

# ALBERTA NON-GRID RISK SHARING POOL AUGUST 2022 OPERATIONAL REPORT ACTUARIAL HIGHLIGHTS

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# **ACTUARIAL HIGHLIGHTS**

# **RSP ALBERTA NON-GRID**

# OPERATIONAL REPORT AUGUST 2022

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#### 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 2021.

	Alberta Non-Grid Risk Sharing Pool Fiscal Year 2021 — Schedule of Valuations					
Valuation Date	Discount Rate (per annum)	Operational Report	Description of Changes			
Sep 30, 2021 (completed)	0.81% mfad <sup>1</sup> 25 bp	Oct. 2021	update valuation (roll-forward): accident year 2021 loss ratio decreased 0.8 points to 80.9%; discount rate increased 8 basis points; no change to selected margins for adverse deviation			
Dec. 31, 2021 (completed)	1.05% mfad 25 bp	Mar. 2022	update valuation: ): accident year 2021 loss ratio <u>de</u> creased 2.2 points to 78.7% and accident year 2022 loss ratio <u>in</u> creased 1.8 points to 100.2%; discount rate <u>in</u> creased 24 basis points; no change to selected margins for adverse deviations			
Mar. 31, 2022 (completed)	2.23 % mfad 25 bp	May. 2022	update valuation (roll-forward): accident year 2022 loss ratio decreased 11 points to 99.1%; discount rate increased 118 basis points; no change to selected margins for adverse deviation			
Jun. 30, 2022 (completed)	3.17% mfad 25 bp	Aug. 2022	update valuation: accident year 2022 loss ratio decreased 5.0 points to 94.1%; discount rate increased 94 basis points; selected margins for adverse deviation 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,

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



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 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<sup>2</sup>

AB Non-Grid	unfav / <mark>(fav)</mark> for the month and ytd						
	IMPACT in \$000s from changes in:						
	ults &	payout patt	terns	dsct rate	margins		
	Nominal apv adj. sub-tot			apv adj.	apv adj.	TOTAL	
	[1]	[2]	[3]	[4]	[5]	[6]	
PAYs	1,394	(14)	1,380	(3,797)	(600)	(3,017)	
CAY	(5,319)	(313)	(5,632)	(1,693)	-	(7,325)	
Prem Def	(3,324)	(183)	(3,507)	(1,453)	-	(4,960)	
TOTAL	(7,249)	(510)	(7,759)	(6,943)	(600)	(15,302)	

As indicated in the preceding table, the incorporation of the new valuation had an estimated \$15.3 million favourable impact on the month's net result from operations, subtracting an estimated 11.3 points (see following table) to the year-to-date Combined Operating Ratio to end at 114.9%. 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.

<sup>&</sup>lt;sup>2</sup>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.



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

AB Non-Grid	ytd EP	135,723	(actual)			
		IMPACT unfa	av / (fav) as %	6 ytd EP from	changes in:	
	ults &	ults & payout patterns			margins	
	Nominal	apv adj.	sub-tot	apv adj.	apv adj.	TOTAL
	[1]	[2]	[3]	[4]	[5]	[6]
PAYs	1.0%	-	1.0%	(2.8%)	(0.4%)	(2.2%)
CAY	(3.9%)	(0.2%)	(4.1%)	(1.2%)	-	(5.4%)
Prem Def	(2.4%)	(0.1%)	(2.6%)	(1.1%)	-	(3.7%)
TOTAL	(5.3%)	(0.4%)	(5.7%)	(5.1%)	(0.4%)	(11.3%)

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 \$7.2 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). 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 the increase in discount rate as a result of higher government of Canada benchmark bond yields.

The **PAYs** overall showed a **\$1.4** million unfavourable nominal variance or 0.8% of the PAYs nominal unpaid balance of \$165.5 million determined at the end of last month (July 2022). The change is primarily due to unfavourable development of Bodily Injury claims across multiple accident years.

The CAY and premium deficiency impacts are a result of the change in the selected loss ratio for accident year **2022** (<u>de</u>creased 5.0 points to 94.1%). 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 the 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 government line, which had an impact on the weighted-average MfADs). It also reflects the fact that we updated the projected emergence of claims payments, resulting in a change in the projected cash flows. These changes generated a favourable change of \$0.5 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 94 basis points to **3.17%**), indicating a favourable impact of \$6.9 million. The impact related only to claims liability (i.e. PAYs plus CAY) was \$5.5 million at August 2022 – this compares to the \$5.5 million change one would estimate as the impact by interpolation using the interest rate sensitivity table provided last quarter'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. This roll forward of the claims development MfADs had a favourable implementation impact of \$0.6 million.

## 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 prejudgment 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.

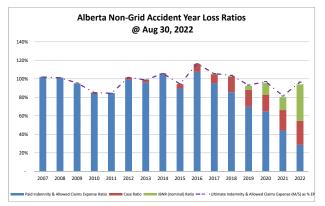
\*NEW\* In Jackson v. Cooper, 2022 ABKB 609, the decision, released on September 9, 2022, clarified the interest rates to be used in the calculation of pre-judgement interest awards on pecuniary damages. As described above, Bill 41 (effective December 9, 2020) amended calculation of pre-judgement interest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

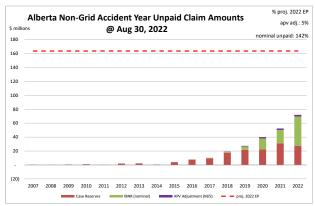
It is unclear whether the estimated impact of Bill 41 (20% reduction to loss cost for Bodily Injury claims, as described above) is affected by this decision. If the underlying assumption of that reduction was a retroactive application of the amendment to pre-judgement interest, it is possible the 20% 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<sup>3</sup> booked by accident year. The left chart displays life-to-date payments, case reserves, IBNR, and the total including actuarial present value adjustments against accident year earned premium. The right chart shows the associated dollar amounts for the components of the claim liabilities and the current projected amount of 2021 full year earned premium (the red hash-mark line) to provide some perspective.





"M/S" refers to "Member Statement" values – that is, actuarial present value adjustments at the selected discount rate.

claim liabilities (\$000s)

	amt	%
case	147,721	61.3%
ibnr	85,040	35.3%
M/S apv adjust.	8,070	3.4%
M/S total	240,831	100.0%

The current actuarial present value adjustments balance (\$8.1 million – see the table to the left) represents 5% 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 parts, showing that the majority of the claim liabilities for this RSP are in case reserves. Approximately 72% of the IBNR balance relates to accident years 2021 and 2022 (see Exhibit B). Approximately 88% 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).

<sup>&</sup>lt;sup>3</sup>Claim liabilities refer to provision for unpaid indemnity and allowed claims expenses. Allowed claims expenses are first party legal and other expenses as listed in the RSP Claims Guide. Claims expenses paid through the member company expense allowance are NOT included in this discussion.



