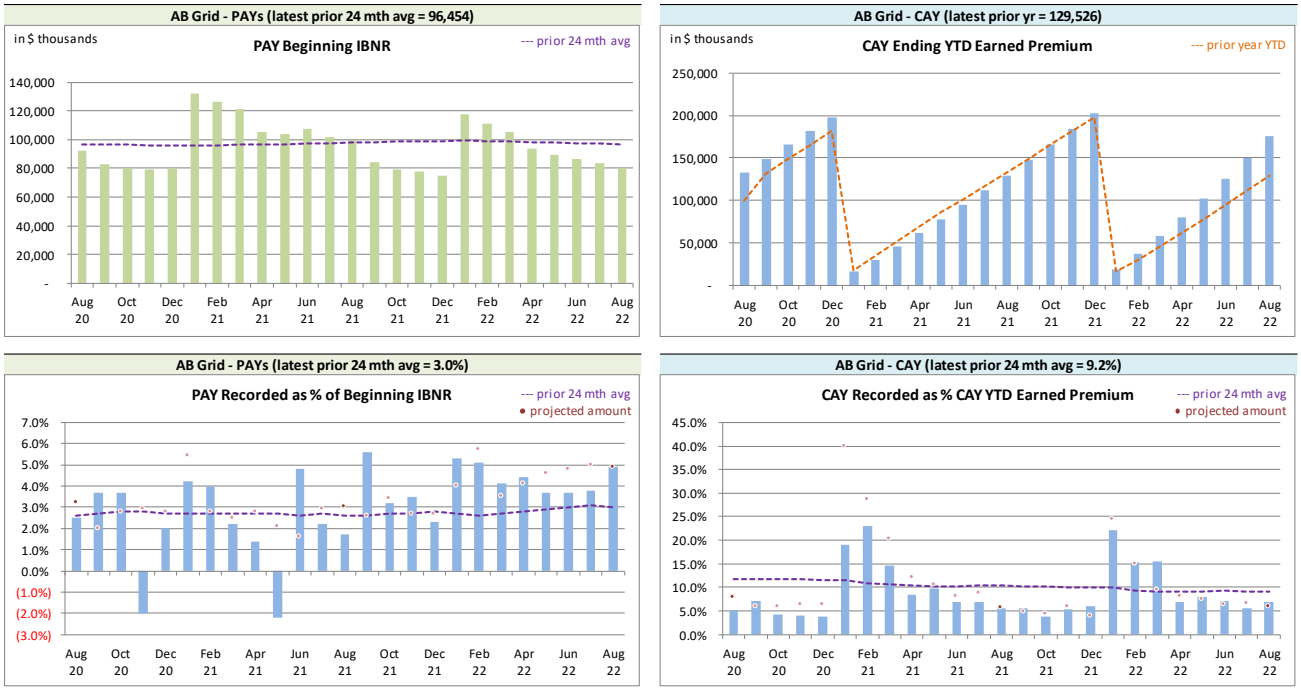
The current accident year (CAY) **recorded** variances fell outside of one standard deviation 36% of the time over the last 25 calendar months (see preceding table on the left), suggesting that the projection process has performed better than simply projecting the prior 24-month average amount. Bias not been indicated at a 95% confidence level on a lagging 24-month basis (8 of 25 variances were positive).

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

We have included, for reference, additional charts below related to levels influencing **recorded** activity. Note in particular the changes in the level of PAY beginning IBNR over the months, as a response to valuations and showing up as a beginning IBNR change one month after the valuation is implemented (i.e. April, June, September, and November).

[7] For the binomial distribution with 25 trials and an assumed 50% success probability, the 95% confidence range is 8 to 17 successes. That is, favourable or unfavourable counts of 0 to 7 or 18 to 25 out of 25 outcomes would suggest bias.

