



ALBERTA GRID RISK SHARING POOL

NOVEMBER 2020 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

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

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1 Summary

Key Points

- (a) The loss ratios currently being used include a review and assessment of the incurred impacts associated with the COVID-19 pandemic; and
- (b) The month's Current Accident Year claims activities were lower than projected; the activity was reviewed and attributed to low levels of reported physical damage claim activities in the month.

1.1 Valuation Schedule (Fiscal Year 2021)

The November 2020 Operational Report leverages actuarial assumptions consistent with last month (that is, it does not reflect the results of an updated valuation). The following table summarizes the valuation implementations scheduled for fiscal year 2021.

ALBERTA GRID RISK SHARING POOL FISCAL YEAR 2020 – SCHEDULE OF VALUATIONS			
Valuation Date	Discount Rate (per annum)	Operational Report	Description of Changes
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
Dec. 31, 2020	% mfad -- bp	Mar. 2021	update valuation:
Mar. 31, 2021	% mfad -- bp	May 2021	update valuation (roll-forward):
Jun. 30, 2021	% mfad -- bp	Aug. 2021	update valuation:
Sep. 30, 2021	% mfad -- bp	Oct. 2021	update valuation (roll-forward):

Under the proposed schedule for fiscal year 2021, the off-half valuation quarters ending March 31, 2021 and September 30, 2021 would not reflect a full valuation update of assumptions, but would rather roll-forward key assumptions from the previous valuation.

1.2 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.

1.3 Consideration of Recent Legal Decisions and Changes in Legislation / Regulation¹

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).

Amendments to the **Alberta Automobile Accident Insurance Benefits Regulation, Diagnostic and Treatment Protocols Regulation, and Minor Injury Regulation** came into force effective November 1, 2020, amending definitions and various benefit maximums defined in these regulations. **Alberta Bill 41** (Insurance (Enhancing Driver Affordability and Care) Amendment Act, 2020) **received royal assent on December 9, 2020**. Bill 41 amends the Insurance Act to: 1) control the use of expert witnesses in Court of Queen's Bench proceedings where damages for bodily injury or death arising from use or operation of a motor vehicle as defined in the Traffic Safety Act are claimed; 2) introduce direct compensation for property damage (DCPD) into the province; 3) amend the calculation of pre-judgment interest on damages awarded for bodily injury or death arising directly or indirectly from the use or operation of an automobile; and 4) amend provisions regarding the regulation of auto insurance rates by the Alberta Automobile Insurance Rate Board. At the current time, no explicit adjustments have been made to our valuation estimates or views based on the amendments to the various Regulations and introduction of Bill 41. The impact will be assessed with the next valuation (as at December 31, 2020) and as part of the next Industry valuation and trend analysis (as at June 30, 2020).

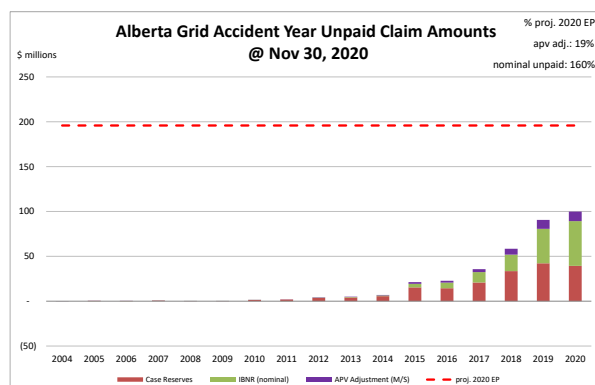
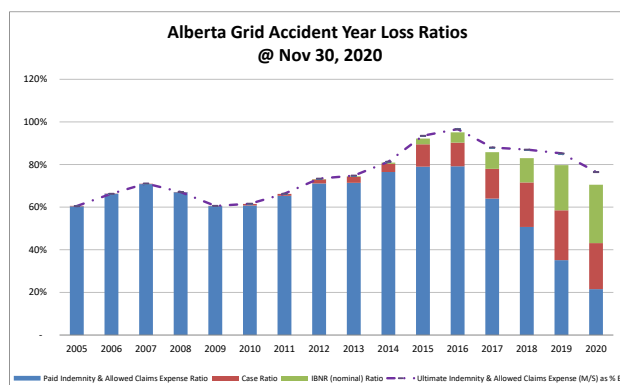
1.4 Current Provision Summary

The following charts show the current levels of claim liabilities² booked by accident year³. 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.