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

premium liabilities (\$	000s)		policy liabilities (\$000s)				
	amt	%		amt	%		
unearned prem	85,838	98.6%	claim	232,761	71.0%		
prem def/(dpac)	(1,538)	(1.8%)	premium	84,300	25.7%		
M/S apv adjust.	2,797	3.2%	M/S apv adjust.	10,867	3.3%		
M/S total	87,097	100.0%	M/S total	327,928	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 Non-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	(33)	(33)	4,507	(154)	3,945	1,461
		July	228	228	4,372	(656)	2,404	(1,175)
		August	(432)	(432)	3,416	(584)	1,165	(1,875)
PAY Total			(237)	(237)	12,295	(1,394)	7,514	(1,589)
CAY	2022	June	13,024	(1,547)	5,030	432	7,858	1,767
		July	13,609	(1,570)	4,345	187	8,393	90
		August	13,778	(1,393)	5,729	1,517	9,883	1,429
<b>CAY Total</b>			40,411	(4,510)	15,104	2,136	26,134	3,286
<b>Grand Total</b>			40,174	(4,747)	27,399	742	33,648	1,697

(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. 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

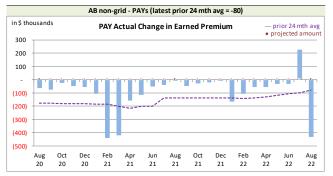
The following charts show actual **earned premium**<sup>4</sup> activity in each of the most recent 25 calendar months, along with a "prior 24-month average" to show how each month's actual compares with the

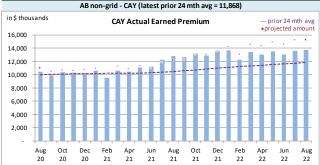
<sup>&</sup>lt;sup>4</sup>Premium is earned on a daily basis based on the transaction term measured in days. As a result, months with 31 days earned relatively more than those with 30 days, and February earns the least.



average amount of the preceding 24 calendar months.

#### Alberta non-Grid RSP Actual Earned Premium by Calendar Month





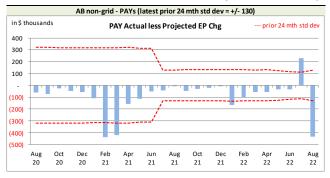
**Earned premium** changes during a given calendar month in relation to prior accident years tend to be at modest levels, although relatively high levels generally occur at the beginning of each year.

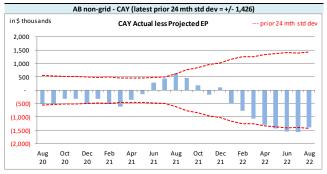
On Latest \$ thousands					
Earned Premium	PAYs	CAY			
Mthly Avg EP Chg (prior 24 mths)	(80)	11,868			
std dev	130	1,426			
A-P <> std dev	5	6			
% <> std dev	20.0%	24.0%			
norm <> std dev	31.7%	31.7%			
performance vs 24-mth avg:	better	better			

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

as being significant for our purposes, but it does mean that the actual less projection variance will equal the actual **earned premium** change in relation to prior accident years.

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





We project **earned premium** changes from known unearned premium and projected written premium levels, but upload the total projections as current accident year (CAY). This process has generated prior accident years' (PAYs) bias<sup>5</sup>, with actuals generally lower than projected, although the magnitude is not high relative to monthly premium. In addition to the PAYs' bias, the CAY has

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

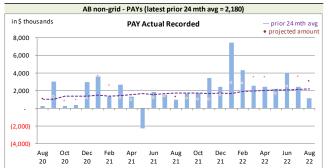


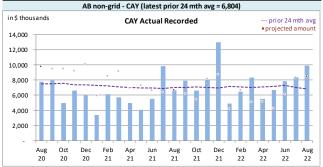
also shown bias<sup>6</sup>, with actuals being generally lower than projected, and while we modified our projections processes in response, bias still exists. Over time, we may consider other projection approaches to address the bias issue, but it is not currently deemed as priority.

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

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

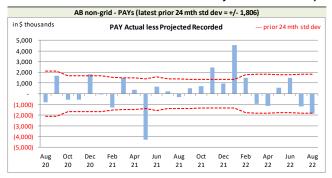
Alberta non-Grid RSP Actual Recorded by Calendar Month

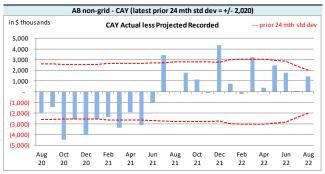




**Recorded** activity variances from the previous month's projections are shown in the following charts, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

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





<sup>&</sup>lt;sup>6</sup>We measure bias based on a 95% confidence range for a binominal distribution with trials based on the range being considered (25 in this case) and 50% probability of success. The rolling 25-month CAY variances at May 2022 had only 3 months where the actuals was higher than projected, and as the 95% confidence range is 8 to 17, bias continues to be indicated.



On Latest \$	thousands	S
Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	2,180	6,804
std dev	1,806	2,020
A-P <> std dev	6	8
% <> std dev	24.0%	32.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	no better

With respect to **recorded** indemnity & allowed claims expense activity, 24% of the prior accident years' (PAYs) variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **recorded** amounts (see table on left), suggesting the projection process has performed better than simply projecting the

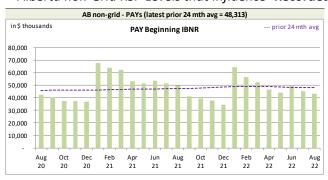
prior 24-month average amount (assuming it follows a normal distribution). Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (14 of 25 variances are positive).

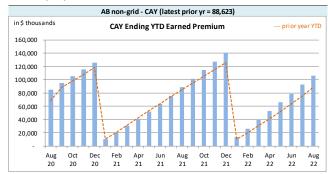
The current accident year (CAY) **recorded** variances fell outside of one standard deviation 44% of the time over the last 25 calendar months (see the preceding table on the left), suggesting that the projection process has performed worse than simply projecting the prior 24-month average amount. Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (12 of 25 variances are positive).

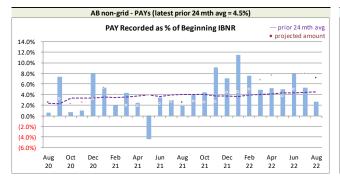
The method for establishing IBNR adjusts automatically for changes in **earned premium** and **recorded** claims activity level (see sections 2.2 and 3).

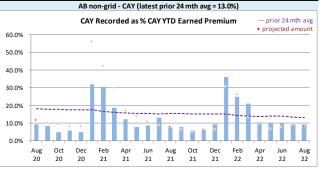
We have included, for reference, the following charts related to levels influencing recorded activity.

Alberta non-Grid RSP Levels that influence Recorded activity by Calendar Month









<sup>&</sup>lt;sup>7</sup>Our recorded activity projections for the prior accident years are based on selected ratios of recorded activity to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date IBNR to year-to-date selected ultimate (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.