Alberta 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:

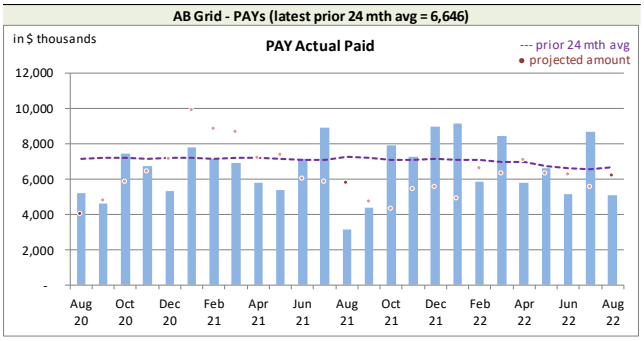
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a CAY becomes a PAY (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of PAYs' ultimates (will show up as a beginning IBNR change one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

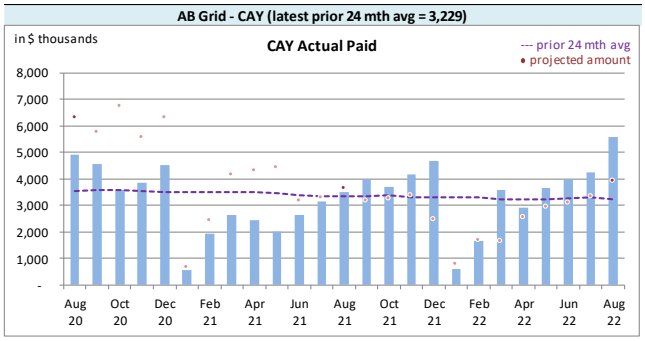
2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

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.

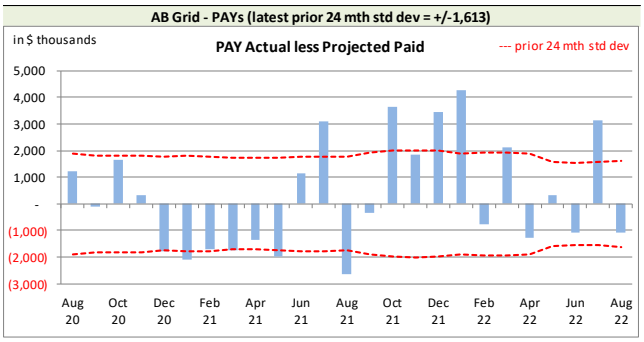
*Alberta Grid RSP Actual **Paid** activity by Calendar Month*

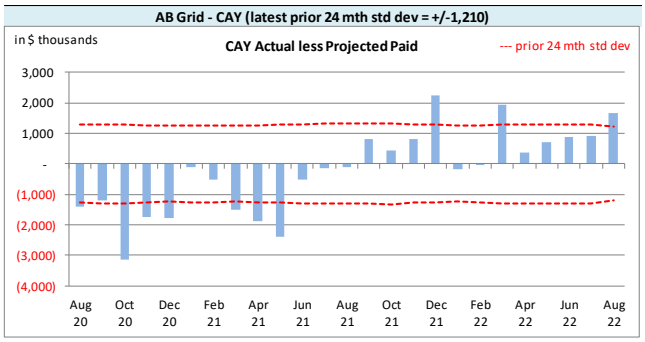




Paid activity variances from the previous month's projections shown in the following charts, including the prior 24-month standard deviation levels to show how the variances from projection compare with historical standard deviations.

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





On Latest $ thousands		
Paid	PAYs	CAY
Mthly Avg Paid (prior 24 mths)	6,646	3,229
std dev	1,613	1,210
A-P <> std dev	11	10
% <> std dev	44.0%	40.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	worse	worse

