



**ALBERTA GRID RISK SHARING POOL**

**OCTOBER 2020 OPERATIONAL REPORT**

**ACTUARIAL HIGHLIGHTS**

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

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## 1 Summary

### Key Points

- (a) The 2020 Q3 valuation was completed and implemented into the results this month, with a \$12.6 million favourable impact, or 2.8% of beginning policy liabilities (policy liabilities at \$449 million) and 7.6 points of year-to-date earned premium; the updated valuation loss ratios include a further assessment of the incurred impacts associated with the COVID-19 pandemic.

### 1.1 Valuation Schedule (Fiscal Year 2020)

The October 2020 Operational Report incorporates the results of an updated valuation (as at September 30, 2020) – the impact of the implementation of the valuation is discussed in section 1.2. The following table summarizes the valuation implementations scheduled for fiscal year 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>decreased</u> 2.4 points to 84.4%; discount rate <u>increased</u> 3 basis points; no change to selected margins for adverse deviations
Dec. 31, 2019 (completed)	1.63% mfad 25 bp	Mar. 2020	update valuation: accident year 2019 loss ratio <u>decreased</u> 3.9 points to 80.5%; accident year 2020 loss ratio <u>decreased</u> 8.4 points to 81.4 %; discount rate <u>increased</u> 19 basis points; no change to selected margins for adverse deviations
Mar. 31, 2020 (completed)	0.63% mfad 25 bp	May. 2020	update valuation (partial roll-forward): accident year 2020 loss ratio <u>decreased</u> 2.9 points to 78.5%; discount rate <u>decreased</u> 100 basis points; no change to selected margins for adverse deviations
Jun. 30, 2020 (completed)	0.24% mfad 25 bp	Aug. 2020	update valuation: update valuation: accident year 2020 loss ratio <u>decreased</u> 1.6 points to 76.9%; discount rate <u>decreased</u> by 39 basis points; selected margins for adverse deviations were updated
Sep. 30, 2020 (completed)	0.20% mfad 25 bp	Oct. 2020	update valuation (roll-forward): accident year 2020 loss ratio <u>decreased</u> 6.3 points to 70.6%; discount rate <u>decreased</u> 4 basis points; no change to selected margins for adverse deviations

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 September 30, 2020 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 (2020), and “Prem Def” refers to premium deficiency / deferred acquisition costs impacts.

### *Summary of Impact (\$000s) of Implementing Result of Valuation as at Sep. 30, 2020<sup>1</sup>*

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	2,213	238	2,451	23	-	2,474
CAY	(10,443)	(1,061)	(11,504)	10	-	(11,494)
Prem Def	(2,695)	(845)	(3,540)	8	-	(3,532)
TOTAL	(10,925)	(1,668)	(12,593)	41	-	(12,552)

As indicated in the preceding table, the incorporation of the new valuation had an estimated **\$12.6 million favourable impact** on the month’s net result from operations, subtracting an estimated 7.6 points (see following table) from the **year-to-date Combined Operating Ratio** to end at **90.7%**.

### *Summary of Impact (% YTD EP) of Implementing Result of Valuation as at Sep. 30, 2020*

AB Grid	ytd EP 164,214 (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	1.3%	0.1%	1.5%	-	-	1.5%
CAY	(6.4%)	(0.6%)	(7.0%)	-	-	(7.0%)
Prem Def	(1.6%)	(0.5%)	(2.2%)	-	-	(2.2%)
TOTAL	(6.7%)	(1.0%)	(7.7%)	-	-	(7.6%)

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 \$10.9 million** overall. This reflects

<sup>1</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.

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

The **PAYs** overall showed a **\$2.2 million unfavourable** nominal variance or 0.9% of the PAYs nominal unpaid balance of \$237.3 million determined at the end of last month (September 2020), driven by unfavourable 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 the following table, the primary changes were in relation to Third Party Liability across multiple PAYs.

*Valuation as at Sep. 30, 2020 – 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
2015 & Prior	(152)	(18)	17	(153)
2016	396	27	113	536
2017	992	(3)	(21)	968
2018	499	(15)	(62)	422
2019	592	(322)	(35)	235
<b>TOTAL</b>	<b>2,327</b>	<b>(331)</b>	<b>12</b>	<b>2,008</b>

The CAY and premium deficiency impacts are a result of the change in the selected loss ratios for accident year **2020** (decreased 6.3 points to 70.6%) and accident year **2021** (decreased 1.1 points to 78.2%).

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 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 \$1.7 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 September 2020. Column [4] accounts for the change in the **discount rate** selected (decreased 4 basis point to **0.20%**), indicating an unfavourable impact of \$41 thousand. The impact *related only to claims liabilities* (i.e. PAYs plus CAY) was \$33 thousand at October 2020 – this compares to the \$40 thousand change one

would estimate as the impact by interpolation using the interest rate sensitivity table provided in last month's Actuarial Highlights.

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

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

### **1.3 Appointed Actuary and Hybrid Actuarial Services Model**

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

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<sup>2</sup>**

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

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

In the **Alberta Treasury Board and Finance Notice 04-2018** (Clarification of Minor Injury Regulation), dated **May 17, 2018**, the Alberta Superintendent of Insurance advised that clarifying amendments have been made to the definition of minor injuries under the Minor Injury Regulation (MIR). With the **most recent** valuation (September 30, 2020), consideration of changes in the definition of minor injuries under the MIR, were included with the updated industry trend analysis (completed using industry data as at December 31, 2019).

