



ALBERTA GRID RISK SHARING POOL

MARCH 2020 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

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ACTUARIAL HIGHLIGHTS**RSP ALBERTA GRID****OPERATIONAL REPORT****MARCH 2020**

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1 Summary

Key Points

- (a) The 2019 Q4 valuation was completed and implemented into the results this month, with a \$24.2 million favourable impact, or 5.5 % of beginning policy liabilities (policy liabilities ended at \$437 million) and 67.6 points of year-to-date earned premium;
- (b) The updated valuation loss ratios do NOT include any incurred impacts of adjustments related to COVID-19; any associated impacts and changes will be initially reflected in our March 31, 2020 valuation which will be implemented in the May 2020 Operational Reports; and
- (c) The month’s claims activities were generally aligned with projections from last month. Our projections do NOT take into account any specific impacts that might arise due to the COVID-19 pandemic (FA is still in the process of considering impacts, which will be reflected in future projections, as deemed appropriate).

1.1 Valuation Schedule (Fiscal Year 2020)

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

ALBERTA GRID RISK SHARING POOL FISCAL YEAR 2020 – SCHEDULE OF VALUATIONS			
Valuation Date	Discount Rate (per annum)	Operational Report	Description of Changes
Sep. 30, 2019 (completed)	1.44% mfad 25 bp	Oct. 2019	updated valuation (roll forward): accident year 2019 loss ratio <u>de</u> creased 2.4 points to 84.4%; discount rate <u>in</u> creased 3 basis points; no change to selected margins for adverse deviations
Dec. 31, 2019	1.63% mfad 25 bp	Mar. 2020	update valuation: accident year 2019 loss ratio <u>de</u> creased 3.9 points to 80.5%; accident year 2020 loss ratio <u>de</u> creased 8.4 points to 81.4 %; discount rate <u>in</u> creased 19 basis points; no change to selected margins for adverse deviations
Mar. 31, 2020	% mfad -- bp	May 2020	update valuation (roll-forward)
Jun. 30, 2020	% mfad -- bp	Aug. 2020	update valuation
Sep. 30, 2020	% mfad -- bp	Oct. 2020	update valuation (roll-forward)

Under the proposed schedule for fiscal year 2020, the off-half valuation quarters ending March 31, 2020 and September 30, 2020 would not reflect a full valuation update of assumptions, but

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

1.2 New Valuation

A valuation of the Alberta Grid Risk Sharing Pool (“RSP”) as at December 31, 2019 has been completed since last month’s Operational Report and the results of that valuation have been incorporated into this month’s Report. The valuation was completed by the Facility Association’s internal actuarial group in conjunction with, and approved by, the Appointed Actuary, under the hybrid model for actuarial services. Additional detail will be provided in an “Actuarial Highlights – Quarterly Valuation” report which we anticipate will be posted to the FA website in June 2020.

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

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

AB Grid	unfav / (fav) for the month and ytd					
	IMPACT in \$000s from changes in:					
	ults & payout patterns			dsct rate	margins	
	Nominal	apv adj.	sub-tot	apv adj.	apv adj.	TOTAL
[1]	[2]	[3]	[4]	[5]	[6]	
PAYs	(8,386)	(101)	(8,487)	(1,532)	-	(10,019)
CAY	(4,212)	(335)	(4,547)	(196)	-	(4,743)
Prem Def	(8,301)	(669)	(8,970)	(449)	-	(9,419)
TOTAL	(20,899)	(1,105)	(22,004)	(2,177)	-	(24,181)

As indicated in the table above, the incorporation of the new valuation had an estimated **\$24.2 million favourable impact** on the month’s net result from operations, subtracting an estimated 47.0 points (see table at the top of the next page) to the **year-to-date Combined Operating Ratio** to end at **70.0%**.

¹In these tables, “PAYs” refers to prior accident years, “CAY” refers to the current accident year, and “Prem Def” refers to the provision for premium deficiency or the deferred policy acquisition asset (as applicable). “Nominal” refers to changes excluding any actuarial present value adjustments, whereas “apv adj.” refers to actuarial present value adjustments.

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

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

AB Grid	ytd EP 51,416 (actual)					
	IMPACT unfav / (fav) as % ytd EP from changes in:					
	ults & payout patterns			dsct rate	margins	
	Nominal	apv adj.	sub-tot	apv adj.	apv adj.	TOTAL
[1]	[2]	[3]	[4]	[5]	[6]	
PAYs	(16.3%)	(0.2%)	(16.5%)	(3.0%)	-	(19.5%)
CAY	(8.2%)	(0.7%)	(8.8%)	(0.4%)	-	(9.2%)
Prem Def	(16.1%)	(1.3%)	(17.4%)	(0.9%)	-	(18.3%)
TOTAL	(40.6%)	(2.1%)	(42.8%)	(4.2%)	-	(47.0%)

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 \$20.9 million** overall. This reflects the impact attributable to the changes in the selected ultimate loss ratios (i.e. for each accident year, it is the product of life-to-date earned premium for the accident year and the change in the selected ultimate loss ratio).

The **PAYs** overall showed a **\$8.4 million favourable** nominal variance or 2.7% of the PAYs nominal unpaid balance of \$305.8 million determined at the end of last month (February 2020), driven by favourable claims development and updates to a priori loss ratios to include more recent data and updated trends. While the valuation implementation impact does differ from the valuation changes themselves (as they apply to different periods), the valuation result by government line provides insight into the relative PAYs nominal changes. As per below, the primary changes were in relation to Third Party Liability (Bodily Injury) and Other Coverages across multiple PAYs.

Valuation as at Dec. 31, 2019 – PAYs Nominal Changes by Government Line

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

Accident Year	Third Party Liability	Accident Benefits	Other Coverages	Total
2014 & Prior	1,748	-	(9)	1,739
2015	(288)	2	(62)	(348)
2016	1,139	(53)	(20)	1,066
2017	(560)	(65)	(955)	(1,580)
2018	(2,651)	(105)	416	(2,340)
TOTAL	(612)	(221)	(630)	(1,463)

The CAY and premium deficiency impacts are a result of the change in the selected loss ratios for accident year **2020** (decreased 8.1 points to **81.4%**) and accident year **2021** (decreased 8.8 points to 82.2%).