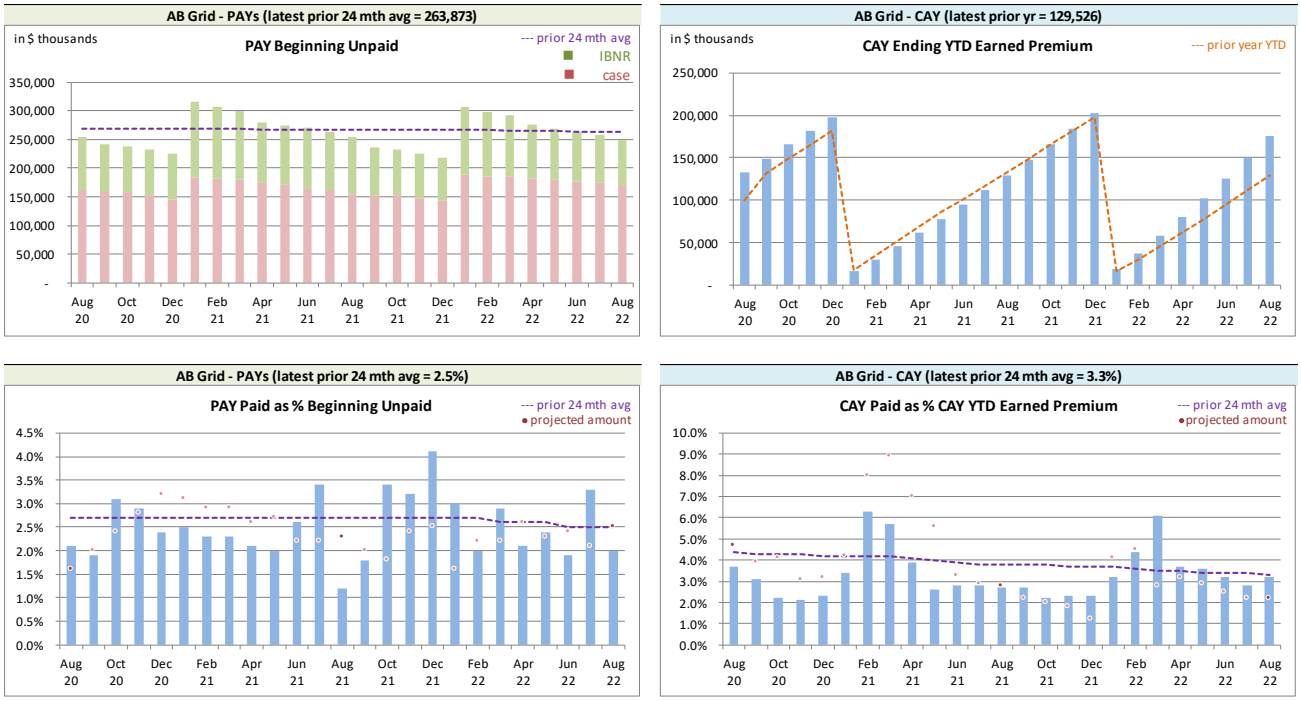
With respect to **paid** indemnity & allowed claims expense, 44% of the prior accident years' (PAYs) variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **paid** amounts (see table on left), suggesting the projection process has performed worse than simply projecting the prior 24-month average amount (assuming it follows a normal distribution), and we are actively looking into the projection process for means of improving this result. Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (12 of 25 variances are positive).

The PAY **paid** variance was just 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 process variance.

The current accident year (CAY) **paid** variances fell outside one standard deviation 40% of the time over the last 25 calendar months (see preceding table on the left), suggesting the projection process has performed no better than simply projecting the prior 24-month average amount. Bias has 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 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 based on the applicable valuation.

Exhibit G shows the accident years IBNR amount change from last month to this month are broken

[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".

down:

(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)

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 76.4% rather than 75.9% (the valuation ultimate ratio for accident year 2022), 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 Grid RSP Summary of Operations due to rounding.)

Alberta 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	(21,384)	(12.3%)	(21,484)	(12.3%)	(42,868)	(24.6%)	(20,930)	(9.9%)
CAY	133,101	76.4%	3,425	2.0%	136,526	78.4%	8,084	(7.7%)
TOTAL	111,717	64.2%	(18,059)	(10.4%)	93,658	53.8%	(12,846)	(17.6%)

("% EP" based on 2022 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 implemented. The loss

[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.

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 impact of 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 impact of 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 shown in the Operational Report as "Undiscounted IBNR".