¹This 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>

²Claim 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.

³Accident 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 (\$36.3 million – see the following table) represents 19% 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	184,133	52.5%
ibnr	130,026	37.1%
M/S apv adjust.	36,331	10.4%
M/S total	350,490	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 68% of the IBNR balance relates to accident years 2019 and 2020 (see Exhibit B). Approximately 88% 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	105,249	117.4%
prem def/(dpac)	(23,713)	(26.5%)
M/S apv adjust.	8,078	9.0%
M/S total	89,614	100.0%

policy liabilities (\$000s)

	amt	%
claim	314,159	71.4%
premium	81,536	18.5%
M/S apv adjust.	44,409	10.1%
M/S total	440,104	100.0%

2 Activity During the Month of November 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 Report⁴.

⁴There 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 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	(84)	(84)	3,746	41	(4,102)	(1,447)	(356)	(1,406)
2018	(282)	(282)	1,797	664	(1,403)	(555)	394	109
2019	(42)	(42)	1,160	(395)	(2,759)	(2,161)	(1,599)	(2,556)
2020	16,022	(159)	3,840	(1,740)	3,375	(2,543)	7,215	(4,283)
TOTAL	15,613	(567)	10,544	(1,430)	(4,890)	(6,707)	5,654	(8,137)

(Recorded transaction amounts exclude IBNR & other actuarial provisions)

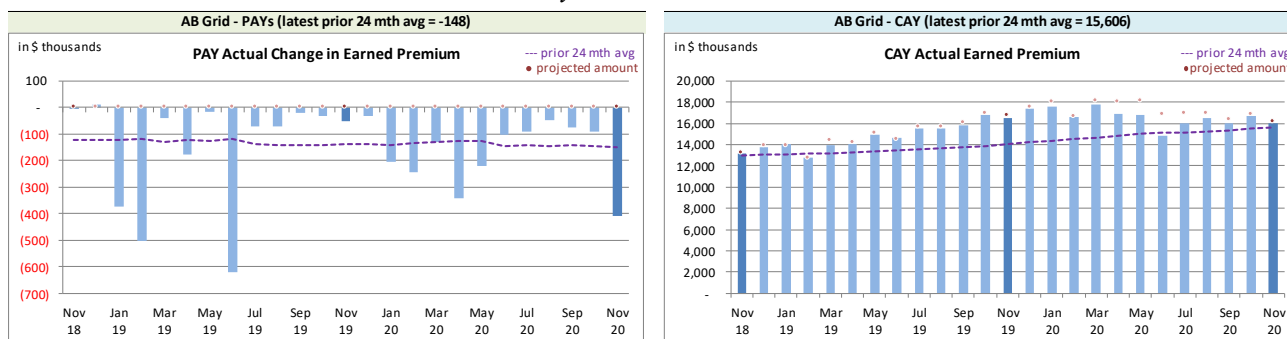
It is unusual to see actual earned premium transactions affecting prior accident years beyond the first prior at this time in the calendar year. We have identified that the prior accident years changes in the month reflects system sweep activity undertaken by one member in responding to audit findings.

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**⁵ 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.

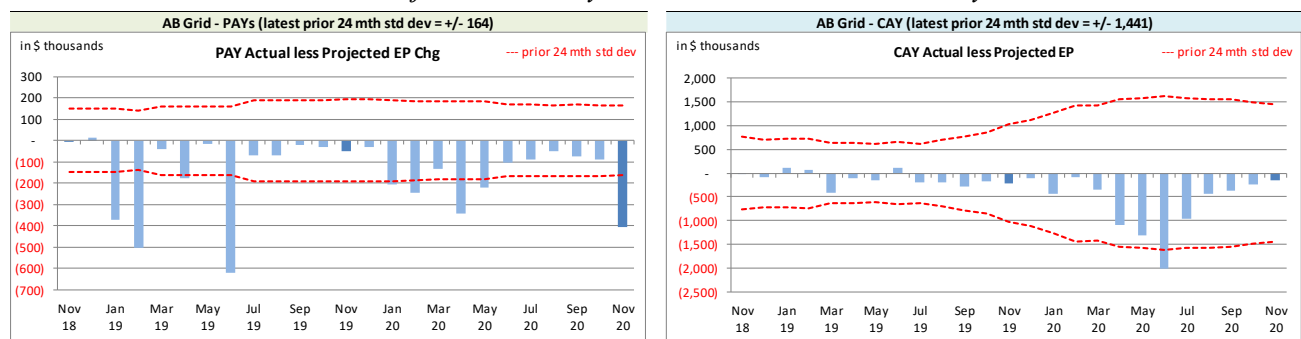
⁵Premium is earned on a daily basis based on the transaction term measured in days. As a result, months with 31 days earned relatively more than those with 30 days, and February earns the least.