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

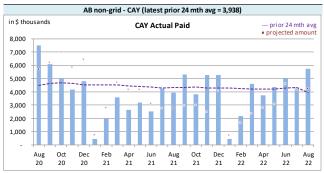
- to offset actual recorded activity (through loss ratio matching);
- the annual switchover as a CAY becomes a PAY(occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of PAYs' ultimates (will show up as a beginning IBNR change one month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

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

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

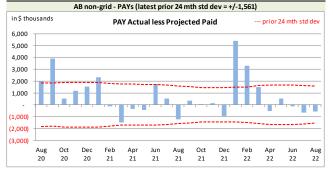
Alberta non-Grid RSP Actual Paid activity by Calendar Month

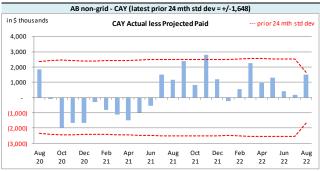




**Paid** activity variances from the previous month's projections are shown in the following charts, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

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







On Latest S	thousands	
Paid	PAYs	CAY
Mthly Avg Paid (prior 24 mths)	4,677	3,938
std dev	1,561	1,648
A-P <> std dev	6	1
% <> std dev	24.0%	4.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	better

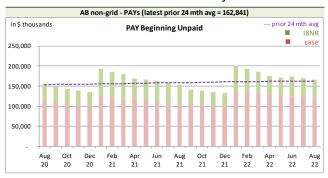
With respect to **paid** indemnity & allowed claims expense, 24% of the prior accident years' (PAYs) variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **paid** amounts (see table on left), suggesting the projection process has performed better than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

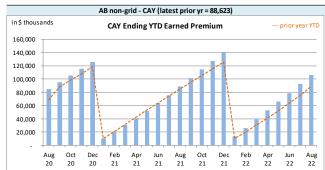
amount (assuming it follows a normal distribution). Bias has not been indicated at a 95% confidence level on a lagging 24-month basis (15 of 25 variances are positive).

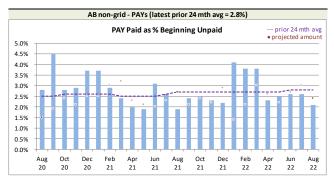
The current accident year (CAY) **paid** variances fell outside of one standard deviation 4% of the time over the last 25 calendar months (see the preceding table), suggesting the projection process has performed better than simply projecting the prior 24-month average amount. Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (14 of 25 variances are positive).

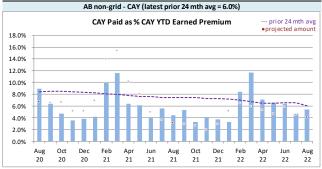
We have included, for reference, the following charts related to levels influencing paid activity.

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









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

<sup>&</sup>lt;sup>8</sup>Our paid projections for the prior accident years are based on selected ratios of paid to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date paid to year-to-date selected ultimate indemnity (i.e. selected LR x earned premium). In both cases, the ratio selection is based on our review of the more recent recorded activity and recent AvsP analyses.



- to offset actual paid activity (may reduce case or IBNR or both);
- the annual switchover as a CAY becomes a PAY (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of PAYs' ultimates (will show up as a beginning unpaid balance change one month after the valuation is implemented, i.e. the change will generally show in April, June, September, and November).

#### 2.2 Actuarial Provisions

An ultimate loss ratio matching method (described in section 3) is used to determine the month's IBNR<sup>9</sup>, and factors are applied to the nominal unpaid claims liability (case plus IBNR) to determine the discount amount (shown as a negative value to indicate its impact of reducing the liability) and the Provisions for Adverse Deviations. The loss ratios and the factors used to determine the projections and actuals were based on the applicable valuation.

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

- (i) the change projected last month;
- 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<sup>10</sup> ratio per latest valuation
- (c) Estimated ultimate incurred = (a) x (b)
- (d) Recorded indemnity & allowed claims expense to-date
- (e) IBNR = (c) (d)

#### 4 Calendar Year-to-Date Results

The following table summarizes the calendar year-to-date results for indemnity & allowed claims

<sup>&</sup>lt;sup>9</sup>For ease of discussion, "IBNR" is used in place of "provisions for incurred but not recorded (IBNR) and development".

<sup>&</sup>lt;sup>10</sup>"Loss" here refers to indemnity and allowed claims expenses, but does not include the claims expense allowance included in member company overall expense allowances ("Expense Allowance" in the Operational Report).



expenses<sup>11</sup>, including IBNR.

In calculating the amounts as percentages of earned premium, the calendar year-to-date earned premium has been used, which includes earned premium associated with the current accident year but also earned premium adjustments related to prior accident years. Specifically, the current accident year (CAY) ratio in the table is 94.7% rather than 94.1% (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 Non-Grid RSP Summary of Operations due to rounding.)

Alberta Non-Grid RSP Calendar Year-to-Date Indemnity & Allowed Claims Expense Summary (\$ thousands)

								, , ,	
	Table 04	YTD Nominal Values		YTD actuarial pr	esent value	YTD Total		Change from Prior Month	
				adjustment		TID IO(d)		YTD	
_		Amount	% EP	Amount	% EP	Amount	% EP	Amount	LR pts
	PAYs	5,151	4.9%	(13,758)	(13.0%)	(8,607)	(8.1%)	(3,626)	(2.7%)
	CAY	100,102	94.7%	2,407	2.3%	102,509	97.0%	6,794	(6.6%)
	TOTAL	105,252	99.5%	(11,351)	(10.7%)	93,901	88.8%	3,168	(9.4%)

("% 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 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 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 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 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

<sup>&</sup>lt;sup>11</sup>Allowed claims expenses are first party legal and other expenses as listed in the RSP Claims Guide. Claims expenses paid through the member company expense allowance are NOT included in this analysis.



**EXHIBIT G** 

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

Components of IBNR Change During Month



EXHIBIT A

IBNR for Member Sharing – includes Actuarial Present Value Adjustments

TABLE EXHIBIT A				ı	Amounts in \$00	00s			
IBNR + M/S actuarial present	Accident	Actual	Actual	Projected	Projected	Projected	Projected	Projected	Projected
value adjustments	Year	Jul. 2022	Aug. 2022	Sep. 2022	Oct. 2022	Nov. 2022	Dec. 2022	Jan. 2023	Dec. 2022
	2006	84	84	79	78	71	67	66	67
	2007	100	99	95	92	85	81	81	81
	2008	74	74	69	68	62	58	57	58
	2009	599	593	564	558	507	473	485	473
	2010	21	4	5	4	6	7	25	7
	2011	(33)	(33)	(31)	(31)	(28)	(26)	(26)	(26)
	2012	88	39	39	38	35	34	52	34
	2013	234	7	7	5	6	6	31	6
	2014	137	(60)	(56)	(55)	(51)	(47)	(36)	(47)
	2015	250	198	185	186	162	150	189	150
	2016	323	239	228	226	207	193	(4)	193
discount rate	2017	835	796	759	749	683	640	579	640
3.17%	2018	1,754	1,779	1,702	1,675	1,549	1,454	1,232	1,454
	2019	5,636	5,803	5,510	4,655	4,598	4,330	3,924	4,330
interest rate margin	2020	16,901	17,547	16,630	15,955	14,960	14,020	13,636	14,020
25 basis pts	2021	26,368	21,411	20,383	19,407	18,420	17,892	17,739	17,892
	2022	47,564	44,475	51,205	57,903	64,624	71,670	67,825	71,670
	TOTAL	100,990	93,110	97,426	101,565	105,945	111,048	113,870	111,048
	Change		(7,880)	4.316	4.139	4.380	5.103	2.822	·