The ultimate loss ratios presented in section 6, Exhibit B, refer to the estimates derived based on various actuarial methodologies applied to the experience of the Alberta 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 3.17%

interest rate margin 25 basis pts

Amounts in $000s								
Accident Year	Actual Jul. 2022	Actual Aug. 2022	Projected Sep. 2022	Projected Oct. 2022	Projected Nov. 2022	Projected Dec. 2022	Projected Jan. 2023	Projected Dec. 2022
2006	(76)	(76)	(67)	(61)	(59)	(58)	(55)	(58)
2007	(133)	(134)	(117)	(105)	(101)	(102)	(95)	(102)
2008	88	87	78	72	69	68	67	68
2009	(2)	(5)	(3)	(2)	(3)	(3)	(3)	(3)
2010	(3)	(12)	(9)	(10)	(9)	(9)	(2)	(9)
2011	29	(4)	(3)	(2)	(3)	(3)	3	(3)
2012	202	241	215	195	188	186	220	186
2013	241	49	42	37	36	37	47	37
2014	296	(195)	(169)	(151)	(145)	(146)	(190)	(146)
2015	1,477	750	680	627	604	589	583	589
2016	1,624	250	239	228	219	209	209	209
2017	4,289	1,777	1,609	1,483	1,426	1,396	1,369	1,396
2018	7,978	4,221	4,016	3,727	3,652	3,362	3,128	3,362
2019	15,904	11,291	10,901	10,213	9,618	9,492	9,072	9,492
2020	25,768	22,678	21,531	20,537	20,129	19,716	19,316	19,716
2021	38,225	30,410	28,817	28,009	27,453	26,416	25,759	26,416
2022	78,247	74,301	86,470	98,913	111,285	124,499	120,029	124,499
TOTAL	174,476	145,675	154,273	163,749	174,396	185,686	193,970	185,686
Change		(28,801)	8,598	9,476	10,647	11,290	8,284	

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 Jul. 2022	Actual Aug. 2022	Projected Sep. 2022	Projected Oct. 2022	Projected Nov. 2022	Projected Dec. 2022	Projected Jan. 2023	Projected Dec. 2022
66.4%	2006	(79)	(79)	(70)	(64)	(62)	(61)	(58)	(61)
71.0%	2007	(159)	(159)	(141)	(128)	(123)	(122)	(117)	(122)
67.1%	2008	79	79	70	64	62	61	58	61
60.6%	2009	(15)	(15)	(13)	(12)	(12)	(12)	(11)	(12)
61.7%	2010	(20)	(23)	(20)	(18)	(17)	(17)	(16)	(17)
66.2%	2011	8	(12)	(11)	(10)	(10)	(10)	(10)	(10)
73.4%	2012	89	232	206	187	180	178	170	178
73.9%	2013	205	59	52	47	45	45	43	45
80.0%	2014	183	(247)	(220)	(200)	(192)	(190)	(181)	(190)
89.5%	2015	1,177	584	519	472	454	449	429	449
92.5%	2016	1,238	55	49	45	43	43	41	43
82.8%	2017	3,538	1,412	1,255	1,142	1,099	1,088	1,039	1,088
79.7%	2018	6,414	3,328	3,142	2,884	2,855	2,604	2,487	2,604
72.6%	2019	12,623	10,052	9,680	9,022	8,463	8,378	7,842	8,378
63.9%	2020	21,678	19,931	18,835	17,912	17,572	17,221	16,704	17,221
65.3%	2021	32,823	27,230	25,732	24,986	24,486	23,507	22,449	23,507
75.9%	2022	72,358	70,876	82,491	94,379	106,191	118,823	113,476	118,823
	TOTAL	152,421	133,335	141,585	150,734	161,059	172,010	178,059	172,010
	Change		(19,086)	8,250	9,149	10,325	10,951	6,049	