The impacts related to actuarial present value (“apv”) adjustments are split into the impact prior to any change in the selected discount rate and selected margins for adverse deviations or “MfADs” (at the level they were selected i.e. coverage and accident half-year), the impact of then updating the discount rate, and finally the impact of any changes to the MfADs (at the level they were selected). The changes

in actuarial present value adjustments are shown in the summary tables on the two previous pages 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 \$1.1 million in the actuarial present value adjustments, prior to any changes in the selected discount rate and/or MfADs.

Updated projected cash flows were reviewed against the selected risk-free yield curve, derived from Government of Canada benchmark bond yields monthly series using values for December 2019. Column [4] accounts for the change in the **discount rate** selected (increased 19 basis point to **1.63%**), indicating a favourable impact of \$2.2 million. The impact *related only to claims liabilities* (i.e. PAYs plus CAY) was \$1.7 million at March 2020 – this compares to the \$1.8 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 also left unchanged (as per our usual practice, development margins are reviewed with the June 30 valuation).

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

1.3 Appointed Actuary and Hybrid Actuarial Services Model

Mr. Cosimo Pantaleo of Ernst & Young LLP (EY) was appointed as Actuary by the FA Board at its February 18, 2020 meeting.

Facility Association operates under a hybrid model in relation to the management and provision of actuarial services. Under this model, actuarial services are performed by both Facility Association’s internal staff and its external actuarial consulting firm. The hybrid model approach maximizes the efficiency of resource allocation while providing access to additional expertise and capacity as needed.

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

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

Consideration and assessment of potential impacts of legal decisions and changes in legislation / regulation constitutes a regular part of the valuation process. Descriptions of some of the more recent (i.e. within the last five years) changes are provided below.

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

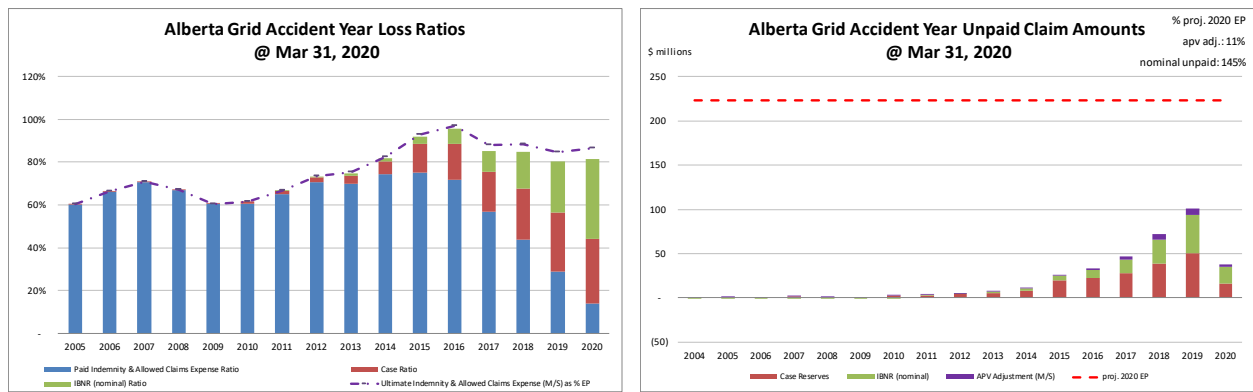
²This url to a pdf is to a helpful guide on how bills become laws: <https://www.ola.org/sites/default/files/common/how-bills-become-law-en.pdf>.

(MIR). With the **most recent** valuation (December 31, 2019), reform adjustments related to changes in the definition of minor injuries under the MIR, were included with the updated industry trend analysis (completed using industry data as at June 30, 2019), impacting the selection of ultimates.

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

1.5 Current Provision Summary

The charts below show the current levels of claim liabilities³ booked by accident year⁴. The left chart displays life-to-date payments, case reserves, IBNR, and the total including actuarial present value adjustments against accident year earned premium. The right chart shows the associated dollar amounts for the components of the claim liabilities and the current projected amount of 2020 full year earned premium (the red hash-mark line) to provide some perspective.



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

The current actuarial present value adjustments balance (\$25.1 million – see table below) represents 11% of the earned premium projected for the full year 2020 (see the upper right corner of the right chart above). If our current estimates of the nominal unpaid amounts prove to match actual claims payments, the actuarial present value adjustments will be released into the net operating result over future periods.

claim liabilities (\$000s)	amt	%
case	200,620	57.6%
ibnr	122,829	35.2%
M/S apv adjust.	25,093	7.2%
M/S total	348,542	100.0%

The table to the left breaks down the Member Statement (M/S) claim liabilities total into component parts, showing that the majority of the claim liabilities for this RSP is in case reserves. Approximately 52% of the IBNR balance relates to accident years 2019 and 2020 (see Exhibit B). Approximately 83% of the M/S total claim

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

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

liabilities are related to accident years 2016-2020 inclusive (i.e. the most recent 5 accident years), and approximately 1% is related to accident years 2010 and prior (i.e. prior to the most recent 10 accident years).

The tables immediately below summarize the premium liabilities and the total policy liabilities.

premium liabilities (\$000s)			policy liabilities (\$000s)		
	amt	%		amt	%
unearned prem	102,032	114.9%	claim	323,449	74.0%
prem def/(dpac)	(18,619)	(21.0%)	premium	83,413	19.1%
M/S apv adjust.	5,356	6.0%	M/S apv adjust.	30,449	7.0%
M/S total	88,769	100.0%	M/S total	437,311	100.0%

2 Activity During the Month of March 2020

2.1 Recorded Premium and Claims Activity

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

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

Accident Year	Earned Premium		Paid Indemnity & Allowed Claims Expense		Case increase / (decrease)		Recorded increase / (decrease)	
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	(4)	(4)	4,270	978	(2,632)	(142)	1,638	836
2018	(23)	(23)	1,549	359	(1,572)	(1,162)	(23)	(803)
2019	(106)	(106)	3,069	(1,931)	(2,611)	946	458	(985)
2020	17,795	(345)	3,849	(137)	4,071	(657)	7,920	(793)
TOTAL	17,663	(478)	12,737	(731)	(2,744)	(1,015)	9,993	(1,745)

(Recorded transaction amounts exclude IBNR & other actuarial provisions)