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



# **EXHIBIT B**

# **IBNR**

ABLE EXHIBIT B		Amounts in \$000s										
BNR	Ultimate	Accident	Actual	Actual	Projected	Projected	Projected	Projected	Projected	Projected		
	Loss Ratio	Year	Jul. 2022	Aug. 2022	Sep. 2022	Oct. 2022	Nov. 2022	Dec. 2022	Jan. 2023	Dec. 2022		
	87.0%	2006	76	76	72	71	64	60	59	60		
	101.9%	2007	65	65	62	61	55	51	50	51		
	101.1%	2008	70	70	66	65	59	55	54	55		
	95.4%	2009	546	546	519	514	464	432	425	432		
	85.0%	2010	(45)	(44)	(42)	(42)	(38)	(35)	(34)	(35)		
	84.4%	2011	(34)	(34)	(32)	(32)	(29)	(27)	(27)	(27)		
	101.4%	2012	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)		
	98.8%	2013	153	(9)	(9)	(9)	(8)	(7)	(7)	(7)		
	105.8%	2014	118	(53)	(50)	(49)	(44)	(41)	(40)	(41)		
	94.5%	2015	182	297	282	279	252	235	231	235		
	116.2%	2016	50	189	180	178	161	150	147	150		
	105.5%	2017	451	672	638	632	571	532	523	532		
	103.3%	2018	884	1,327	1,261	1,248	1,127	1,049	1,031	1,049		
	92.5%	2019	3,665	4,945	4,673	3,841	3,803	3,563	3,381	3,563		
	95.4%	2020	14,182	15,630	14,755	14,121	13,175	12,279	11,726	12,279		
	80.0%	2021	22,698	19,256	18,293	17,378	16,422	15,929	15,579	15,929		
	94.1%	2022	43,617	42,068	48,478	54,869	61,293	68,036	63,954	68,036		
		TOTAL	86,717	85,040	89,183	93,162	97,361	102,293	104,530	102,293		
		Change		(1,677)	4,143	3,979	4,199	4,932	2,237			

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



# **EXHIBIT C**

# **Premium Liabilities**

TABLE EXHIBIT C			,	Amounts in \$00	00s			
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)	81,724	85,838	92,800	98,934	102,768	102,773	101,631	102,773
FOR MEMBER SHARING								
(2) expected future costs ratio {% of (1)}	106.6%	101.5%	102.5%	103.6%	104.6%	105.7%	105.7%	105.7%
(3) expected future costs {(1) x (2)}	87,141	87,097	95,159	102,460	107,478	108,615	107,423	108,615
(4) premium deficiency / (deferred policy								
acquisition cost)	5,417	1,259	2,359	3,526	4,710	5,842	5,792	5,842
Excluding Actuarial Present Value Adjustments								
(5) expected future costs ratio {% of (1)}	101.5%	98.2%	99.2%	100.2%	101.2%	102.3%	102.3%	102.3%
(6) expected future costs {(1) x (5)}	82,945	84,300	92,104	99,168	104,026	105,127	103,973	105,127
(7) premium deficiency / (deferred policy								
acquisition cost)	1,221	(1,538)	(696)	234	1,258	2,354	2,342	2,354



# **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 non-Grid	Projected Balances as at Dec. 31, 2022 (\$000s)										
ending 2022	nominal values										
Acc Yr	Case	IBNR	Total Unpaid	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL	
2006	6	60	66	-	-	7	-	7	7	73	
2007	268	51	319	(2)	-	32	-	32	30	349	
2008	(24)	55	31	-	-	3	-	3	3	34	
2009	179	432	611	(20)	2	61	(2)	59	41	652	
2010	949	(35)	914	(48)	4	91	(5)	86	42	956	
2011	57	(27)	30	(2)	-	3	-	3	1	31	
2012	1,724	(2)	1,722	(133)	10	172	(13)	159	36	1,758	
2013	1,871	(7)	1,864	(168)	12	186	(17)	169	13	1,877	
2014	580	(41)	539	(58)	4	54	(6)	48	(6)	533	
2015	3,567	235	3,802	(453)	33	380	(45)	335	(85)	3,717	
2016	6,694	150	6,844	(623)	44	684	(62)	622	43	6,887	
2017	8,307	532	8,839	(754)	54	883	(75)	808	108	8,947	
2018	15,696	1,049	16,745	(1,234)	88	1,674	(123)	1,551	405	17,150	
2019	20,197	3,563	23,760	(1,542)	111	2,351	(153)	2,198	767	24,527	
2020	22,255	12,279	34,534	(2,425)	176	4,291	(301)	3,990	1,741	36,275	
2021	29,872	15,929	45,801	(3,431)	248	5,563	(417)	5,146	1,963	47,764	
PAYs (sub-total):	112,288	34,257	146,545	(10,893)	786	16,447	(1,219)	15,228	5,121	151,666	
CAY (2022)	37,110	68,036	105,146	(8,159)	589	12,146	(942)	11,204	3,634	108,780	
claims liabilities:	149,398	102,293	251,691	(19,052)	1,375	28,593	(2,161)	26,432	8,755	260,446	
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*	
premium liabilities:	102,773	2,354	105,127	(5,903)	428	9,499	(536)	8,963	3,488	108,615	
						•	Total may not be s	um of parts, as ap	vs apply to future o	osts within UPR	
policy liabilities:			356,818	(24,955)	1,803	38,092	(2,697)	35,395	12,243	369,061	



#### **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.

Selected Claims Development MfADs

Accident Year	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%	5.0%	10.0%	
2015	10.0%	10.0%	9.9%	10.0%	
2016	10.0%	10.0%	9.3%	10.0%	
2017	10.0%	10.0%	9.9%	10.0%	
2018	10.0%	10.0%	9.5%	10.0%	
2019	10.0%	10.0%	6.4%	9.9%	
2020	12.5%	10.0%	11.9%	12.4%	
2021	12.4%	10.0%	8.6%	12.1%	
2022	12.2%	10.0%	7.0%	11.6%	
2023	11.9%	10.0%	5.1%	9.1%	
_prem liab_	11.9%	10.0%	5.1%	9.1%	

discount rate: 3.17%

margin (basis points): 25

<sup>\*</sup>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 (2.23%) and the prior fiscal year end valuation assumption (0.22%) for comparative purposes. A 25 basis point margin for investment return adverse deviation is used in all scenarios presented.