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 Jul. 2022	Actual Aug. 2022	Projected Sep. 2022	Projected Oct. 2022	Projected Nov. 2022	Projected Dec. 2022	Projected Jan. 2023	Projected Dec. 2022
(1) unearned premium (UP)	162,309	169,461	180,509	193,066	198,748	196,261	186,297	196,261
FOR MEMBER SHARING								
(2) expected future costs ratio {% of (1)}	88.0%	81.7%	82.5%	83.4%	84.2%	85.1%	85.1%	85.1%
(3) expected future costs {(1) x (2)}	142,834	138,410	148,936	160,932	167,379	167,091	158,623	167,091
(4) premium deficiency / (deferred policy acquisition cost)	(19,475)	(31,051)	(31,573)	(32,134)	(31,369)	(29,170)	(27,674)	(29,170)
Excluding Actuarial Present Value Adjustments								
(5) expected future costs ratio {% of (1)}	83.8%	79.4%	80.2%	81.0%	81.8%	82.7%	82.7%	82.7%
(6) expected future costs {(1) x (5)}	135,942	134,480	144,707	156,362	162,626	162,347	154,119	162,347
(7) premium deficiency / (deferred policy acquisition cost)	(26,367)	(34,981)	(35,802)	(36,704)	(36,122)	(33,914)	(32,178)	(33,914)

EXHIBIT D

Projected Year-end Policy Liabilities

The table below presents the projected policy liabilities as at December 31, 2022, broken down by component.

Alberta Grid	Projected Balances as at Dec. 31, 2022 ($000s)									
ending 2022	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
2006	87	(61)	26	-	-	3	-	3	3	29
2007	366	(122)	244	(4)	-	24	-	24	20	264
2008	52	61	113	(4)	-	11	-	11	7	120
2009	170	(12)	158	(7)	1	16	(1)	15	9	167
2010	284	(17)	267	(18)	1	27	(2)	25	8	275
2011	427	(10)	417	(34)	2	42	(3)	39	7	424
2012	2,840	178	3,018	(286)	21	302	(29)	273	8	3,026
2013	1,082	45	1,127	(118)	9	113	(12)	101	(8)	1,119
2014	1,385	(190)	1,195	(73)	5	119	(7)	112	44	1,239
2015	3,860	449	4,309	(280)	20	428	(28)	400	140	4,449
2016	5,149	43	5,192	(344)	25	519	(34)	485	166	5,358
2017	9,495	1,088	10,583	(729)	53	1,057	(73)	984	308	10,891
2018	19,897	2,604	22,501	(1,451)	106	2,248	(145)	2,103	758	23,259
2019	28,702	8,378	37,080	(2,524)	184	3,706	(252)	3,454	1,114	38,194
2020	33,362	17,221	50,583	(3,588)	262	6,265	(444)	5,821	2,495	53,078
2021	45,855	23,507	69,362	(5,350)	389	8,528	(658)	7,870	2,909	72,271
PAYs (sub-total):	152,973	53,187	206,160	(14,810)	1,078	23,420	(1,688)	21,732	8,000	214,160
CAY (2022)	58,331	118,823	177,154	(14,593)	1,057	20,937	(1,725)	19,212	5,676	182,830
claims liabilities:	211,304	172,010	383,314	(29,403)	2,135	44,357	(3,413)	40,944	13,676	396,990
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	196,261	(33,914)	162,347	(11,484)	831	16,574	(1,177)	15,397	4,744	167,091
										*Total may not be sum of parts, as apvs apply to future costs within UPR
policy liabilities:			**545,661**	**(40,887)**	**2,966**	**60,931**	**(4,590)**	**56,341**	**18,420**	**564,081**

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, 2022 from the valuation), followed by the selected discount rate and the associated margin for investment income.

Accident Year	Selected Claims Development MfADs			
	Third Party Liability	Accident Benefits	Other Coverages	Total
	Margins	Margins	Margins	Margins
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%	8.1%	10.0%
2015	10.0%	10.0%	5.0%	9.9%
2016	10.0%	10.0%	9.9%	10.0%
2017	10.0%	10.0%	9.8%	10.0%
2018	10.0%	10.0%	6.6%	10.0%
2019	10.0%	10.0%	9.1%	10.0%
2020	12.5%	10.0%	8.4%	12.4%
2021	12.4%	10.0%	10.0%	12.3%
2022	12.2%	10.0%	6.5%	11.8%
2023	11.9%	10.0%	5.1%	10.2%
prem liab	11.9%	10.0%	5.1%	10.2%

discount rate:	3.17%
margin (basis points):	25

*prem liabilities as at 2022m06

EXHIBIT F

Interest Rate Sensitivity

The tables below present sensitivity to the member statement claims liability as projected to Dec. 31, 2022 from the latest valuation date (projections in exhibits A to D are to Dec. 31, 2022, and are based on more up-to-date information). We have included the most recent valuation selection (3.17%), the prior valuation assumption (2.24%) and the prior fiscal year end valuation assumption (0.20%) for comparative purposes. A 25 basis point margin for investment return adverse deviation is used in all scenarios presented.