On Latest \$ thousands		
Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(148)	15,606
std dev	164	1,441
A-P \leftrightarrow std dev	9	1
% \leftrightarrow std dev	36.0%	4.0%
norm \leftrightarrow 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

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) bias⁶, 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 bias⁷, 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.

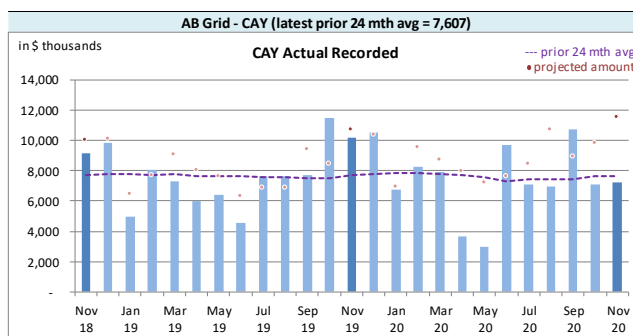
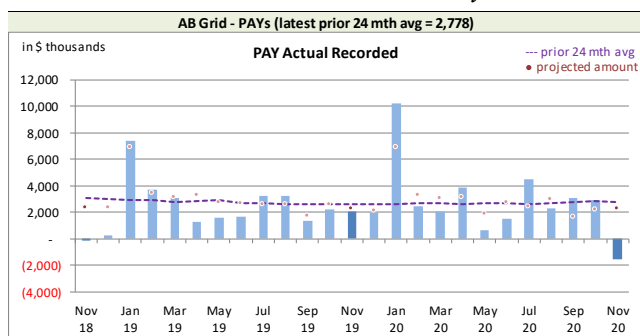
2.1.1.b AvsP: Recorded Indemnity & Allowed Claims Expense

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.

⁶The PAYs' variances will show bias as the projection upload forces all earned premium projections to be attributed to the CAY.

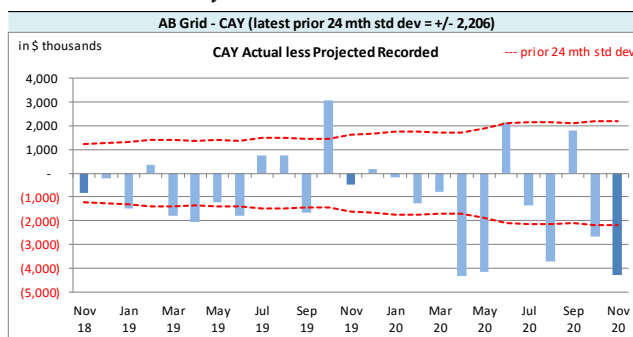
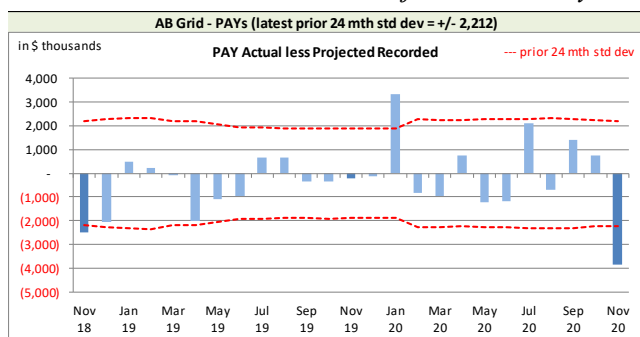
⁷We measure bias based on a 95% confidence range for a binominal distribution with trials based on the range being considered (25 in this case) and 50% probability of success. The rolling 25-month CAY variances at November 2020 has only 3 months where the actuals were higher than projected, and as the 95% confidence range is 8 to 17, bias continues to be indicated.