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

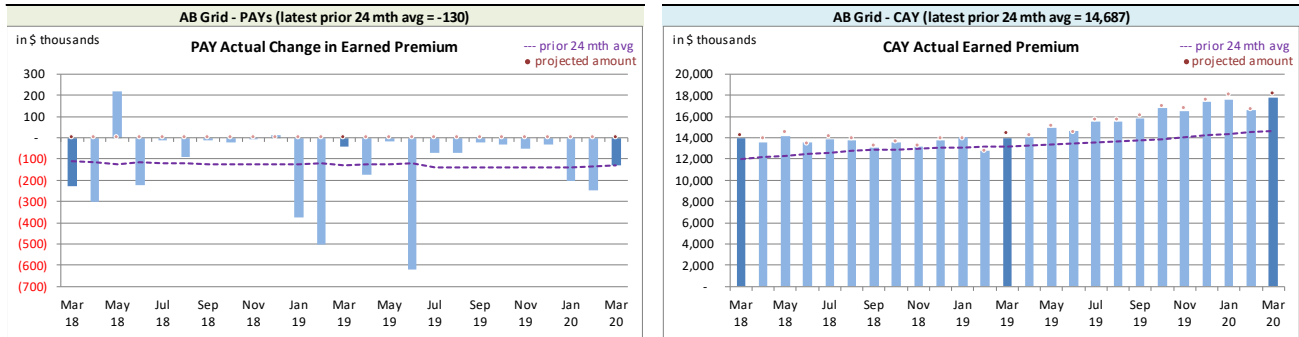
2.1.a Actual vs. Projected (AvsP): Earned Premium

The charts at the top of the next page show actual **earned premium**⁶ activity in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

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

⁶Premium is earned on a daily basis based on the transaction term measured in days. As a result, months with 31 days earned relatively more than those with 30 days, and February earns the least.

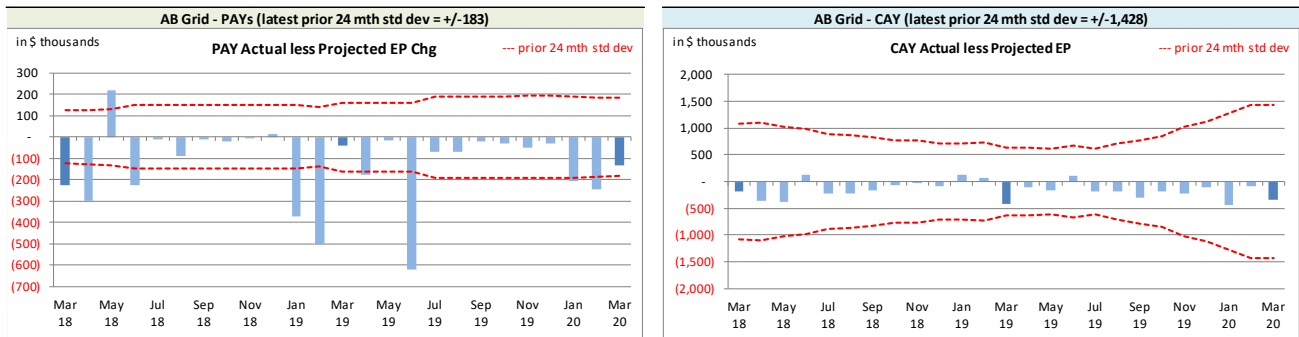
Alberta Grid RSP Actual Earned Premium by Calendar Month



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

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

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



On Latest \$ thousands		
	Earned Premium	PAYs
Mthly Avg EP Chg (prior 24 mths)	(130)	14,687
std dev	183	1,428
A-P <> std dev	10	-
% <> std dev	40.0%	0.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	worse	better

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 has generated prior accident years' (PAYs) bias⁷, with actuals generally lower than projected, although the magnitude is not high relative to monthly premium. In addition to the PAYs' bias, the CAY has also shown bias⁸, with actuals being generally lower than projected, and while we modified our projections processes in response, bias still exists. Over time, we may consider other projection approaches to

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

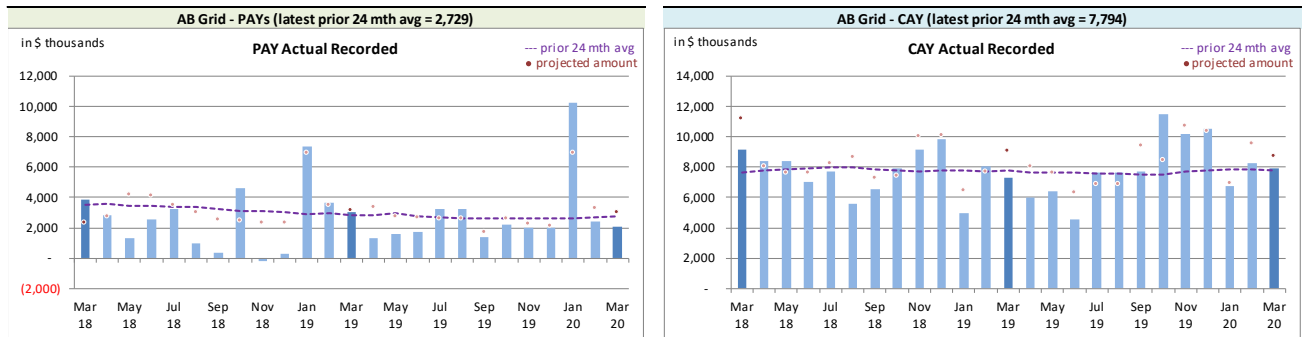
⁸We measure bias based on a 95% confidence range for a binominal distribution with trials based on the range being considered (25 in this case) and 50% probability of success. The rolling 25-month CAY variances at March 2020 has only 4 months where the actuals were higher than projected, and as the 95% confidence range is 8 to 17, bias continues to be indicated.

narrow monthly variance levels further, but it is not currently deemed a priority.