### **1.5 Current Provision Summary**

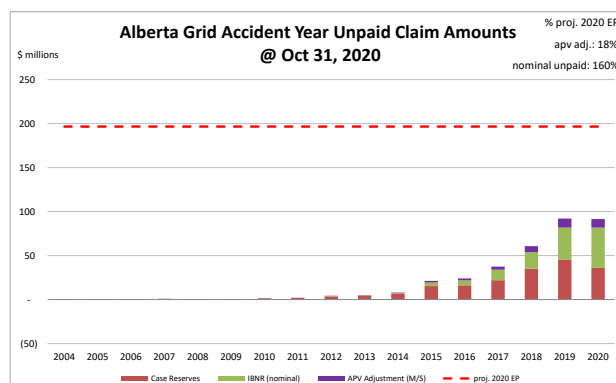
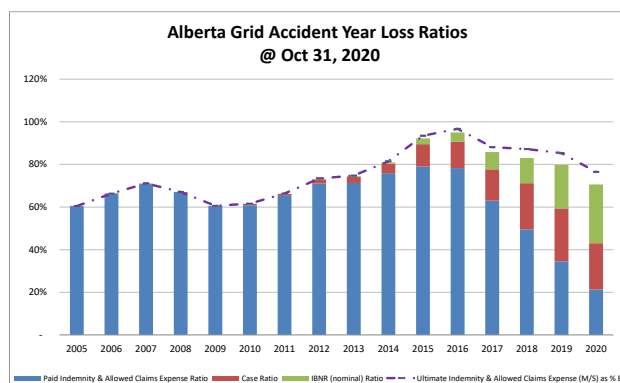
The following charts show the current levels of claim liabilities<sup>3</sup> booked by accident year<sup>4</sup>. The left chart displays life-to-date payments, case reserves, IBNR, and the total including actuarial present value adjustments against accident year earned premium. The right chart shows 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.

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<sup>2</sup>This 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>.

<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.

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



“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 (\$36.2 million – see the following table) represents 18% of the earned premium projected for the full year 2020 (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.

claim liabilities (\$000s)

	amt	%
case	189,023	54.0%
ibnr	124,708	35.6%
M/S apv adjust.	36,219	10.3%
M/S total	349,950	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 66% of the IBNR balance relates to accident years 2019 and 2020 (see Exhibit B). Approximately 87% of the M/S total claim

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

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

premium liabilities (\$000s)

	amt	%
unearned prem	107,469	119.0%
prem def/(dpac)	(25,326)	(28.1%)
M/S apv adjust.	8,139	9.0%
M/S total	90,282	100.0%

policy liabilities (\$000s)

	amt	%
claim	313,731	71.3%
premium	82,143	18.7%
M/S apv adjust.	44,358	10.1%
M/S total	440,232	100.0%

## 2 Activity During the Month of October 2020

### 2.1 Recorded Premium and Claims Activity

The following table summarizes the extent to which premiums and claims amounts recorded during the month differ from projections reflected in the prior month’s Operational Report<sup>5</sup>.

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

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

Table 01	Earned Premium		Paid Indemnity & Allowed Claims Expense		Case increase / (decrease)		Recorded increase / (decrease)	
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	(17)	(17)	4,195	1,132	(2,325)	148	1,869	1,279
2018	(23)	(23)	1,604	447	(973)	(295)	631	152
2019	(49)	(49)	1,648	68	(1,187)	(752)	461	(684)
2020	16,664	(230)	3,596	(3,154)	3,517	470	7,113	(2,684)
TOTAL	16,574	(320)	11,042	(1,508)	(968)	(429)	10,074	(1,937)

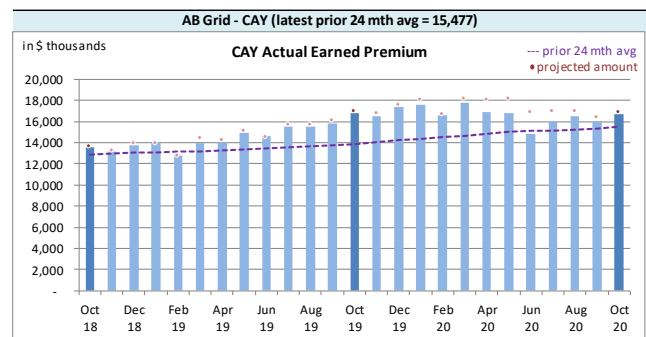
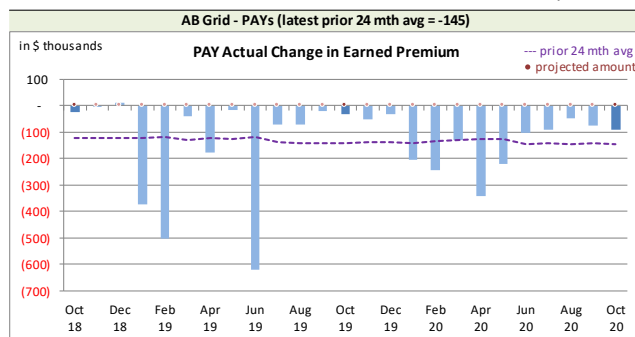
(Recorded transaction amounts exclude IBNR & other actuarial provisions)

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

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

The following charts show actual **earned premium**<sup>6</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 average amount of the preceding 24 calendar months.