Alberta Grid RSP Actual Recorded by Calendar Month



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

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



On Latest \$ thousands		
	Recorded	
Mthly Avg Recorded (prior 24 mths)	PAYs	CAY
	2,778	7,607
std dev	2,212	2,206
A-P <> std dev	3	12
% <> std dev	12.0%	48.0%
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). Bias⁸ has not been indicated at a 95% confidence level on a rolling 25-month basis (9 of 25 variances were positive).

The PAY **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 process variance.

The current accident year (CAY) **recorded** variances fell inside of one standard deviation 48% 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

⁸ 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.

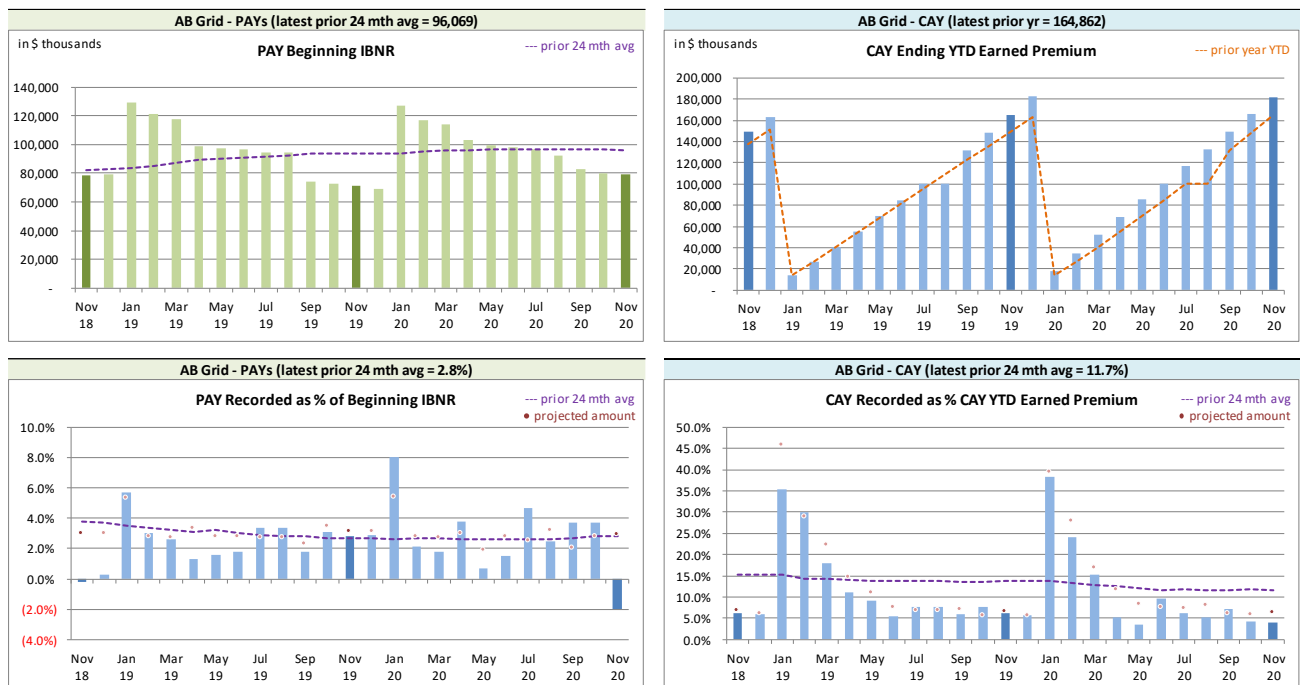
been indicated at a 95% confidence level on a lagging 24-month basis (7 of 25 variances were positive). Through 2020, our CAY recorded projections have been generally higher than actual activity; 2020 has been a challenging year to project loss estimates, particularly with changes in RSP volumes and portfolio mix driven by Member transfer activity. We are working with our Appointed Actuary to adjust and refine our 2020 and 2021 accident year estimates to reflect the impact of COVID-19 and Member transfer activity.

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 activities 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).