2.1.b AvsP: Recorded Indemnity & Allowed Claims Expense

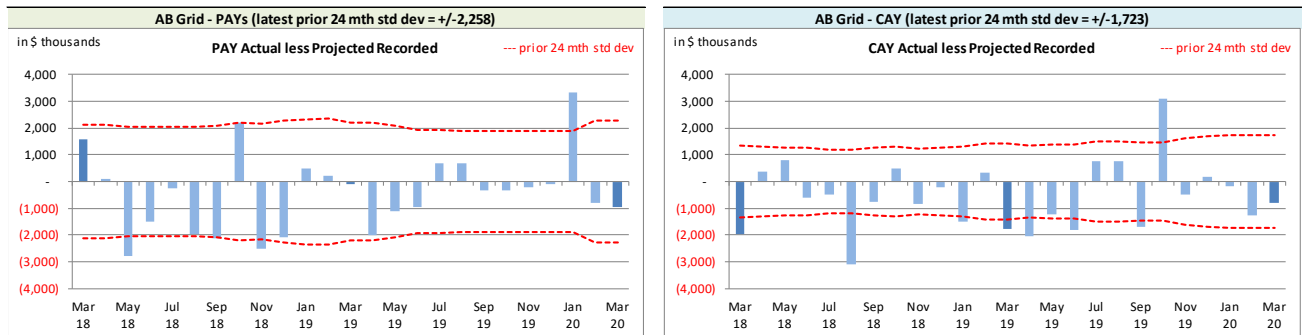
The charts below show actual **recorded** activity (**paid** and case reserve changes), in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

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



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

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



On Latest \$ thousands		
Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	2,729	7,794
std dev	2,258	1,723
A-P <> std dev	5	8
% <> std dev	20.0%	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, 20% 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 (8 of 25 variances were positive).

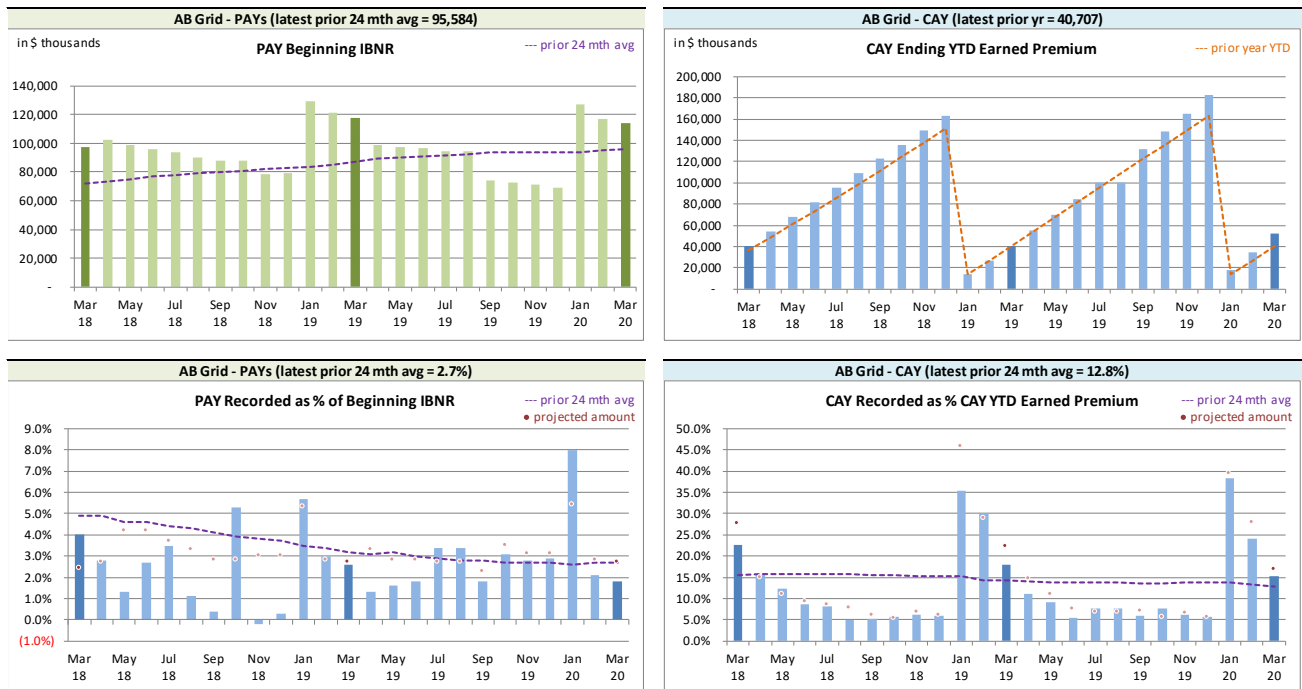
The current accident year (CAY) **recorded** variances fell outside of one standard deviation 32% of the time over the last 25 calendar months (see table above), suggesting that the projection process has performed no better than simply projecting the prior 24-month average amount. Bias has not been

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).

Alberta Grid RSP Levels that influence⁹ Recorded activity by Calendar Month



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

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

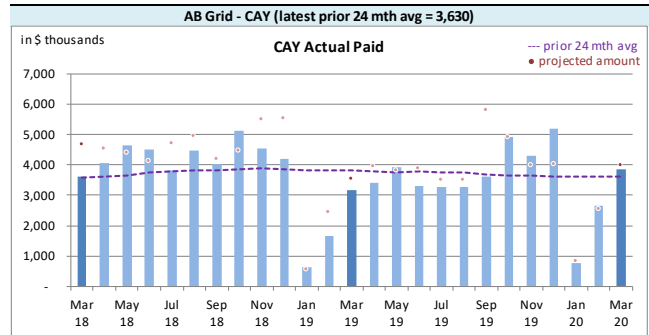
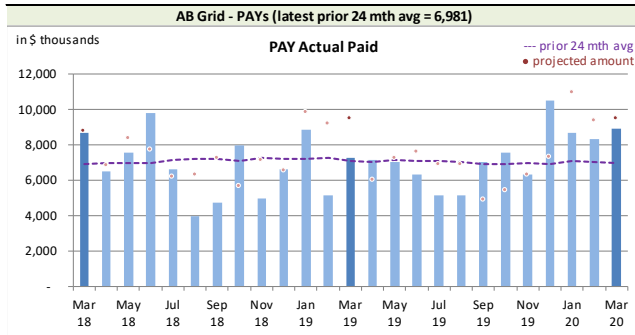
2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

The charts at the top of the next page 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

⁹Our recorded activity projections for the prior accident years are based on selected ratios of recorded activity to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date IBNR to year-to-date selected ultimate (i.e. selected LR x earned premium), deriving year-to-date recorded as selected ultimate less IBNR. In both cases, the ratio selection is based on our review of the more recent recorded activity and recent AvsP analyses.