	Actuar	ial Present Val	ue of Provisio	ons at Various	Discount Rate	s - Dec. 31, 20	22 projected U	Inpaid
AY	2.17%	2.67%	3.17%	3.67%	4.17%	4.67%	2.23%	0.81%
2005 & prior	1	,						
		-		-			_	
2005		+		<u>-</u>				
2007	- 165	- 164	- 164	- 164	164	- 164	- 165	- 165
2008	-			-	-	-	-	
2009	581	578	575	572	569	566	581	590
2010	992	983	975	967	959	951	991	1,015
2011	64	64	63	62	62	61	64	66
2012	1,884	1,861	1,838	1,815	1,793	1,772	1,881	1,950
2013	2,051	2,021	1,992	1,963	1,936	1,908	2,048	2,137
2014	824	810	795	782	768	755	822	866
2015	3,380	3,314	3,250	3,188	3,127	3,069	3,372	3,570
2016	6,836	6,737	6,640	6,547	6,457	6,369	6,824	7,125
2017	8,082	7,972	7,865	7,762	7,662	7,566	8,068	8,401
2018	15,618	15,435	15,258	15,087	14,921	14,761	15,596	16,146
2019	25,093	24,835	24,585	24,342	24,105	23,876	25,061	25,835
2020	35,882	35,482	35,093	34,714	34,346	33,987	35,834	37,033
2021	48,017	47,442	46,884	46,341	45,812	45,298	47,947	49,668
2022	92,398	91,245	90,125	89,037	87,979	86,951	92,257	95,713
Total	241,867	238,942	236,102	233,343	230,661	228,054	241,511	250,282
	curr - 100 bp	curr - 50 bp	curr val	curr + 50bp	curr + 100bp	curr + 150bp	prior val	prior fyr end
	1	I	assumption				assumption	assumption
			Dollar Imr	act Relative to	o Valuation As	sumntion		1
AY	2.17%	2.67%	3.17%	3.67%	4.17%	4.67%	2.23%	0.81%
Total	5,765	2,840	-	(2,759)	(5.440)	(8.047)	5,409	14,181
	curr - 100 bp	curr - 50 bp	curr val	curr + 50bp	curr + 100hn	curr + 150hn	nrior val	prior fyr end
	curr - 100 bp	curr - 50 bp	curr val assumption		curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption
	curr - 100 bp	curr - 50 bp	assumption	-				
			assumption Percentage I	mpact Relativ	e to Valuation	Assumption	assumption	assumption
AY	2.17%	curr - 50 bp	assumption	-	e to Valuation		assumption	
2005 &	2.17%	2.67%	Percentage I 3.17%	mpact Relativ 3.67%	e to Valuation 4.17%	Assumption 4.67%	assumption 2.23%	assumption 0.81%
2005 & prior	2.17%	2.67%	Percentage I 3.17%	mpact Relativ 3.67% 0.0%	e to Valuation 4.17% 0.0%	Assumption 4.67%	2.23% 0.0%	0.81% 0.0%
2005 & prior 2005	2.17% 0.0% 0.0%	2.67% 0.0%	Percentage I 3.17% 0.0% 0.0%	mpact Relativ 3.67% 0.0% 0.0%	e to Valuation 4.17% 0.0% 0.0%	Assumption 4.67% 0.0% 0.0%	2.23% 0.0% 0.0%	0.81% 0.0% 0.0%
2005 & prior 2005 2006	2.17% 0.0% 0.0% 0.0%	2.67% 0.0% 0.0% 0.0%	9 assumption  Percentage I  3.17%  0.0%  0.0%  0.0%	mpact Relativ 3.67% 0.0% 0.0% 0.0%	e to Valuation 4.17% 0.0% 0.0% 0.0%	Assumption 4.67% 0.0% 0.0% 0.0%	2.23% 0.0% 0.0% 0.0%	0.81% 0.0% 0.0% 0.0%
2005 & prior 2005 2006 2007	2.17% 0.0% 0.0% 0.0% 0.2%	2.67% 0.0% 0.0% 0.0% 0.1%	0.0% 0.0% 0.0%	mpact Relativ 3.67% 0.0% 0.0% 0.0% -0.1%	e to Valuation 4.17% 0.0% 0.0% 0.0% -0.2%	Assumption 4.67% 0.0% 0.0% 0.0% -0.4%	2.23% 0.0% 0.0% 0.0% 0.2%	0.81% 0.0% 0.0% 0.0% 0.6%
2005 & prior 2005 2006 2007 2008	2.17% 0.0% 0.0% 0.0% 0.2% 0.0%	2.67% 0.0% 0.0% 0.1% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	Assumption 4.67% 0.0% 0.0% 0.0% -0.4% 0.0%	2.23% 0.0% 0.0% 0.0% 0.2% 0.0%	0.81% 0.0% 0.0% 0.0% 0.6% 0.0%
2005 & prior 2005 2006 2007 2008 2009	2.17%] 0.0% 0.0% 0.0% 0.2% 0.0% 1.1%	2.67% 0.0% 0.0% 0.1% 0.0% 0.1% 0.5%	9 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	e to Valuation 4.17%  0.0% 0.0% 0.0% -0.2% 0.0% -1.0%	Assumption 4.67%  0.0% 0.0% -0.4% 0.0% -1.6%	2.23% 0.0% 0.0% 0.096 0.096 0.096 1.096	0.81% 0.0% 0.0% 0.0% 0.6% 0.0% 2.6%
2005 & prior 2005 2006 2007 2008 2009 2010	2.17% 0.0% 0.0% 0.0% 0.2% 0.0% 1.1% 1.7%	2.67% 0.0% 0.0% 0.1% 0.0% 0.1% 0.0% 0.5%	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% -0.1% 0.0% -0.5% -0.8%	e to Valuation 4.17%  0.0% 0.0% 0.0% -0.2% 0.0% -1.0% -1.7%	Assumption 4.67%  0.0% 0.0% -0.4% 0.0% -1.6% -2.5%	2.23% 0.0% 0.0% 0.2% 0.296 0.0% 1.0%	0.81% 0.0% 0.0% 0.0% 0.6% 0.0% 2.6% 4.1%
2005 & prior 2005 2006 2007 2008 2009 2010 2011	2.17% 0.0% 0.0% 0.0% 0.2% 0.0% 1.1% 1.7% 2.2%	2.67% 0.0% 0.0% 0.0% 0.1% 0.0% 0.5% 0.8% 1.1%	9 Assumption  Percentage I 3.17%  0.0% 0.0% 0.0% 0.096 0.096 0.096 0.096 0.096	mpact Relativ. 3.67% 0.0% 0.0% 0.0% -0.1% 0.0% -0.5% -0.5% -0.8% -1.1%	e to Valuation 4.17%  0.0% 0.0% -0.2% 0.0% -1.0% -1.7% -2.1%	Assumption 4.67%  0.0% 0.0% -0.4% -0.4% -1.6% -2.5% -3.1%	2.23% 0.0% 0.0% 0.2% 0.2% 1.0% 1.6% 2.1%	0.81% 0.0% 0.0% 0.0% 0.0% 2.6% 4.1% 5.3%
2005 & prior 2005 2006 2007 2008 2009 2010 2011 2012	2.17%] 0.0% 0.0% 0.0% 0.2% 0.0% 1.1% 1.7% 2.2% 2.5%	2.67% 0.0% 0.0% 0.1% 0.0% 0.1% 0.5% 0.8% 1.1% 1.2%	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	mpact Relativi 3.67% 0.0% 0.0% -0.1% 0.0% -0.15% -0.5% -0.8% -1.1% -1.2%	e to Valuation 4.17%  0.0% 0.0% 0.0% -0.2% 0.0% -1.0% -2.1% -2.1% -2.4%	Assumption 4.67%  0.0% 0.0% -0.4% 0.0% -1.6% -2.5% -3.1% -3.6%	2.23% 0.0% 0.0% 0.0% 0.2% 0.0% 1.0% 1.6% 2.1%	0.81% 0.0% 0.0% 0.0% 0.6% 0.6% 2.6% 4.1% 5.3% 6.1%
2005 & prior 2005 2006 2007 2008 2009 2010 2011 2012 2013	2.17% 0.0% 0.0% 0.2% 0.0% 1.1% 1.7% 2.2% 2.5% 3.0%	2.67%   0.0%   0.0%   0.0%   0.1%   0.0%   0.5%   0.8%   1.1%   1.2%   1.5%	assumption Percentage I 3.17% 0.0% 0.096 0.096 0.096 0.096 0.096 0.096 0.096 0.096 0.096	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.1% 0.0% 0.11 1.1% 1.14%	e to Valuation 4.17%  0.0% 0.0% -0.2% 0.0% -1.0% -1.7% -2.1% -2.4% -2.8%	Assumption 4.67%  0.0% 0.0% -0.4% 0.0% -1.6% -2.5% -3.1% -3.6% -4.2%	2.23% 0.0% 0.0% 0.0% 0.2% 0.0% 1.6% 2.1% 2.4% 2.8%	0.81% 0.0% 0.0% 0.0% 0.6% 0.0% 2.6% 4.1% 5.3% 6.1%