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



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

On Latest \$ thousands		
	Earned Premium	PAYs CAY
Mthly Avg EP Chg (prior 24 mths)	(145)	15,477
std dev	166	1,480
A-P <> std dev	8	1
% <> std dev	32.0%	4.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	no better	better

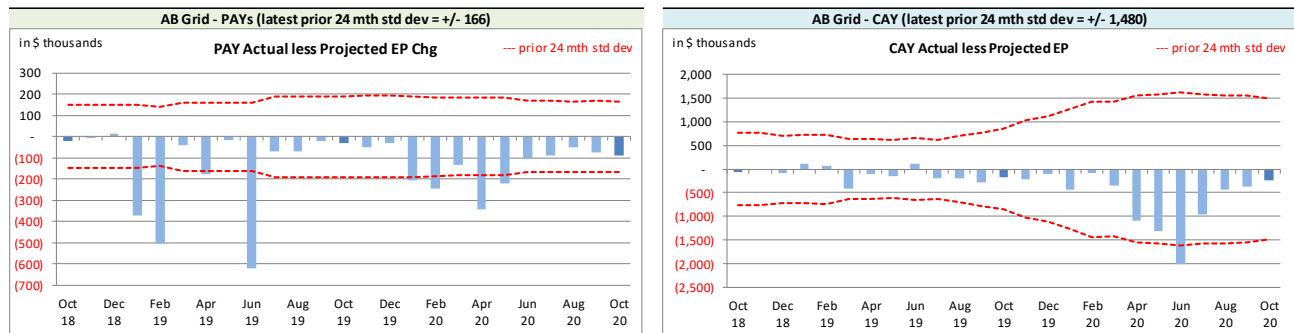
The associated variances between the actual changes and the projections from the previous month are shown in the following charts. **Earned premium** change projections are all attributed to the current accident year, as the projection upload does not accept earned premium changes for other accident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

<sup>6</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.



that the actual less projection variance will equal the actual **earned premium** change in relation to prior accident years.

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

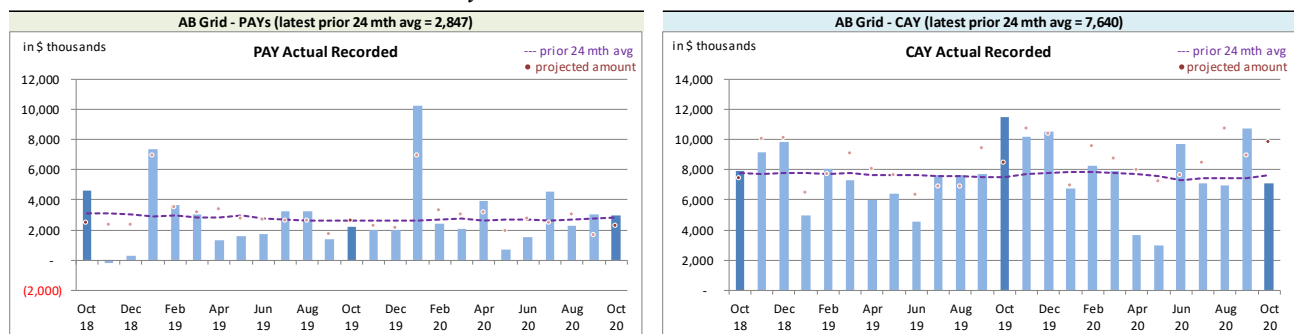


We project **earned premium** changes from known unearned premium balances and projected written premium levels, but upload the total projections as current accident year (CAY). This process has generated prior accident years' (PAYs) bias<sup>7</sup>, with actuals generally lower than projected, although the magnitude is not high relative to monthly premium. In addition to the PAYs' bias, the CAY has also shown bias<sup>8</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 has not currently deemed as a priority.

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

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

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

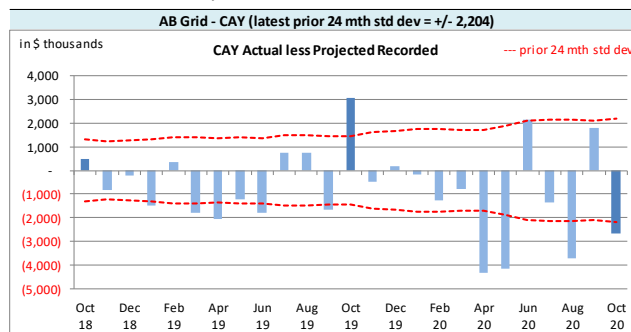
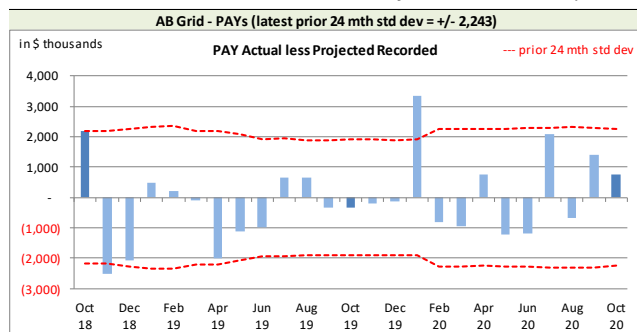


**Recorded** activity variances from the previous month's projections shown in the following charts, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

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

<sup>8</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 October 2020 has only 3 months where the actuals were higher than projected, and as the 95% confidence range is 8 to 17, bias continues to be indicated.

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



On Latest \$ thousands			
	<b>Recorded</b>	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)		2,847	7,640
std dev		2,243	2,204
A-P <> std dev		3	11
% <> std dev		12.0%	44.0%
norm <> std dev		31.7%	31.7%
performance vs 24-mth avg:		better	worse

With respect to **recorded** indemnity & allowed claims expense activity, 12% 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<sup>9</sup> has not been indicated at a 95% confidence level on a rolling 25-month basis (10 of 25 variances were positive).

The current accident year (CAY) **recorded** variances fell inside of one standard deviation 44% of the time over the last 25 calendar months (see 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 lagging 24-month basis (8 of 25 variances were positive).