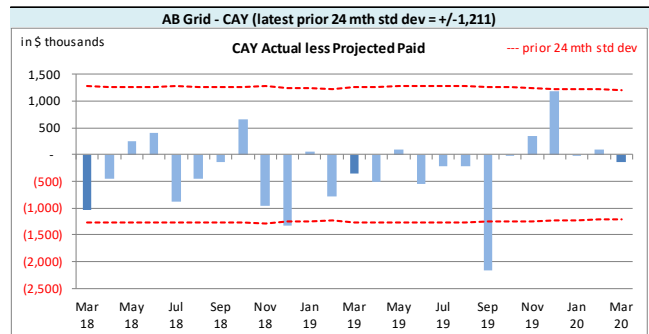
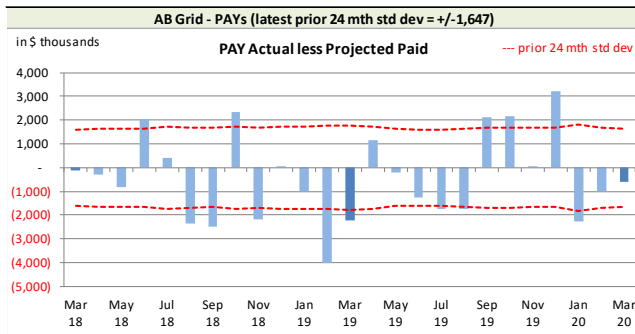
average amount of the preceding 24 calendar months.

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



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

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



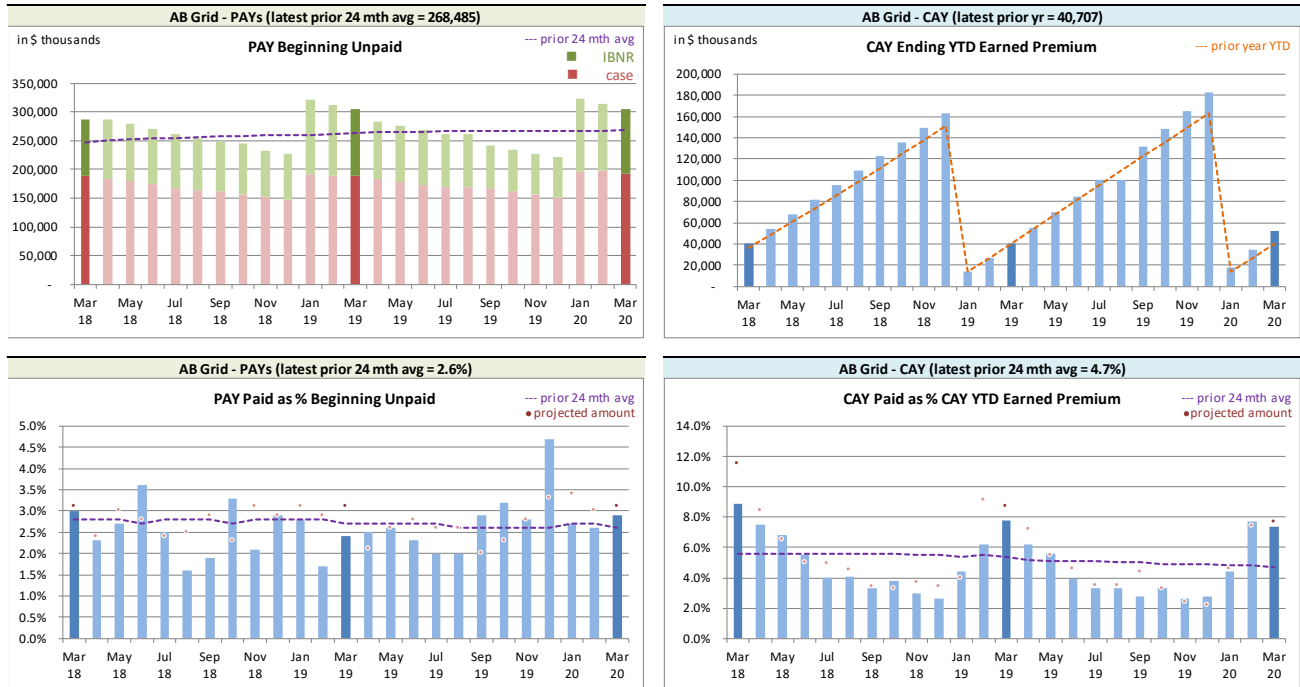
On Latest \$ thousands			
Paid	PAYs	CAY	
Mthly Avg Paid (prior 24 mths)	6,981	3,630	
std dev	1,647	1,211	
A-P <> std dev	13	2	
% <> std dev	52.0%	8.0%	
norm <> std dev	31.7%	31.7%	
performance vs 24-mth avg:	worse	better	

With respect to **paid** indemnity & allowed claims expense, 52% 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 (9 of 25 variances are positive).

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

We have included, for reference, additional charts at the top of the next page related to levels influencing **paid** activity.

Alberta Grid RSP Levels that influence¹⁰ Paid activity by Calendar Month


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

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

2.2 Actuarial Provisions

An ultimate loss ratio matching method (described in section 3) is used to determine the month's IBNR¹¹, and factors are applied to the nominal unpaid claims liability (case plus IBNR) to determine the discount amount (shown as a negative value to indicate its impact of reducing the liability) and the Provisions for Adverse Deviations. The loss ratios and the factors used to determine the projections and actuals were based on the applicable valuation.

The table at the top of the next page summarizes variances in provisions included in this month's

¹⁰Our paid projections for the prior accident years are based on selected ratios of paid to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date paid to year-to-date selected ultimate indemnity (i.e. selected LR x earned premium). In both cases, the ratio selection is based on our review of the more recent recorded activity and recent AvsP analyses.

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

Operational Report and the associated one-month projections from last month’s Report.

Alberta Grid RSP Actual vs Projected Summary: IBNR and APV Amounts (\$ thousands)

Table 02

Accident Year	actuarial present value adjustments							
	IBNR		Discount Amount		Provisions for Adverse Deviations		IBNR + actuarial present value adjustments	
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	31,821	127	(4,479)	(554)	14,120	(19)	41,462	(446)
2018	27,743	(1,478)	(2,779)	(164)	8,322	(366)	33,286	(2,008)
2019	43,897	(6,195)	(4,414)	(249)	11,756	(243)	51,239	(6,687)
2020	19,368	(3,728)	(1,683)	13	4,250	(558)	21,935	(4,273)
TOTAL	122,829	(11,274)	(13,355)	(954)	38,448	(1,186)	147,922	(13,414)

The IBNR provision is \$11.3 million lower than projected from last month, counterbalancing the recorded claims activity and adjusting for the earned premium variance impacts indicated in section 2.1, and due to valuation implementation.