	Actuarial Present Value of Provisions at Various Discount Rates - Dec. 31, 2022 projected Unpaid							
AY	2.17%	2.67%	3.17%	3.67%	4.17%	4.67%	2.24%	0.81%
2005 & prior	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	60	60	60	60	60	60	60	60
2007	325	324	323	323	322	321	325	327
2008	134	134	133	132	131	130	134	137
2009	187	185	184	183	181	180	186	190
2010	259	256	253	251	248	245	258	267
2011	477	471	465	459	453	447	476	495
2012	3,545	3,491	3,437	3,386	3,335	3,286	3,538	3,701
2013	902	886	871	857	843	829	900	946
2014	1,730	1,713	1,697	1,681	1,666	1,651	1,727	1,778
2015	4,162	4,119	4,077	4,036	3,997	3,958	4,156	4,285
2016	6,863	6,790	6,720	6,651	6,584	6,519	6,853	7,070
2017	11,076	10,955	10,836	10,721	10,608	10,498	11,059	11,424
2018	23,457	23,217	22,982	22,754	22,531	22,314	23,423	24,144
2019	38,204	37,789	37,386	36,992	36,608	36,234	38,145	39,388
2020	52,769	52,171	51,589	51,021	50,468	49,929	52,684	54,478
2021	74,294	73,376	72,482	71,612	70,764	69,939	74,164	76,924
2022	162,857	160,695	158,594	156,551	154,564	152,631	162,551	169,065
Total	381,301	376,632	372,090	367,668	363,363	359,170	380,639	394,679
	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	2.17%	2.67%	3.17%	3.67%	4.17%	4.67%	2.24%	0.81%
Total	9,211	4,543	-	(4,421)	(8,727)	(12,920)	8,550	22,589
	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	2.17%	2.67%	3.17%	3.67%	4.17%	4.67%	2.24%	0.81%
2005 & prior	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2005	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2006	0.2%	0.1%	0.0%	-0.1%	-0.2%	-0.4%	0.2%	0.6%
2007	0.5%	0.2%	0.0%	-0.2%	-0.5%	-0.7%	0.5%	1.2%
2008	1.2%	0.6%	0.0%	-0.6%	-1.2%	-1.8%	1.1%	2.9%
2009	1.5%	0.7%	0.0%	-0.7%	-1.4%	-2.1%	1.4%	3.5%
2010	2.2%	1.1%	0.0%	-1.1%	-2.1%	-3.1%	2.0%	5.3%
2011	2.7%	1.3%	0.0%	-1.3%	-2.5%	-3.8%	2.5%	6.5%
2012	3.1%	1.5%	0.0%	-1.5%	-3.0%	-4.4%	2.9%	7.7%
2013	3.5%	1.7%	0.0%	-1.7%	-3.3%	-4.9%	3.2%	8.6%
2014	1.9%	1.0%	0.0%	-0.9%	-1.8%	-2.7%	1.8%	4.8%
2015	2.1%	1.0%	0.0%	-1.0%	-2.0%	-2.9%	1.9%	5.1%
2016	2.1%	1.0%	0.0%	-1.0%	-2.0%	-3.0%	2.0%	5.2%
2017	2.2%	1.1%	0.0%	-1.1%	-2.1%	-3.1%	2.1%	5.4%
2018	2.1%	1.0%	0.0%	-1.0%	-2.0%	-2.9%	1.9%	5.1%
2019	2.2%	1.1%	0.0%	-1.1%	-2.1%	-3.1%	2.0%	5.4%
2020	2.3%	1.1%	0.0%	-1.1%	-2.2%	-3.2%	2.1%	5.6%
2021	2.5%	1.2%	0.0%	-1.2%	-2.4%	-3.5%	2.3%	6.1%
2022	2.7%	1.3%	0.0%	-1.3%	-2.5%	-3.8%	2.5%	6.6%
2023	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	2.5%	1.2%	0.0%	-1.2%	-2.3%	-3.5%	2.3%	6.1%
	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