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 of the preceding group of charts) occur for several possible reasons:

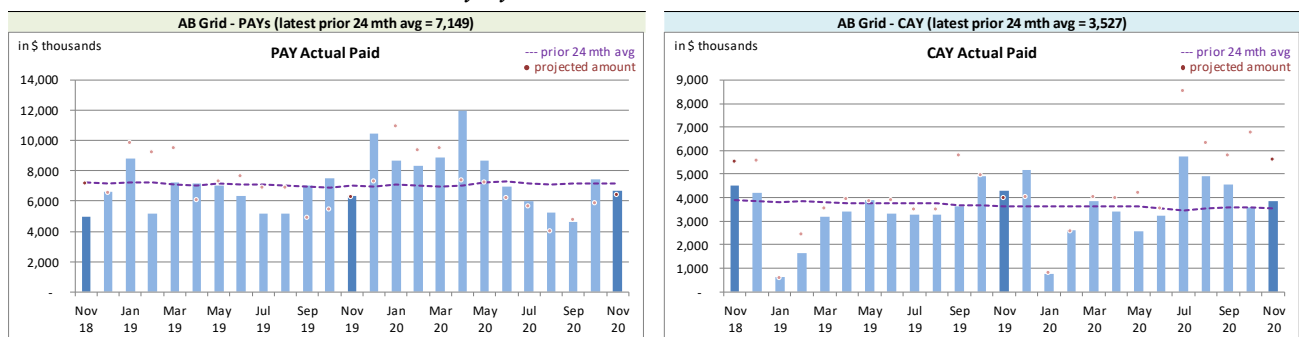
⁹Our recorded activity projections for the prior accident years are based on selected ratios of recorded activity to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date IBNR to year-to-date selected ultimate (i.e. selected LR x earned 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.

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

2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

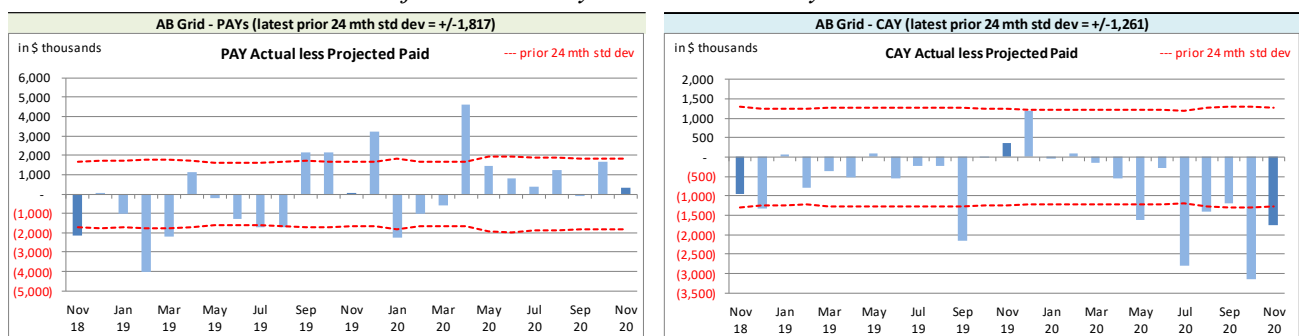
The following charts show actual **paid** activity in each of the most recent 25 calendar months, along with a "prior 24-month average" to show how each month's actual compares with the average amount of the preceding 24 calendar months.

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



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

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



On Latest \$ thousands			
	Paid	PAYs	CAY
Mthly Avg Paid (prior 24 mths)		7,149	3,527
std dev		1,817	1,261
A-P <> std dev		10	7
% <> std dev		40.0%	28.0%
norm <> std dev		31.7%	31.7%
performance vs 24-mth avg:		worse	no better

With respect to **paid** indemnity & allowed claims expense, 40% 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 28% of the time over the last 25 calendar months (see preceding table on the left), suggesting the projection process has performed no better than simply projecting the prior 24-month average amount. Bias has been indicated at a 95% confidence level on a rolling 25-month basis (5 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 claim activities in the month.

We have included, for reference, the following charts 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 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

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.

- 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 based on the applicable valuation.

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

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	23,411	1,334	(430)	1	9,636	(13)	32,617	1,322
2018	18,346	(343)	(260)	4	6,720	(116)	24,806	(455)
2019	38,368	2,523	(484)	(2)	10,505	47	48,389	2,568
2020	49,901	4,171	(535)	(9)	11,179	203	60,545	4,365
TOTAL	130,026	7,685	(1,709)	(6)	38,040	121	166,357	7,800

The IBNR provision is \$7.7 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.

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

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

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

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.

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:	(23,713)	592	8,078	(206)	(15,635)	386
balance as % unearned premium:	(22.5%)	-	7.7%	(0.1%)	(14.9%)	(0.1%)
actual unearned premium:	105,249					
less projected:	(2,653)					

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 following table 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 71.4% 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.)