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

- (i) the change projected last month;
- (ii) the additional change due to variances in earned premium (because we apply a loss ratio to earned premium in determining ultimate level) and/or recorded claims (as IBNR is calculated as ultimate less recorded) differences; and
- (iii) the additional change due to valuation implementation impacts (as applicable)

The variances associated with (ii) above are discussed in sections 2.1.a and 2.1.b.

The table below summarizes the variances in the provisions for premium deficiency liability / (deferred policy acquisition cost asset) included in this month’s Operational Report and the one-month projections from last month’s Report. This RSP is in a deferred policy acquisition cost asset position (shown as a negative amount) prior to and after actuarial present value adjustments. Actuarial present value adjustments decrease the asset value as the adjustments increase the expected future policy obligations (costs) associated with the unearned premium. The variances noted are mainly driven by the unearned premium variance, and due to the valuation implementation.

Alberta Grid RSP Actual vs Projected Summary: Premium Deficiency / (DPAC) Amounts (\$ thousands)

Table 03

	Premium Deficiency / (Deferred Policy Acquisition Costs)		actuarial present value adjustments		Premium Deficiency / (DPAC) including actuarial present value adjustments	
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
balance:	(18,619)	(7,928)	5,356	(1,356)	(13,263)	(9,284)
balance as % unearned premium:	(18.2%)	(8.1%)	5.2%	(1.1%)	(13.0%)	(9.2%)
actual unearned premium:	102,032					
less projected:	(3,749)					

3 Ultimate Loss Ratio Matching Method

An “ultimate loss ratio matching method” continues to be applied to the current month and two projected months shown in the Operational Reports, with IBNR determined by accident year as follows:

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

4 Calendar Year-to-Date Results

The table below summarizes the calendar year-to-date results for indemnity & allowed claims expenses¹³, including IBNR.

In calculating the amounts as percentages of earned premium, the calendar year-to-date earned premium has been used, which includes earned premium associated with the current accident year but also earned premium adjustments related to prior accident years. Specifically, the current accident year (CAY) ratio in the table is 82.3% rather than 81.4% (the valuation ultimate ratio for accident year 2020), as the calendar year-to-date earned premium includes prior accident year earned premium adjustments. (Note that the ratios in this table may differ slightly from those shown in the Alberta 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	(8,883)	(17.3%)	(3,103)	(6.0%)	(11,986)	(23.3%)	(10,852)	(19.9%)
CAY	42,327	82.3%	2,567	5.0%	44,894	87.3%	12,135	(9.8%)
TOTAL	33,443	65.0%	(536)	(1.0%)	32,907	64.0%	1,283	(29.7%)

(“% EP” based on 2020 calendar year-to-date earned premium; ratios may not total due to rounding)

In general, prior accident years (PAYs) changes from last month are due to the release of the actuarial present value adjustments with claims payments, except when valuations are implemented. The loss ratio change year-to-date in Table 04 reflects not only changes in the prior accident year levels, but also the increase in the calendar year-to-date earned premium with an additional month’s earned premium, and due to the valuation implementation.

For the current accident year (CAY), changes in the year-to-date total reflects the additional month’s exposure and regular changes to actuarial present value adjustments as the year ages, and due to the valuation implementation.

¹²“Loss” here refers to indemnity and allowed claims expenses, but does not include the claims expense allowance included in member company overall expense allowances (“Expense Allowance” in the Operational Report).

¹³Allowed claims expenses are first party legal and other expenses as listed in the RSP Claims Guide. Claims expenses paid through the member company expense allowance are NOT included in this analysis.

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 presented in section 6, Exhibit B, refer to the estimates derived on the basis of 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

		Amounts in \$000s					
IBNR + M/S actuarial present value adjustments		Accident Year	Actual Feb. 2020	Actual Mar. 2020	Projected Apr. 2020	Projected May. 2020	Projected Dec. 2020
		2004	(71)	(71)	(68)	(67)	(50)
		2005	21	19	19	17	13
		2006	(100)	(100)	(97)	(94)	(74)
		2007	(30)	(472)	(455)	(445)	(350)
		2008	(55)	(54)	(52)	(50)	(39)
		2009	163	(94)	(92)	(89)	(69)
		2010	109	82	80	76	56
		2011	140	392	380	367	283
		2012	(6)	544	528	512	394
		2013	1,816	1,854	1,795	1,744	1,351
		2014	2,553	3,165	3,061	2,977	2,307
discount rate		2015	7,348	6,744	6,523	6,343	4,919
1.63%		2016	10,336	11,182	10,730	10,363	7,681
		2017	20,745	18,271	17,392	16,940	13,766
interest rate margin		2018	36,179	33,286	32,115	31,366	26,990
25 basis pts		2019	59,764	51,239	50,418	49,808	42,521
		2020	17,720	21,935	29,381	37,822	76,881
		TOTAL	156,632	147,922	151,658	157,590	176,580
		Change		(8,710)	3,736	5,932	

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

EXHIBIT B

IBNR

TABLE EXHIBIT B

Amounts in \$000s

IBNR	Ultimate Loss Ratio	Accident Year	Actual Feb. 2020	Actual Mar. 2020	Projected Apr. 2020	Projected May. 2020	Projected Dec. 2020
	51.6%	2004	(79)	(79)	(76)	(74)	(56)
	60.5%	2005	(20)	(20)	(19)	(19)	(15)
	66.3%	2006	(111)	(111)	(107)	(104)	(81)
	70.9%	2007	(143)	(580)	(561)	(547)	(427)
	67.1%	2008	(81)	(79)	(76)	(74)	(56)
	60.5%	2009	131	(106)	(103)	(100)	(77)
	61.5%	2010	(77)	(87)	(84)	(82)	(64)
	66.5%	2011	(98)	160	155	151	117
	73.1%	2012	(359)	223	216	211	164
	74.7%	2013	1,277	1,336	1,292	1,260	980
	81.8%	2014	1,779	2,403	2,324	2,266	1,764
	91.8%	2015	5,490	5,101	4,933	4,810	3,745
	95.4%	2016	8,188	9,114	8,704	8,391	6,083
	85.4%	2017	16,599	14,546	13,731	13,374	10,721
	84.8%	2018	30,001	27,743	26,661	26,021	22,284
	80.5%	2019	51,535	43,897	43,326	42,893	36,476
	81.4%	2020	15,574	19,368	26,031	33,622	67,408
		TOTAL	129,606	122,829	126,347	131,999	148,966
		Change		(6,777)	3,518	5,652	