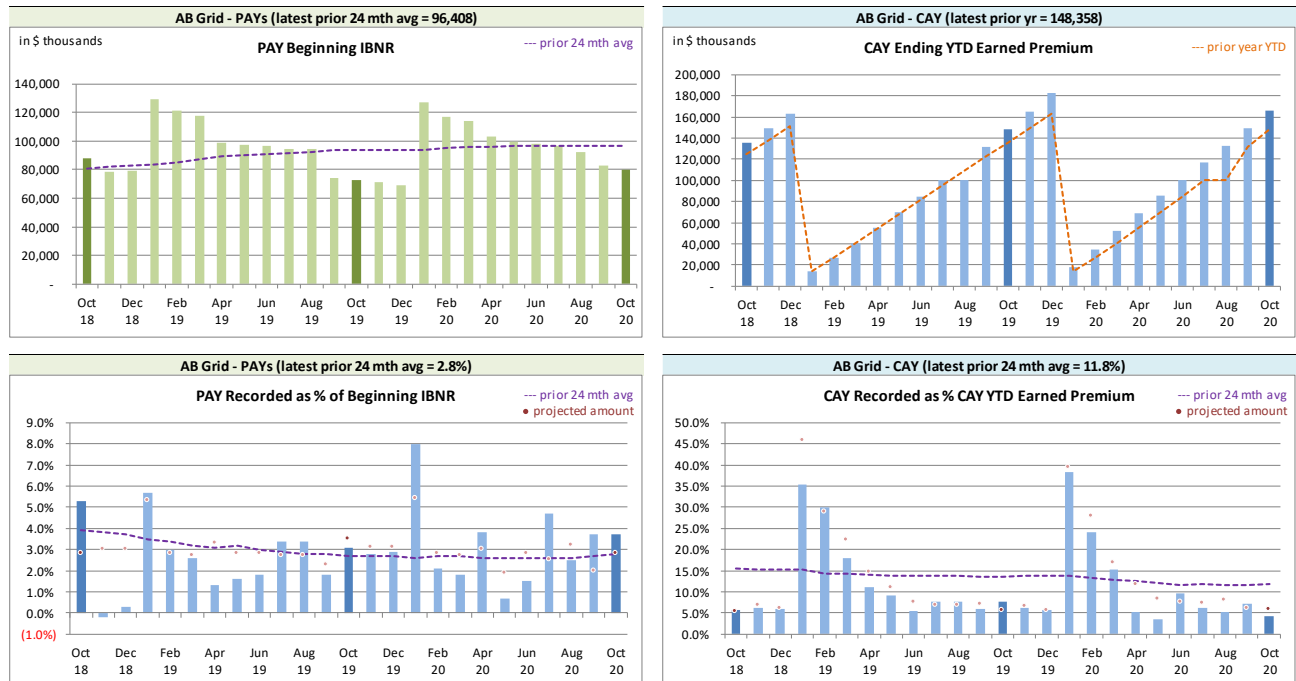
The CAY **recorded** variance was outside of the one standard deviation band this month (see preceding chart on the right). The lower than projected recorded activity was reviewed, and attributed to low levels of reported physical damage claims experience in the month.

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

We have included, for reference, 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).

<sup>9</sup> For the binomial distribution with 25 trials and an assumed 50% success probability, the 95% confidence range is 8 to 17 successes. That is, favourable or unfavourable counts of 0 to 7 or 18 to 25 out of 25 outcomes would suggest bias.

### *Alberta Grid RSP Levels that influence<sup>10</sup> Recorded activity by Calendar Month*



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

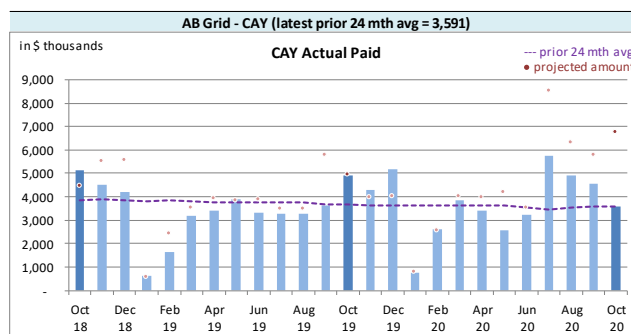
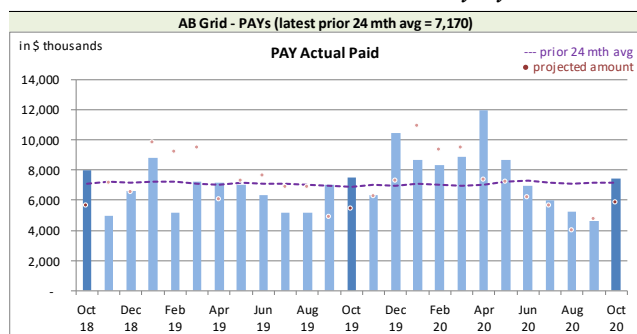
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a CAY becomes a PAY (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of PAYs' ultimates (will show up as a beginning IBNR change one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

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

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

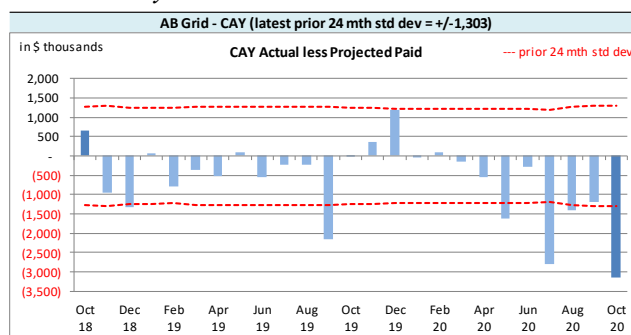
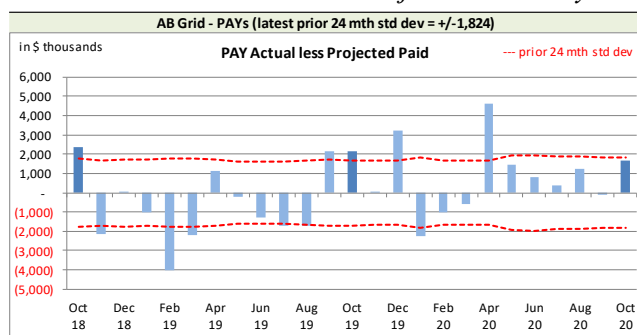
<sup>10</sup>Our recorded activity projections for the prior accident years are based on selected ratios of recorded activity to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date IBNR to year-to-date selected ultimate (i.e. selected 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.