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

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

Alberta 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	(14,832)	(8.2%)	58	-	(14,774)	(8.2%)	(1,118)	0.1%
CAY	128,343	71.4%	10,644	5.9%	138,987	77.3%	12,202	0.1%
TOTAL	113,511	63.1%	10,702	6.0%	124,213	69.1%	11,084	0.2%

(*“% 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.

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.

5 Current Operational Report – Additional Exhibits

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

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

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

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

6 EXHIBITS

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

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

EXHIBIT A

IBNR for Member Sharing – includes Actuarial Present Value Adjustments

TABLE EXHIBIT A

 IBNR + M/S actuarial present
 value adjustments

 discount rate
 0.20%

 interest rate margin
 25 basis pts

Amounts in \$000s					
Accident Year	Actual Oct. 2020	Actual Nov. 2020	Projected Dec. 2020	Projected Jan. 2021	Projected Dec. 2021
2004	(70)	(70)	(70)	(68)	(49)
2005	14	13	11	11	7
2006	(118)	(119)	(119)	(116)	(83)
2007	162	162	156	152	104
2008	67	29	28	28	21
2009	30	28	27	27	20
2010	193	168	160	156	107
2011	148	147	136	133	88
2012	804	802	774	754	525
2013	872	942	909	887	617
2014	1,475	1,449	1,404	1,369	957
2015	5,924	5,902	5,747	5,603	3,950
2016	7,750	8,304	7,855	7,654	5,423
2017	15,461	14,860	14,558	13,993	9,197
2018	25,686	24,806	24,412	23,794	16,820
2019	46,971	48,389	46,828	45,293	34,836
2020	55,558	60,545	59,859	55,239	42,755
2021	-	-	-	8,537	79,710
TOTAL	160,927	166,357	162,675	163,446	195,005
Change		5,430	(3,682)	771	

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

EXHIBIT B
IBNR
TABLE EXHIBIT B

Amounts in \$000s						
Ultimate Loss Ratio	Accident Year	Actual Oct. 2020	Actual Nov. 2020	Projected Dec. 2020	Projected Jan. 2021	Projected Dec. 2021
51.6%	2004	(78)	(78)	(77)	(75)	(54)
60.5%	2005	(26)	(26)	(26)	(25)	(17)
66.3%	2006	(128)	(129)	(128)	(125)	(89)
71.1%	2007	83	83	82	80	56
67.1%	2008	42	8	8	8	8
60.6%	2009	9	8	8	8	8
61.5%	2010	45	23	23	22	17
66.2%	2011	(37)	(37)	(37)	(36)	(26)
73.2%	2012	412	410	406	395	284
74.5%	2013	408	481	476	464	334
80.9%	2014	752	817	809	788	567
92.2%	2015	3,993	3,979	3,939	3,837	2,765
95.0%	2016	5,576	6,244	5,882	5,729	4,130
85.8%	2017	12,076	11,628	11,442	10,927	6,938
83.0%	2018	18,974	18,346	18,108	17,565	11,959
79.7%	2019	36,802	38,368	36,987	35,581	26,948
70.6%	2020	45,805	49,901	48,612	44,723	34,859
78.3%	2021	-	-	-	7,011	64,864
	TOTAL	124,708	130,026	126,514	126,877	153,551
	Change		5,318	(3,512)	363	

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 Oct. 2020	Actual Nov. 2020	Projected Dec. 2020	Projected Jan. 2021	Projected Dec. 2021
(1) unearned premium (UP)	107,469	105,249	104,222	103,069	134,553
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	84.0%	85.1%	86.4%	86.4%	88.6%
(3) expected future costs {(1) x (2)}	90,282	89,614	90,049	89,090	119,241
(4) premium deficiency / (deferred policy acquisition cost)	(17,187)	(15,635)	(14,173)	(13,979)	(15,312)
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	76.4%	77.5%	78.6%	78.6%	80.6%
(6) expected future costs {(1) x (5)}	82,143	81,536	81,929	81,058	108,490
(7) premium deficiency / (deferred policy acquisition cost)	(25,326)	(23,713)	(22,293)	(22,011)	(26,063)