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

EXHIBIT C
Premium Liabilities

TABLE EXHIBIT C

	Amounts in \$000s				
	Actual Feb. 2020	Actual Mar. 2020	Projected Apr. 2020	Projected May. 2020	Projected Dec. 2020
Premium Liabilities					
(1) unearned premium (UP)	104,885	102,032	106,030	109,156	128,946
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	96.2%	87.0%	87.0%	87.1%	87.8%
(3) expected future costs {(1) x (2)}	100,879	88,769	92,299	95,085	113,224
(4) premium deficiency / (deferred policy acquisition cost)	(4,006)	(13,263)	(13,731)	(14,071)	(15,722)
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	89.8%	81.8%	81.8%	81.9%	82.5%
(6) expected future costs {(1) x (5)}	94,228	83,413	86,730	89,349	106,394
(7) premium deficiency / (deferred policy acquisition cost)	(10,657)	(18,619)	(19,300)	(19,807)	(22,552)

EXHIBIT D

Projected Year-end Policy Liabilities

The table below presents the projected policy liabilities as at December 31, 2020, broken down by component.

Alberta Grid ending 2020		Projected Balances as at Dec. 31, 2020 (\$000s)								
		nominal values			actuarial present value adjustments (apvs)					
Acc Yr	Case	IBNR	Total Unpaid	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL
2004	-	(56)	(56)	-	-	6	-	6	6	(50)
2005	307	(15)	292	(1)	-	29	-	29	28	320
2006	164	(81)	83	(1)	-	8	-	8	7	90
2007	1,371	(427)	944	(18)	3	94	(2)	92	77	1,021
2008	291	(56)	235	(6)	1	23	(1)	22	17	252
2009	175	(77)	98	(2)	-	10	-	10	8	106
2010	1,708	(64)	1,644	(46)	7	164	(5)	159	120	1,764
2011	2,110	117	2,227	(60)	9	223	(6)	217	166	2,393
2012	2,934	164	3,098	(84)	12	310	(8)	302	230	3,328
2013	4,011	980	4,991	(135)	20	499	(13)	486	371	5,362
2014	5,909	1,764	7,673	(238)	38	767	(24)	743	543	8,216
2015	13,913	3,745	17,658	(618)	88	1,766	(62)	1,704	1,174	18,832
2016	17,998	6,083	24,081	(867)	144	2,408	(87)	2,321	1,598	25,679
2017	24,227	10,721	34,948	(1,363)	210	4,368	(170)	4,198	3,045	37,993
2018	33,910	22,284	56,194	(2,360)	337	7,024	(295)	6,729	4,706	60,900
2019	40,864	36,476	77,340	(3,635)	541	9,590	(451)	9,139	6,045	83,385
PAYs (sub-total):	149,892	81,558	231,450	(9,434)	1,410	27,289	(1,124)	26,165	18,141	249,591
CAY (2020)	61,942	67,408	129,350	(6,209)	905	15,522	(745)	14,777	9,473	138,823
claims liabilities:	211,834	148,966	360,800	(15,643)	2,315	42,811	(1,869)	40,942	27,614	388,414
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	128,946	(22,552)	106,394	(4,558)	636	11,235	(483)	10,752	6,830	113,224
*Total may not be sum of parts, as apvs apply to future costs within UPR										
policy liabilities:			467,194	(20,201)	2,951	54,046	(2,352)	51,694	34,444	501,638

EXHIBIT E

Discount Rate & Margins for Adverse Deviations

The tables below present selected margins for adverse development by coverage (the total is a weighted average, based on the unpaid claims projection for December 31, 2020 from the valuation), followed by the selected discount rate and the associated margin for investment income.

Selected Claims Development MfADs (Dec. 31,
2019)

Accident Year	Third Party Liability Margins	Accident Benefits Margins	Other Coverages Margins	Total Margins
2004	10.0%	10.0%	10.0%	10.0%
2005	10.0%	10.0%	10.0%	10.0%
2006	10.0%	10.0%	10.0%	10.0%
2007	10.0%	10.0%	10.0%	10.0%
2008	10.0%	10.0%	10.0%	10.0%
2009	10.0%	10.0%	10.0%	10.0%
2010	10.0%	10.0%	10.0%	10.0%
2011	10.0%	10.0%	10.0%	10.0%
2012	10.0%	10.0%	10.0%	10.0%
2013	10.0%	10.0%	9.5%	10.0%
2014	10.0%	10.0%	10.0%	10.0%
2015	10.0%	10.0%	9.8%	10.0%
2016	10.0%	10.0%	9.8%	10.0%
2017	12.5%	10.0%	12.5%	12.5%
2018	12.5%	10.0%	12.5%	12.5%
2019	12.5%	10.0%	10.9%	12.4%
2020	12.2%	10.0%	8.6%	12.0%
<u>prem liab</u>	<u>11.9%</u>	<u>10.0%</u>	<u>5.1%</u>	<u>10.6%</u>

discount rate: 1.63%
margin (basis points): 25

EXHIBIT F

Interest Rate Sensitivity

The tables below present sensitivity to the member statement claims liability as projected to Dec. 31, 2020 from the latest valuation date (projections in exhibits A to D are to Dec. 31, 2020, and are based on more up-to-date information). We have included the most recent valuation selection (1.63%), the prior valuation assumption (1.44%) and the prior fiscal year end valuation assumption (1.44%) for comparative purposes. A 25 basis point margin for investment return adverse deviation is used in all scenarios presented.