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



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

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



On Latest \$ thousands		
	<b>Paid</b>	
Mthly Avg Paid (prior 24 mths)	7,170	CAY 3,591
std dev	1,824	1,303
A-P <> std dev	11	6
% <> std dev	44.0%	24.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	worse	better

With respect to **paid** indemnity & allowed claims expense, 44% of the prior accident years' (PAYs) variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **paid** amounts (see table on left), suggesting the projection process has performed worse than simply projecting the prior 24-month average amount (assuming it follows a normal distribution),

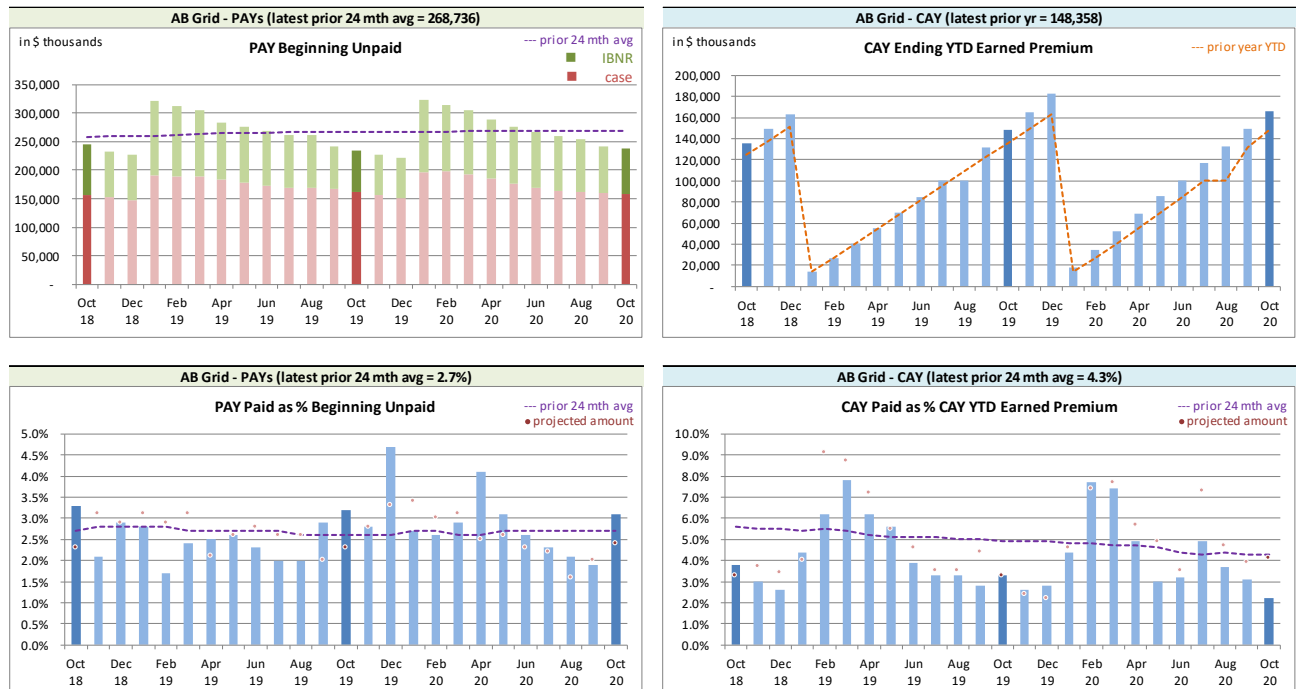
and we are actively looking into the projection process for means of improving this result. Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (13 of 25 variances are positive).

The current accident year (CAY) **paid** variances fell outside one standard deviation 24% of the time over the last 25 calendar months (see preceding table on the left), suggesting the projection process has performed better than simply projecting the prior 24-month average amount. Bias has been indicated at a 95% confidence level on a rolling 25-month basis (6 of 25 variances are positive).

The CAY **paid** variance was outside the one standard deviation band this month (see preceding chart on the right) the lower projected recorded activity was reviewed and attributed to low levels of reported physical damage claims experience in the month.

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

*Alberta Grid RSP Levels that influence<sup>11</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:

- 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>12</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 based on the applicable valuation.

<sup>11</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.

<sup>12</sup>For ease of discussion, "IBNR" is used in place of "provisions for incurred but not recorded (IBNR) and development".

The following table summarizes variances in provisions included in this month's Operational Report and the associated one-month projections from last month's Report.

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

Table 02		actuarial present value adjustments						
Accident Year	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	21,760	(1,293)	(491)	5	9,936	(122)	31,205	(1,410)
2018	18,490	(172)	(321)	3	6,967	(61)	25,136	(230)
2019	36,440	645	(570)	1	10,684	(14)	46,554	632
2020	56,248	2,507	(645)	(20)	11,449	369	67,052	2,856
TOTAL	132,938	1,687	(2,027)	(11)	39,036	172	169,947	1,848

The IBNR provision is \$1.7 million higher than projected from last month, counterbalancing the recorded claims activity and adjusting for the earned premium variance impacts indicated in section 2.1, and due to the valuation implementation.