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	4	(77)	(73)	-	-	7	-	7	7	(66)
2005	394	(26)	368	-	-	37	-	37	37	405
2006	221	(128)	93	-	-	9	-	9	9	102
2007	656	82	738	(1)	1	74	-	74	74	812
2008	193	8	201	(1)	1	20	-	20	20	221
2009	184	8	192	(1)	1	19	-	19	19	211
2010	1,353	23	1,376	(6)	6	138	(1)	137	137	1,513
2011	1,779	(37)	1,742	(7)	7	174	(1)	173	173	1,915
2012	3,285	406	3,691	(11)	11	369	(1)	368	368	4,059
2013	3,863	476	4,339	(13)	13	434	(1)	433	433	4,772
2014	5,161	809	5,970	(24)	24	597	(2)	595	595	6,565
2015	14,229	3,939	18,168	(91)	91	1,817	(9)	1,808	1,808	19,976
2016	13,948	5,882	19,830	(99)	99	1,983	(10)	1,973	1,973	21,803
2017	19,874	11,442	31,316	(157)	157	3,132	(16)	3,116	3,116	34,432
2018	32,584	18,108	50,692	(253)	253	6,336	(32)	6,304	6,304	56,996
2019	42,209	36,987	79,196	(475)	475	9,900	(59)	9,841	9,841	89,037
PAYs (sub-total):	139,937	77,902	217,839	(1,139)	1,139	25,046	(132)	24,914	24,914	242,753
CAY (2020)	45,679	48,612	94,291	(566)	566	11,315	(68)	11,247	11,247	105,538
claims liabilities:	185,616	126,514	312,130	(1,705)	1,705	36,361	(200)	36,161	36,161	348,291
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	104,222	(22,293)	81,929	(408)	408	8,161	(41)	8,120	8,120	90,049
*Total may not be sum of parts, as apvs apply to future costs within UPR										
policy liabilities:			394,059	(2,113)	2,113	44,522	(241)	44,281	44,281	438,340

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)	4	(4)	-	-	-	(70)
2005	14	-	(1)	-	(1)	(7.1%)	13
2006	(118)	6	(7)	-	(1)	0.8%	(119)
2007	162	(7)	7	-	-	-	162
2008	67	(3)	(35)	-	(38)	(56.7%)	29
2009	30	-	(2)	-	(2)	(6.7%)	28
2010	193	(8)	(17)	-	(25)	(13.0%)	168
2011	148	(6)	5	-	(1)	(0.7%)	147
2012	804	(34)	32	-	(2)	(0.2%)	802
2013	872	(37)	107	-	70	8.0%	942
2014	1,475	(63)	37	-	(26)	(1.8%)	1,449
2015	5,924	(259)	237	-	(22)	(0.4%)	5,902
2016	7,750	(316)	870	-	554	7.1%	8,304
2017	15,461	(694)	93	-	(601)	(3.9%)	14,860
2018	25,686	(425)	(455)	-	(880)	(3.4%)	24,806
2019	46,971	(1,150)	2,568	-	1,418	3.0%	48,389
2020	55,558	622	4,365	-	4,987	9.0%	60,545
Grand Total	160,927	(2,370)	7,800	-	5,430	3.4%	166,357

EXHIBIT G

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

RSP **Alberta Grid**
AccountCode Desc **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)	4	(4)	-	-	-	(78)
2005	(26)	1	(1)	-	-	-	(26)
2006	(128)	6	(7)	-	(1)	0.8%	(129)
2007	83	(4)	4	-	-	-	83
2008	42	(2)	(32)	-	(34)	(81.0%)	8
2009	9	-	(1)	-	(1)	(11.1%)	8
2010	45	(2)	(20)	-	(22)	(48.9%)	23
2011	(37)	2	(2)	-	-	-	(37)
2012	412	(19)	17	-	(2)	(0.5%)	410
2013	408	(19)	92	-	73	17.9%	481
2014	752	(35)	100	-	65	8.6%	817
2015	3,993	(184)	170	-	(14)	(0.4%)	3,979
2016	5,576	(206)	874	-	668	12.0%	6,244
2017	12,076	(592)	144	-	(448)	(3.7%)	11,628
2018	18,974	(285)	(343)	-	(628)	(3.3%)	18,346
2019	36,802	(957)	2,523	-	1,566	4.3%	38,368
2020	45,805	(75)	4,171	-	4,096	8.9%	49,901
Grand Total	124,708	(2,367)	7,685	-	5,318	4.3%	130,026