(June 2022 to August 2022)

RSP **Alberta Grid**
AccountCode Desc **IBNR - Discounted** **M/S IBNR - in $000s**

AccYear	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
prior	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-
2004	(70)	10	(10)	-	-	-	(70)
2005	159	(39)	291	(295)	(43)	(27.0%)	116
2006	(76)	11	(11)	-	-	-	(76)
2007	(133)	18	(18)	(1)	(1)	0.8%	(134)
2008	(7)	(1)	96	(1)	94	(1,342.9%)	87
2009	(2)	-	-	(3)	(3)	150.0%	(5)
2010	62	(4)	(64)	(6)	(74)	(119.4%)	(12)
2011	29	(1)	(20)	(12)	(33)	(113.8%)	(4)
2012	87	(10)	268	(104)	154	177.0%	241
2013	145	(24)	121	(193)	(96)	(66.2%)	49
2014	426	(53)	(83)	(485)	(621)	(145.8%)	(195)
2015	1,354	(175)	289	(718)	(604)	(44.6%)	750
2016	2,520	(288)	(615)	(1,367)	(2,270)	(90.1%)	250
2017	4,361	(550)	(45)	(1,989)	(2,584)	(59.3%)	1,777
2018	8,151	(1,147)	116	(2,899)	(3,930)	(48.2%)	4,221
2019	17,611	(1,790)	(1,143)	(3,387)	(6,320)	(35.9%)	11,291
2020	28,873	(3,483)	(652)	(2,060)	(6,195)	(21.5%)	22,678
2021	40,090	(5,822)	2,896	(6,754)	(9,680)	(24.1%)	30,410
2022	55,046	40,723	(7,956)	(13,512)	19,255	35.0%	74,301
Grand Total	**158,626**	**27,375**	**(6,540)**	**(33,786)**	**(12,951)**	**(8.2%)**	**145,675**

EXHIBIT G

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

(June 2022 to August 2022)

RSP **Alberta Grid**
AccountCode Desc **IBNR - Undiscounted** **IBNR - in $000s**

AccYear	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
prior	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-
2004	(78)	10	(10)	-	-	-	(78)
2005	121	(35)	292	(268)	(11)	(9.1%)	110
2006	(79)	11	(11)	-	-	-	(79)
2007	(159)	21	(21)	-	-	-	(159)
2008	(21)	(1)	101	-	100	(476.2%)	79
2009	(15)	2	(2)	-	-	-	(15)
2010	45	(3)	(65)	-	(68)	(151.1%)	(23)
2011	8	-	(20)	-	(20)	(250.0%)	(12)
2012	(30)	1	261	-	262	(873.3%)	232
2013	110	(20)	116	(147)	(51)	(46.4%)	59
2014	262	(41)	(34)	(434)	(509)	(194.3%)	(247)
2015	1,046	(145)	270	(587)	(462)	(44.2%)	584
2016	2,057	(248)	(576)	(1,178)	(2,002)	(97.3%)	55
2017	3,576	(475)	(49)	(1,640)	(2,164)	(60.5%)	1,412
2018	6,526	(1,045)	101	(2,254)	(3,198)	(49.0%)	3,328
2019	14,176	(1,586)	(1,093)	(1,445)	(4,124)	(29.1%)	10,052
2020	24,488	(3,290)	(482)	(785)	(4,557)	(18.6%)	19,931
2021	34,491	(5,374)	2,751	(4,638)	(7,261)	(21.1%)	27,230
2022	50,921	37,514	(7,387)	(10,172)	19,955	39.2%	70,876
Grand Total	**137,445**	**25,296**	**(5,858)**	**(23,548)**	**(4,110)**	**(3.0%)**	**133,335**