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

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

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

The following table summarizes the variances in the provisions for premium deficiency liability / (deferred policy acquisition cost asset) included in this month's Operational Report and the one-month projections from last month's Report. This RSP is in a deferred policy acquisition cost asset position (shown as a negative amount) prior to and after actuarial present value adjustments. Actuarial present value adjustments 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:	(22,631)	106	8,976	(44)	(13,655)	62
balance as % unearned premium:	(21.1%)	-	8.4%	-	(12.7%)	-
actual unearned premium:	107,469					
less projected:	(488)					

### 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>13</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 expenses<sup>14</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 71.3% rather than 70.6% (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.)

<sup>13</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).

<sup>14</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.



*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	(14,493)	(8.8%)	837	0.5%	(13,656)	(8.3%)	1,573	2.0%
CAY	117,032	71.3%	9,753	5.9%	126,785	77.2%	2,402	(7.0%)
TOTAL	102,539	62.4%	10,590	6.4%	113,129	68.9%	3,974	(5.0%)

("“% 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 implemented. The loss ratio change year-to-date in Table 04 reflects not only changes in the prior accident year levels, but also the increase in the calendar year-to-date earned premium with an additional month’s earned premium, and due to the valuation implementation.

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

## 5 Current Operational Report – Additional Exhibits

Section 6 provides exhibits pertaining to the actuarial provisions reflected in the current month’s Operational Report.

IBNR (including actuarial present value adjustments) presented in section 6, Exhibit A, were derived on a discounted basis, and therefore reflect the time value of money and include an explicit provision for adverse deviations in accordance with accepted actuarial practice in Canada.

IBNR presented in section 6, Exhibit B, does NOT include any actuarial present value adjustments. The “Total IBNR” from this exhibit shown in the Operational Report as “Undiscounted IBNR”.

The ultimate loss ratios presented in section 6, Exhibit B, refer to the estimates derived based on various actuarial methodologies applied to the experience of the Alberta Grid Risk Sharing Pool for the purposes of the most recent quarterly valuation. As discussed in section 3, IBNR reflected in the current month’s Operational Report was derived as the difference between the estimated ultimate for the claims amount (i.e. earned premium x ultimate loss ratio) and the associated current recorded amounts (life-to-date payments plus current case reserves).



## **6 EXHIBITS**

The exhibits listed below are provided on the pages that follow:

- EXHIBIT A IBNR for Member Sharing – includes Actuarial Present Value Adjustments
- EXHIBIT B IBNR
- EXHIBIT C Premium Liabilities
- EXHIBIT D Projected Year-end Policy Liabilities
- EXHIBIT E Discount Rate & Margins for Adverse Deviations
- EXHIBIT F Interest Rate Sensitivity
- EXHIBIT G Components of IBNR Change During Month

**EXHIBIT A**
**IBNR for Member Sharing – includes Actuarial Present Value Adjustments**
**TABLE EXHIBIT A**

Amounts in \$000s						
IBNR + M/S actuarial present value adjustments	Accident Year	Actual Sep. 2020	Actual Oct. 2020	Projected Nov. 2020	Projected Dec. 2020	Projected Dec. 2021
	2004	(70)	(70)	(66)	(66)	(46)
	2005	14	14	14	11	7
	2006	(119)	(118)	(112)	(112)	(78)
	2007	162	162	155	149	101
	2008	(113)	67	64	62	42
	2009	29	30	30	28	22
	2010	(297)	193	185	177	118
	2011	161	148	142	132	86
	2012	982	804	770	743	503
	2013	1,126	872	835	804	542
	2014	2,464	1,475	1,412	1,363	925
discount rate	2015	6,542	5,924	5,665	5,516	3,779
0.20%	2016	8,106	7,750	7,434	7,036	4,833
	2017	14,519	15,461	14,767	14,465	9,028
interest rate margin	2018	25,989	25,686	25,261	24,860	17,078
25 basis pts	2019	47,263	46,971	45,821	44,351	33,076
	2020	60,269	55,558	56,180	55,150	39,243
	<b>TOTAL</b>	<b>167,027</b>	<b>160,927</b>	<b>158,557</b>	<b>154,669</b>	<b>185,616</b>
	Change		(6,100)	(2,370)	(3,888)	

*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 Sep. 2020	Actual Oct. 2020	Projected Nov. 2020	Projected Dec. 2020	Projected Dec. 2021
	51.6%	2004	(78)	(78)	(74)	(73)	(51)
	60.5%	2005	(26)	(26)	(25)	(25)	(17)
	66.3%	2006	(129)	(128)	(122)	(121)	(84)
	71.1%	2007	83	83	79	78	54
	67.1%	2008	(139)	42	40	40	27
	60.6%	2009	8	9	9	9	9
	61.5%	2010	(402)	45	43	43	30
	66.2%	2011	(24)	(37)	(35)	(35)	(24)
	73.2%	2012	571	412	393	389	272
	74.5%	2013	575	408	389	385	269
	80.9%	2014	1,717	752	717	710	497
	92.2%	2015	4,452	3,993	3,809	3,771	2,638
	95.0%	2016	5,872	5,576	5,370	5,059	3,540
	85.8%	2017	11,163	12,076	11,484	11,300	6,732
	83.0%	2018	19,141	18,974	18,689	18,446	12,133
	79.7%	2019	36,940	36,802	35,845	34,555	25,200
	70.6%	2020	50,546	45,805	45,730	44,056	31,462
		TOTAL	130,270	124,708	122,341	118,587	144,822
		Change		(5,562)	(2,367)	(3,754)	