2005 & prior 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014	2.17% 0.0% 0.0% 0.2% 0.0% 1.1% 1.7% 2.2% 3.0% 3.6%	2.67%  0.0% 0.0% 0.0% 0.1% 0.5% 0.5% 1.1% 1.2% 1.5% 1.8%	assumption Percentage I 3.17%  0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	mpact Relativ 3.67%  0.0% 0.0% 0.0% -0.19% 0.0% -0.5% -1.2% -1.2% -1.7%	e to Valuation 4.17%  0.0% 0.0% 0.0% -0.2% 0.0% -1.0% -1.7% -2.1% -2.4% -2.8% -3.4%	Assumption 4.67%  0.0% 0.0% 0.0% -0.4% 0.0% -1.6% -2.5% -3.1% -4.2% -4.2% -5.0%	2.23% 0.0% 0.0% 0.0% 0.2% 0.0% 1.0% 1.6% 2.1% 2.4% 2.8% 3.4%	0.81% 0.0% 0.0% 0.0% 0.0% 0.6% 0.6% 4.1% 5.3% 6.1% 7.3% 8.8%
2005 & prior 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015	2.17% 0.0% 0.0% 0.0% 0.2% 1.1% 2.2% 2.5% 3.0% 3.6% 4.0%	2.67%  0.0% 0.0% 0.0% 0.1% 0.5% 1.1% 1.2% 1.2% 1.5% 1.8% 2.0%	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	mpact Relativ. 3.67%  0.0% 0.0% 0.0% -0.1% 0.0% -0.5% -0.8% -1.1% -1.2% -1.4% -1.7% -1.9%	e to Valuation 4.17%  0.0% 0.0% 0.0% -0.2% -1.0% -1.7% -2.1% -2.4% -3.8%	Assumption 4.67%  0.0% 0.0% 0.0% -0.4% -0.5% -1.6% -2.5% -3.1% -3.6% -4.2% -5.0% -5.6%	2.23% 0.0% 0.0% 0.0% 0.2% 1.0% 2.1% 2.4% 2.4% 3.4% 3.8%	0.81% 0.0% 0.0% 0.0% 0.6% 0.0% 2.6% 4.1% 5.3% 6.1% 7.3% 8.8% 9.9%
2005 & prior 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016	2.17% 0.0% 0.0% 0.0% 0.2% 0.0% 1.1% 1.7% 2.2% 3.0% 3.6% 4.0% 3.0%	2.67%  0.0% 0.0% 0.0% 0.1% 0.0% 0.5% 0.8% 1.1% 1.2% 1.5% 1.8% 2.0%	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	mpact Relativ. 3.67%  0.0% 0.0% -0.1% -0.5% -0.8% -1.1% -1.2% -1.4% -1.4% -1.4%	e to Valuation 4.17%  0.0% 0.0% 0.0% -0.2% -1.0% -1.7% -2.1% -2.4% -3.4% -3.8% -2.8%	Assumption 4.67%  0.0% 0.0% -0.4% 0.0% -1.6% -3.1% -3.6% -4.2% -5.0% -5.5% -4.1%	2.23% 0.0% 0.0% 0.2% 0.2% 1.0% 2.1% 2.4% 2.8% 3.4% 3.8% 2.8%	0.81% 0.0% 0.0% 0.0% 0.0% 0.0% 0.6% 0.0% 5.3% 6.1% 7.3% 8.8% 9.9%
2005 & prior 2005 2006 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017	2.17% 0.0% 0.0% 0.2% 0.0% 1.1% 1.7% 2.2% 2.5% 3.0% 3.6% 4.0% 3.0% 2.8%	2.67% 0.0% 0.0% 0.0% 0.1% 0.0% 0.5% 0.8% 1.1% 1.2% 1.5% 1.5% 1.5% 1.5% 1.5%	assumption Percentage I 3.17%  0.0% 0.096 0.096 0.096 0.096 0.096 0.096 0.096 0.096 0.096 0.096 0.096 0.096 0.096 0.096	mpact Relativ  3.67%  0.0% 0.0% -0.1% 0.0% -0.15% -1.19% -1.2% -1.2% -1.4% -1.7% -1.9% -1.4% -1.3%	e to Valuation 4.17%  0.0% 0.0% 0.0% -0.2% 0.0% -1.7% -2.1% -2.4% -2.8% -3.4% -3.8% -2.8% -2.8%	Assumption 4.67%  0.0% 0.0% -0.49% 0.0% -1.69% -2.59% -3.19% -3.69% -4.29% -5.69% -4.19% -3.88%	2.23% 0.0% 0.0% 0.2% 0.2% 1.0% 1.6% 2.1% 2.4% 2.8% 3.8% 2.8% 2.8%	0.81% 0.0% 0.0% 0.0% 0.0% 0.6% 0.0% 2.6% 4.1% 5.3% 6.1% 7.3% 8.8% 9.9% 7.3% 6.8%
2005 & prior 2005 2006 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	2.17% 0.0% 0.0% 0.2% 0.0% 1.1% 1.7% 2.2% 2.5% 3.0% 4.0% 3.6% 4.0% 2.8% 2.8% 2.4%	2.67%   0.0%   0.0%   0.0%   0.1%   0.5%   0.8%   1.1%   1.2%   1.5%   1.8%   2.0%   1.5%   1.4%   1.2%	assumption Percentage I 3.17%  0.0% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09%	mpact Relativ  3.67%  0.0%  0.0%  0.0%  -0.1%  0.0%  -0.5%  -1.2%  -1.2%  -1.2%  -1.4%  -1.3%  -1.3%  -1.1%	e to Valuation 4.17%  0.0% 0.0% 0.0% -0.2% 0.0% -1.0% -2.1% -2.4% -2.8% -3.8% -2.6% -2.6% -2.2%	Assumption 4.67% 0.0% 0.0% 0.0% -0.4% 0.0% -1.6% -2.5% -3.1% -3.6% -4.2% -5.0% -5.6% -4.3% -3.8% -3.3%	2.23% 0.0% 0.0% 0.0% 0.0% 1.0% 1.6% 2.1% 2.4% 2.8% 3.8% 2.6% 2.2%	0.81% 0.0% 0.0% 0.0% 0.0% 0.6% 0.0% 2.6% 4.1% 5.3% 6.1% 7.3% 8.8% 9.9% 6.68% 5.8% 5.8%
2005 & prior 2005 2006 2006 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2019	2.17% 0.0% 0.0%; 0.2%; 0.0%; 1.1%; 1.7%; 2.2%; 3.0%; 3.0%; 4.0%; 3.0%; 2.8%; 4.0%; 2.8%; 2.4%; 2.4%; 2.4%;	2.67%  0.0% 0.0% 0.0% 0.1% 0.5% 0.8% 1.1% 1.2% 1.5% 1.8% 2.0% 1.5% 1.4% 1.2% 1.5% 1.4%	assumption  Percentage I  3.17%  0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	mpact Relativ. 3.67%  0.0% 0.0% 0.0% -0.19% -0.5% -0.8% -1.19% -1.2% -1.4% -1.7% -1.9% -1.4% -1.3% -1.13% -1.19% -1.19%	e to Valuation 4.17%  0.0% 0.0% 0.0% -0.2% 0.0% -1.0% -2.1% -2.1% -2.8% -3.8% -2.6% -2.2% -1.9%	Assumption 4.67%  0.0% 0.0% 0.0% -0.4% 0.0% -1.6% -2.5% -3.1% -4.2% -5.0% -4.196 -3.8% -4.396 -3.3% -2.9%	2.23% 0.0% 0.0% 0.0% 0.2% 0.0% 1.0% 1.6% 2.1% 2.4% 2.8% 2.8% 2.8% 2.8% 2.2% 1.9%	0.81% 0.0% 0.0% 0.0% 0.6% 0.0% 2.6% 4.1% 5.3% 6.1% 7.3% 8.8% 9.9% 7.3% 6.8% 5.8% 5.8%
2005 & prior 2005 2006 2006 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	2.17% 0.0% 0.0% 0.0% 0.2% 0.0% 1.1% 2.2% 2.5% 3.0% 3.6% 4.0% 3.0% 2.8% 2.4% 2.4% 2.4% 2.1%	2.67%  0.0% 0.0% 0.1% 0.1% 0.5% 0.8% 1.1% 1.2% 1.5% 1.5% 1.5% 1.4% 1.2% 1.2% 1.2% 1.1%	assumption  Percentage I 3.17%  0.0% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09%	mpact Relativ. 3.67%  0.0% 0.0% 0.0% -0.1% 0.05% -0.5% -1.1% -1.2% -1.4% -1.7% -1.9% -1.4% -1.13% -1.11% -1.11% -1.10% -1.11%	e to Valuation  4.17%  0.0% 0.0% 0.0% -0.2% -0.0% -1.0% -2.1% -2.4% -3.8% -3.4% -3.8% -2.8% -2.2% -1.9% -2.1% -2.1%	Assumption 4.67%  0.0% 0.0% 0.0% -0.4% -0.5% -3.19% -3.6% -4.2% -5.0% -4.19% -3.8% -3.3% -2.9% -3.19%	2.23% 0.0% 0.0% 0.0% 0.2% 0.0% 1.6% 2.1% 2.4% 3.4% 3.8% 2.8% 2.2% 1.9% 2.2% 1.9%	0.81% 0.0% 0.0% 0.0% 0.6% 0.0% 2.6% 4.1% 5.3% 6.1% 7.3% 8.8% 9.9% 7.3% 6.8% 5.8% 5.5%