\$ Format: \$000s

Actuarial Present Value of Provisions at Various Discount Rates - Dec. 31, 2020 projected Unpaid								
AY	0.63%	1.13%	1.63%	2.13%	2.63%	3.13%	1.44%	1.44%
2004	-	-	-	-	-	-	-	-
2005	126	126	126	126	126	125	126	126
2006	152	151	151	150	150	149	151	151
2007	984	978	973	967	961	956	975	975
2009	182	181	179	178	177	175	180	180
2010	1,490	1,476	1,464	1,451	1,439	1,427	1,468	1,468
2011	2,263	2,244	2,225	2,207	2,189	2,171	2,232	2,232
2012	3,240	3,213	3,186	3,160	3,134	3,109	3,196	3,196
2013	5,112	5,069	5,027	4,986	4,945	4,905	5,043	5,043
2014	9,962	9,868	9,774	9,683	9,595	9,507	9,810	9,810
2015	19,545	19,334	19,126	18,923	18,725	18,531	19,204	19,204
2016	25,756	25,470	25,190	24,917	24,652	24,393	25,295	25,295
2017	37,375	36,922	36,478	36,047	35,628	35,219	36,648	36,648
2018	60,144	59,348	58,576	57,813	57,077	56,368	58,863	58,863
2019	90,677	89,352	88,065	86,817	85,604	84,426	88,556	88,556
2020	134,084	132,049	130,077	128,152	126,285	124,488	130,814	130,814
Total	391,300	385,988	380,822	375,781	370,889	366,150	382,767	382,767
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

Dollar Impact Relative to Valuation Assumption								
AY	0.63%	1.13%	1.63%	2.13%	2.63%	3.13%	1.44%	1.44%
Total	10,478	5,166	-	(5,041)	(9,933)	(14,672)	1,945	1,945
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

Percentage Impact Relative to Valuation Assumption								
AY	0.63%	1.13%	1.63%	2.13%	2.63%	3.13%	1.44%	1.44%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	(0.8%)	-	-
2006	0.7%	-	-	(0.7%)	(0.7%)	(1.3%)	-	-
2007	1.1%	0.5%	-	(0.6%)	(1.2%)	(1.7%)	0.2%	0.2%
2009	1.7%	1.1%	-	(0.6%)	(1.1%)	(2.2%)	0.6%	0.6%
2010	1.8%	0.8%	-	(0.9%)	(1.7%)	(2.5%)	0.3%	0.3%
2011	1.7%	0.9%	-	(0.8%)	(1.6%)	(2.4%)	0.3%	0.3%
2012	1.7%	0.8%	-	(0.8%)	(1.6%)	(2.4%)	0.3%	0.3%
2013	1.7%	0.8%	-	(0.8%)	(1.6%)	(2.4%)	0.3%	0.3%
2014	1.9%	1.0%	-	(0.9%)	(1.8%)	(2.7%)	0.4%	0.4%
2015	2.2%	1.1%	-	(1.1%)	(2.1%)	(3.1%)	0.4%	0.4%
2016	2.2%	1.1%	-	(1.1%)	(2.1%)	(3.2%)	0.4%	0.4%
2017	2.5%	1.2%	-	(1.2%)	(2.3%)	(3.5%)	0.5%	0.5%
2018	2.7%	1.3%	-	(1.3%)	(2.6%)	(3.8%)	0.5%	0.5%
2019	3.0%	1.5%	-	(1.4%)	(2.8%)	(4.1%)	0.6%	0.6%
2020	3.1%	1.5%	-	(1.5%)	(2.9%)	(4.3%)	0.6%	0.6%
Total	2.8%	1.4%	-	(1.3%)	(2.6%)	(3.9%)	0.5%	0.5%
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

EXHIBIT G

Page 1 of 2

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

RSP **Alberta Grid**
AccountCode Desc **IBNR - Discounted**

M/S IBNR - in \$000s

AccYear	Values				Sum of Total Change	Sum of % Total Change	Sum of Current Month Final Amount
	Sum of Prior Month Actual Amount	Sum of Projected Change	Sum of Change Due to AvsP Variances	Sum of Change Due to Valuation Implementation			
2004	(71)	2	(2)	-	-	-	(71)
2005	21	(2)	1	(1)	(2)	(9.5%)	19
2006	(100)	1	(1)	-	-	-	(100)
2007	(30)	-	(440)	(2)	(442)	1,473.3%	(472)
2008	(55)	1	1	(1)	1	(1.8%)	(54)
2009	163	(4)	27	(280)	(257)	(157.7%)	(94)
2010	109	(4)	(14)	(9)	(27)	(24.8%)	82
2011	140	(5)	(164)	421	252	180.0%	392
2012	(6)	(3)	(28)	581	550	(9,166.7%)	544
2013	1,816	(44)	(52)	134	38	2.1%	1,854
2014	2,553	(61)	(214)	887	612	24.0%	3,165
2015	7,348	(173)	20	(451)	(604)	(8.2%)	6,744
2016	10,336	(459)	291	1,014	846	8.2%	11,182
2017	20,745	(310)	(339)	(1,825)	(2,474)	(11.9%)	18,271
2018	36,179	(885)	750	(2,758)	(2,893)	(8.0%)	33,286
2019	59,764	(1,838)	1,042	(7,729)	(8,525)	(14.3%)	51,239
2020	17,720	8,488	470	(4,743)	4,215	23.8%	21,935
Grand Total	156,632	4,704	1,348	(14,762)	(8,710)	(5.6%)	147,922

EXHIBIT G

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

RSP		Alberta Grid						IBNR - in \$000s
AccountCode Desc		IBNR - Undiscounted						
AccYear	Values							Sum of Current Month Final Amount
	Sum of Prior Month Actual Amount	Sum of Projected Change	Sum of Change Due to AvsP Variances	Sum of Change Due to Valuation Implementation	Sum of Total Change	Sum of % Total Change		
2004	(79)	2	(2)	-	-	-	(79)	
2005	(20)	-	-	-	-	-	(20)	
2006	(111)	2	(2)	-	-	-	(111)	
2007	(143)	3	(440)	-	(437)	305.6%	(580)	
2008	(81)	2	-	-	2	(2.5%)	(79)	
2009	131	(3)	26	(260)	(237)	(180.9%)	(106)	
2010	(77)	2	(12)	-	(10)	13.0%	(87)	
2011	(98)	2	(144)	400	258	(263.3%)	160	
2012	(359)	8	25	549	582	(162.1%)	223	
2013	1,277	(27)	(61)	147	59	4.6%	1,336	
2014	1,779	(37)	(207)	868	624	35.1%	2,403	
2015	5,490	(115)	20	(294)	(389)	(7.1%)	5,101	
2016	8,188	(409)	288	1,047	926	11.3%	9,114	
2017	16,599	(232)	(330)	(1,491)	(2,053)	(12.4%)	14,546	
2018	30,001	(780)	783	(2,261)	(2,258)	(7.5%)	27,743	
2019	51,535	(1,443)	896	(7,091)	(7,638)	(14.8%)	43,897	
2020	15,574	7,522	484	(4,212)	3,794	24.4%	19,368	
Grand Total	129,606	4,497	1,324	(12,598)	(6,777)	(5.2%)	122,829	