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

**EXHIBIT C**
**Premium Liabilities**

TABLE EXHIBIT C

Amounts in \$000s

Premium Liabilities	Actual Sep. 2020	Actual Oct. 2020	Projected Nov. 2020	Projected Dec. 2020	Projected Dec. 2021
(1) unearned premium (UP)	105,747	107,469	107,902	106,783	117,809
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	87.0%	84.0%	85.2%	86.4%	88.6%
(3) expected future costs {(1) x (2)}	91,957	90,282	91,881	92,261	104,403
(4) premium deficiency / (deferred policy acquisition cost)	(13,790)	(17,187)	(16,021)	(14,522)	(13,406)
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	78.6%	76.4%	77.5%	78.6%	80.6%
(6) expected future costs {(1) x (5)}	83,157	82,143	83,597	83,942	94,990
(7) premium deficiency / (deferred policy acquisition cost)	(22,590)	(25,326)	(24,305)	(22,841)	(22,819)

## 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		Projected Balances as at Dec. 31, 2020 (\$000s)									
ending 2020		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	3	(73)	(70)	-	-	7	-	7	7	(63)	
2005	389	(25)	364	-	-	36	-	36	36	400	
2006	211	(121)	90	-	-	9	-	9	9	99	
2007	636	78	714	(1)	1	71	-	71	71	785	
2008	184	40	224	(1)	1	22	-	22	22	246	
2009	186	9	195	(1)	1	19	-	19	19	214	
2010	1,302	43	1,345	(5)	5	135	(1)	134	134	1,479	
2011	1,711	(35)	1,676	(7)	7	168	(1)	167	167	1,843	
2012	3,165	389	3,554	(11)	11	355	(1)	354	354	3,908	
2013	3,815	385	4,200	(13)	13	420	(1)	419	419	4,619	
2014	5,851	710	6,561	(26)	26	656	(3)	653	653	7,214	
2015	13,764	3,771	17,535	(88)	88	1,754	(9)	1,745	1,745	19,280	
2016	14,808	5,059	19,867	(99)	99	1,987	(10)	1,977	1,977	21,844	
2017	20,515	11,300	31,815	(159)	159	3,181	(16)	3,165	3,165	34,980	
2018	33,123	18,446	51,569	(258)	258	6,446	(32)	6,414	6,414	57,983	
2019	44,286	34,555	78,841	(473)	473	9,855	(59)	9,796	9,796	88,637	
PAYs (sub-total):	143,949	74,531	218,480	(1,142)	1,142	25,121	(133)	24,988	24,988	243,468	
CAY (2020)	48,952	44,056	93,008	(558)	558	11,161	(67)	11,094	11,094	104,102	
claims liabilities:	192,901	118,587	311,488	(1,700)	1,700	36,282	(200)	36,082	36,082	347,570	
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*	
premium liabilities:	106,783	(22,841)	83,942	(418)	418	8,361	(42)	8,319	8,319	92,261	
*Total may not be sum of parts, as apvs apply to future costs within UPR											
policy liabilities:			395,430	(2,118)	2,118	44,643	(242)	44,401	44,401	439,831	

\*Total may not be sum of parts, as apvs apply to future costs within UPR

**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 (Sep. 30,  
 2020)**

Accident Year	Third Party Liability Margins	Accident Benefits Margins	Other Coverages Margins	Total Margins
2004	10.0%	10.0%	10.0%	10.0%
2005	10.0%	10.0%	10.0%	10.0%
2006	10.0%	10.0%	10.0%	10.0%
2007	10.0%	10.0%	10.0%	10.0%
2008	10.0%	10.0%	10.0%	10.0%
2009	10.0%	10.0%	10.0%	10.0%
2010	10.0%	10.0%	10.0%	10.0%
2011	10.0%	10.0%	10.0%	10.0%
2012	10.0%	10.0%	10.0%	10.0%
2013	10.0%	10.0%	10.0%	10.0%
2014	10.0%	10.0%	10.0%	10.0%
2015	10.0%	10.0%	10.0%	10.0%
2016	10.0%	10.0%	9.6%	10.0%
2017	10.0%	10.0%	10.0%	10.0%
2018	12.5%	10.0%	12.5%	12.5%
2019	12.5%	10.0%	12.5%	12.5%
2020	12.2%	10.0%	8.4%	12.0%
2021	11.9%	10.0%	5.1%	10.0%
prem liab	11.9%	10.0%	5.1%	10.0%

discount rate: 0.20%  
 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 (0.20%), the prior valuation assumption (0.24%) 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

AY	Actuarial Present Value of Provisions at Various Discount Rates - Dec. 31, 2020 projected Unpaid							
	0.00%	0.00%	0.20%	0.70%	1.20%	1.70%	0.24%	1.44%
2004	-	-	-	-	-	-	-	-
2005	228	228	228	228	228	227	228	227
2006	216	216	216	215	214	213	216	214
2007	702	702	702	699	695	691	702	693
2008	313	313	313	311	309	306	313	308
2009	202	202	202	200	199	197	202	198
2010	1,297	1,297	1,297	1,286	1,275	1,264	1,297	1,270
2011	1,914	1,914	1,914	1,899	1,882	1,866	1,914	1,874
2012	3,606	3,606	3,605	3,577	3,547	3,518	3,605	3,533
2013	5,451	5,451	5,449	5,407	5,361	5,316	5,449	5,339
2014	7,596	7,596	7,593	7,523	7,448	7,373	7,593	7,412
2015	20,119	20,119	20,110	19,903	19,679	19,460	20,110	19,575
2016	22,484	22,484	22,474	22,246	22,001	21,760	22,474	21,886
2017	34,436	34,436	34,420	34,045	33,642	33,250	34,417	33,452
2018	57,644	57,644	57,612	56,928	56,190	55,478	57,605	55,848
2019	89,348	89,348	89,289	88,105	86,828	85,588	89,279	86,232
2020	104,517	104,517	104,450	103,010	101,458	99,964	104,439	100,750
Total	350,073	350,073	349,874	345,582	340,956	336,471	349,843	338,811
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