2005 & prior 2005 2006 2007 2008 2009 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021	2.17% 0.0% 0.0% 0.2%; 0.0% 1.1% 1.7% 2.2% 2.5% 3.0%; 3.0%; 3.0%; 4.0% 3.0%; 2.8%; 2.4%; 2.1%;	2.67% 0.0% 0.0% 0.1% 0.0% 0.5% 0.8% 1.1% 1.2% 1.5% 1.8% 1.5% 1.4% 1.2% 1.1% 1.2% 1.1%	assumption  Percentage I 3.17%  0.0% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09% 0.09%	mpact Relativ  3.67%  0.0% 0.0% -0.1% 0.0% -0.15% -1.19% -1.2% -1.4% -1.7% -1.9% -1.4% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19%	e to Valuation 4.17%  0.0% 0.0% 0.0% -0.2% 0.0% -1.7% -2.1% -2.4% -2.8% -3.4% -3.8% -2.8% -2.2% -1.9% -2.19% -2.2% -2.2% -2.3%	Assumption 4.67%; 0.0% 0.0% -0.4% 0.0% -1.6% -2.5% -3.1% -3.6% -4.2% -5.0% -4.1% -3.8% -3.3% -2.9% -3.19% -3.19% -3.4%	2.23%  0.0% 0.0% 0.0% 0.2% 0.0% 1.0% 2.1% 2.4% 2.8% 3.4% 2.8% 2.8% 2.8% 2.19. 2.19. 2.19. 2.2% 2.2% 2.2% 2.3%	0.81% 0.0% 0.0% 0.0% 0.0% 0.6% 0.0% 2.6% 4.1% 5.3% 6.1% 7.3% 8.8% 7.3% 6.8% 5.5% 5.9%
2005 & prior 2005 2006 2007 2008 2009 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2022	2.17% 0.0% 0.0% 0.2% 0.0% 1.1% 1.7% 2.2% 2.5% 3.0% 3.6% 4.0% 3.0% 2.2% 2.5% 3.0% 2.2% 2.5% 3.0%	2.67%   0.0%   0.0%   0.0%   0.1%   0.5%   0.8%   1.1%   1.2%   1.5%   1.5%   1.5%   1.2%   1.0%   1.1%   1.2%   1.1%   1.2%   1.1%   1.2%   1.1%   1.2%   1.1%   1.2%	assumption  Percentage I 3.17%  0.0% 0.096	mpact Relativ  3.67%  0.0% 0.0% -0.1% 0.0% -0.15% -1.2% -1.2% -1.4% -1.3% -1.19% -1.19% -1.19% -1.2% -1.2% -1.2% -1.2% -1.2% -1.2% -1.2% -1.2% -1.2% -1.2% -1.2% -1.2%	e to Valuation 4.17%  0.0% 0.0% 0.0% -0.2% 0.0% -1.0% -2.1% -2.4% -2.8% -3.4% -3.8% -2.6% -2.2% -1.9% -2.1% -2.3% -2.3%	Assumption 4.67%  0.0% 0.0% -0.4% 0.0% -1.6% -2.5% -3.1% -3.6% -4.2% -5.0% -4.1% -3.8% -3.3% -2.9% -3.1% -3.4% -3.5%	2.23%  0.0% 0.0% 0.0% 0.0% 1.0% 1.6% 2.1% 2.4% 2.8% 3.4% 2.8% 2.6% 2.2% 1.9% 2.1% 2.1% 2.4% 2.8%	0.81% 0.0% 0.0% 0.0% 0.0% 0.6% 0.0% 5.3% 6.1% 7.3% 8.8% 9.9% 7.3% 5.5% 5.5% 6.2%
2005 & prior 2005 2006 2006 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023	2.17% 0.0% 0.0% 0.2% 0.0% 1.1% 1.7% 2.2% 3.0% 3.0% 4.0% 3.0% 4.0% 2.8% 2.4% 2.1% 2.3% 2.4% 2.4% 2.4% 2.4% 2.5%	2.67%  0.0% 0.0% 0.0% 0.1% 0.5% 0.8% 1.1% 1.2% 1.5% 1.8% 2.0% 1.5% 1.1% 1.2% 1.2% 1.2% 0.0%	assumption Percentage I 3.17%  0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	mpact Relativ  3.67%  0.0% 0.0% 0.0% -0.19% 0.0% -0.5% -1.2% -1.4% -1.7% -1.9% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.29% -1.19% -1.29% -1.19% -1.0% -1.19% -1.0% -1.19% -1.0% -1.0% -1.19% -1.0% -1.0%	e to Valuation 4.17%  0.0% 0.0% 0.0% -0.2% 0.0% -1.0% -1.7% -2.1% -2.4% -3.8% -3.8% -2.6% -2.2% -1.9% -2.19% -2.3% -2.4% -2.3% -2.4%	Assumption 4.67%  0.0% 0.0% 0.0% -0.4% 0.0% -1.6% -2.5% -3.1% -3.6% -4.2% -5.6% -4.1% -3.8% -3.3% -2.9% -3.19% -3.4% -3.4% -3.5% -0.0%	2.23% 0.0% 0.0% 0.0% 0.2% 0.0% 1.6% 2.1% 2.4% 2.8% 3.8% 2.6% 2.2% 1.9% 2.19% 2.3% 2.4%	0.81% 0.0% 0.0% 0.0% 0.6% 0.0% 2.6% 4.1% 5.3% 6.1% 7.3% 8.8% 9.9% 5.5% 5.5% 5.9% 6.2% 0.0%
2005 & prior 2005 2006 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2022	2.17% 0.0% 0.0% 0.2% 0.0% 1.1% 1.7% 2.2% 3.0% 3.0% 4.0% 3.0% 2.8% 2.4% 2.1% 2.3% 2.4% 2.1% 2.5% 0.0%	2.67%  0.0% 0.0% 0.0% 0.1% 0.5% 0.8% 1.1% 1.2% 1.5% 1.8% 2.0% 1.1% 1.2% 1.1% 1.2% 1.2% 1.2% 1.2% 1.2	assumption  Percentage I 3.17%  0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	mpact Relativ. 3.67%  0.0% 0.0% 0.0% -0.19% 0.08% -1.19% -1.2% -1.44% -1.7% -1.9% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.29% -1.19% -1.29% -1.29%	e to Valuation 4.17%  0.0% 0.0% 0.0% -0.29% 0.0% -1.0% -1.7% -2.14% -2.8% -3.8% -2.6% -2.2% -1.9% -2.19% -2.19% -2.19% -2.3% 0.0% -2.3%	Assumption 4.67%; 0.0% 0.0% 0.0% -0.45% 0.0% -1.6% -2.5% -3.1% -4.2% -5.0% -4.19% -3.8% -3.3% -2.9% -3.19% -3.4% -3.5% 0.0% -3.4%	2.23% 0.0% 0.0% 0.2% 0.0% 1.0% 1.6% 2.1% 2.8% 2.8% 2.8% 2.8% 2.2% 2.2% 1.9% 2.19% 2.3% 2.4%	3.81%  0.81%  0.0% 0.0% 0.0% 0.6% 0.0% 4.1% 5.3% 6.1% 7.3% 8.8% 9.9% 7.3% 6.8% 5.5% 5.5% 5.5% 6.2% 0.0% 6.0%
2005 & prior 2005 2006 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023	2.17% 0.0% 0.0% 0.2% 0.0% 1.1% 1.7% 2.2% 3.0% 3.0% 4.0% 3.0% 4.0% 2.8% 2.4% 2.1% 2.3% 2.4% 2.4% 2.4% 2.4% 2.5%	2.67%  0.0% 0.0% 0.0% 0.1% 0.5% 0.8% 1.1% 1.2% 1.5% 1.8% 2.0% 1.5% 1.1% 1.2% 1.2% 1.2% 0.0%	assumption Percentage I 3.17%  0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	mpact Relativ. 3.67%  0.0% 0.0% 0.0% -0.19% 0.08% -1.19% -1.2% -1.44% -1.7% -1.9% -1.19% -1.19% -1.19% -1.19% -1.19% -1.19% -1.29% -1.19% -1.29% -1.29%	e to Valuation 4.17%  0.0% 0.0% 0.0% -0.2% 0.0% -1.0% -1.7% -2.1% -2.4% -3.8% -3.8% -2.6% -2.2% -1.9% -2.19% -2.3% -2.4% -2.3% -2.4%	Assumption 4.67%; 0.0% 0.0% 0.0% -0.45% 0.0% -1.6% -2.5% -3.1% -4.2% -5.0% -4.19% -3.8% -3.3% -2.9% -3.19% -3.4% -3.5% 0.0% -3.4%	2.23%  0.0% 0.0% 0.2% 0.0% 1.0% 2.19% 2.4% 2.8% 2.2% 2.2% 2.19% 2.19% 2.3% 2.3% 2.4% 0.0% 2.3% prior val	0.81% 0.0% 0.0% 0.0% 0.6% 0.0% 2.6% 4.1% 5.3% 6.1% 7.3% 8.8% 9.9% 5.5% 5.5% 5.9% 6.2% 0.0%