AY	Dollar Impact Relative to Valuation Assumption							
	0.00%	0.00%	0.20%	0.70%	1.20%	1.70%	0.24%	1.44%
Total	199	199	-	(4,292)	(8,918)	(13,403)	(31)	(11,063)
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

AY	Percentage Impact Relative to Valuation Assumption							
	0.00%	0.00%	0.20%	0.70%	1.20%	1.70%	0.24%	1.44%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	(0.4%)	-	(0.4%)
2006	-	-	-	(0.5%)	(0.9%)	(1.4%)	-	(0.9%)
2007	-	-	-	(0.4%)	(1.0%)	(1.6%)	-	(1.3%)
2008	-	-	-	(0.6%)	(1.3%)	(2.2%)	-	(1.6%)
2009	-	-	-	(1.0%)	(1.5%)	(2.5%)	-	(2.0%)
2010	-	-	-	(0.8%)	(1.7%)	(2.5%)	-	(2.1%)
2011	-	-	-	(0.8%)	(1.7%)	(2.5%)	-	(2.1%)
2012	0.0%	0.0%	-	(0.8%)	(1.6%)	(2.4%)	-	(2.0%)
2013	0.0%	0.0%	-	(0.8%)	(1.6%)	(2.4%)	-	(2.0%)
2014	0.0%	0.0%	-	(0.9%)	(1.9%)	(2.9%)	-	(2.4%)
2015	0.0%	0.0%	-	(1.0%)	(2.1%)	(3.2%)	-	(2.7%)
2016	0.0%	0.0%	-	(1.0%)	(2.1%)	(3.2%)	-	(2.6%)
2017	0.0%	0.0%	-	(1.1%)	(2.3%)	(3.4%)	(0.0%)	(2.8%)
2018	0.1%	0.1%	-	(1.2%)	(2.5%)	(3.7%)	(0.0%)	(3.1%)
2019	0.1%	0.1%	-	(1.3%)	(2.8%)	(4.1%)	(0.0%)	(3.4%)
2020	0.1%	0.1%	-	(1.4%)	(2.9%)	(4.3%)	(0.0%)	(3.5%)
Total	0.1%	0.1%	-	(1.2%)	(2.5%)	(3.8%)	(0.0%)	(3.2%)
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

EXHIBIT G

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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	(70)	2	(2)	-	-	-	(70)
2005	14	-	-	-	-	-	14
2006	(119)	3	(2)	-	1	(0.8%)	(118)
2007	162	(4)	4	-	-	-	162
2008	(113)	2	178	-	180	(159.3%)	67
2009	29	-	1	-	1	3.4%	30
2010	(297)	7	2	481	490	(165.0%)	193
2011	161	(5)	(8)	-	(13)	(8.1%)	148
2012	982	(27)	50	(201)	(178)	(18.1%)	804
2013	1,126	(32)	(223)	1	(254)	(22.6%)	872
2014	2,464	(67)	(764)	(158)	(989)	(40.1%)	1,475
2015	6,542	(179)	(117)	(322)	(618)	(9.4%)	5,924
2016	8,106	(221)	(854)	719	(356)	(4.4%)	7,750
2017	14,519	(370)	325	987	942	6.5%	15,461
2018	25,989	(623)	(230)	550	(303)	(1.2%)	25,686
2019	47,263	(1,341)	632	417	(292)	(0.6%)	46,971
2020	60,269	3,927	2,856	(11,494)	(4,711)	(7.8%)	55,558
<b>Grand Total</b>	<b>167,027</b>	<b>1,072</b>	<b>1,848</b>	<b>(9,020)</b>	<b>(6,100)</b>	<b>(3.7%)</b>	<b>160,927</b>



EXHIBIT G

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

RSP  
AccountCode Desc

Alberta Grid  
IBNR - Undiscounted

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	(78)	2	(2)	-	-	-	(78)
2005	(26)	1	(1)	-	-	-	(26)
2006	(129)	3	(2)	-	1	(0.8%)	(128)
2007	83	(2)	2	-	-	-	83
2008	(139)	3	178	-	181	(130.2%)	42
2009	8	-	1	-	1	12.5%	9
2010	(402)	10	(1)	438	447	(111.2%)	45
2011	(24)	1	(14)	-	(13)	54.2%	(37)
2012	571	(14)	38	(183)	(159)	(27.8%)	412
2013	575	(14)	(153)	-	(167)	(29.0%)	408
2014	1,717	(43)	(778)	(144)	(965)	(56.2%)	752
2015	4,452	(111)	(55)	(293)	(459)	(10.3%)	3,993
2016	5,872	(147)	(803)	654	(296)	(5.0%)	5,576
2017	11,163	(279)	297	895	913	8.2%	12,076
2018	19,141	(479)	(172)	484	(167)	(0.9%)	18,974
2019	36,940	(1,145)	645	362	(138)	(0.4%)	36,802
2020	50,546	3,195	2,507	(10,443)	(4,741)	(9.4%)	45,805
Grand Total	130,270	981	1,687	(8,230)	(5,562)	(4.3%)	124,708