# **EXHIBIT G**

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# Components of Member Statement IBNR (i.e. "Discounted") Change (June 2022 to August 2022)

RSP Alberta Non-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	42	(6)	6	-	-	-	42
2005	13	-	-	-	-	-	13
2006	83	(17)	18	-	1	1.2%	84
2007	100	(14)	14	(1)	(1)	(1.0%)	99
2008	74	(16)	16	-	-	-	74
2009	27	(13)	585	(6)	566	2,096.3%	593
2010	59	(4)	(34)	(17)	(55)	(93.2%)	4
2011	(33)	6	(6)	-	-	-	(33)
2012	101	(13)	(1)	(48)	(62)	(61.4%)	39
2013	141	(26)	119	(227)	(134)	(95.0%)	7
2014	241	(40)	(68)	(193)	(301)	(124.9%)	(60)
2015	310	(43)	7	(76)	(112)	(36.1%)	198
2016	377	(37)	(60)	(41)	(138)	(36.6%)	239
2017	985	(118)	(300)	229	(189)	(19.2%)	796
2018	2,597	(312)	(737)	231	(818)	(31.5%)	1,779
2019	7,388	(905)	(1,284)	604	(1,585)	(21.5%)	5,803
2020	19,190	(3,462)	1,199	620	(1,643)	(8.6%)	17,547
2021	28,440	(4,940)	2,003	(4,092)	(7,029)	(24.7%)	21,411
2022	36,420	23,523	(8,143)	(7,325)	8,055	22.1%	44,475
<b>Grand Total</b>	96,555	13,563	(6,666)	(10,342)	(3,445)	(3.6%)	93,110



# **EXHIBIT G**

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# Components of IBNR (i.e. "Undiscounted") Change (June 2022 to August 2022)

RSP Alberta Non-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	36	(6)	6	-	-	-	36
2005	5	-	-	-	-	-	5
2006	75	(14)	15	-	1	1.3%	76
2007	65	(11)	11	-	-	-	65
2008	70	(13)	13	-	-	-	70
2009	(22)	(10)	578	-	568	(2,581.8%)	546
2010	(7)	2	(39)	-	(37)	528.6%	(44)
2011	(34)	6	(6)	-	-	-	(34)
2012	12	(2)	(12)	-	(14)	(116.7%)	(2)
2013	60	(20)	113	(162)	(69)	(115.0%)	(9)
2014	217	(37)	(65)	(168)	(270)	(124.4%)	(53)
2015	242	(38)	3	90	55	22.7%	297
2016	90	(14)	(67)	180	99	110.0%	189
2017	572	(85)	(295)	480	100	17.5%	672
2018	1,689	(261)	(733)	632	(362)	(21.4%)	1,327
2019	5,276	(794)	(1,171)	1,634	(331)	(6.3%)	4,945
2020	16,302	(3,314)	1,270	1,372	(672)	(4.1%)	15,630
2021	24,614	(4,492)	1,798	(2,664)	(5,358)	(21.8%)	19,256
2022	33,475	21,667	(7,755)	(5,319)	8,593	25.7%	42,068
<b>Grand Total</b>	82,737	12,564	(6,336)	(3,925)	2,303	2.8%	85,040