



ALBERTA GRID RISK SHARING POOL

JULY 2020 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

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ACTUARIAL HIGHLIGHTS

RSP ALBERTA GRID

OPERATIONAL REPORT

JULY 2020

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1 Summary

Key Points

- (a) The loss ratios currently being used include an initial assessment of the incurred impacts associated with the COVID-19 pandemic, with a further review and assessment to be included with the RSP 2020 Q2 actuarial valuation update (as at June 2020); and
- (b) The month’s Current Accident Year paid activity was lower than projected; the activity was reviewed, and attributed to process variance.

1.1 Valuation Schedule (Fiscal Year 2020)

The July 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 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>d</u> ecreased 2.4 points to 84.4%; discount rate <u>i</u> ncreased 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>d</u> ecreased 3.9 points to 80.5%; accident year 2020 loss ratio <u>d</u> ecreased 8.4 points to 81.4 %; discount rate <u>i</u> ncreased 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>d</u> ecreased 2.9 points to 78.5%; discount rate <u>d</u> ecreased 100 basis points; no change to selected margins for adverse deviations
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. However, with disruption in the insurance environment from the COVID-19 pandemic, the valuation quarter ending March 31, 2020 includes a partial update of key assumptions to reflect this impact. Other assumptions are rolled-forward from the previous valuation.

1.2 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.

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

There have been no changes in these descriptions since last month's Highlights.

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 (March 31, 2020), 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.

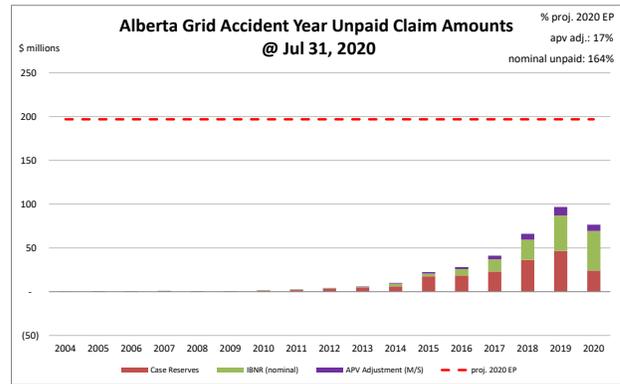
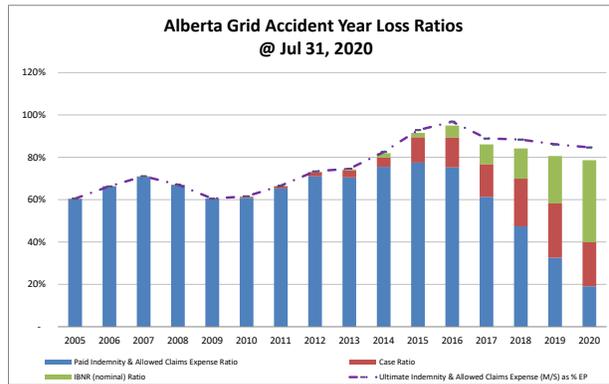
1.4 Current Provision Summary

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 (\$34.3 million – see the following table) represents 17% 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	186,268	52.1%
ibnr	137,110	38.3%
M/S apv adjust.	34,336	9.6%
M/S total	357,714	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 63% of the IBNR balance relates to accident years 2019 and 2020 (see Exhibit B). Approximately 86% 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	98,670	115.0%
prem def/(dpac)	(20,198)	(23.5%)
M/S apv adjust.	7,354	8.6%
M/S total	85,826	100.0%

policy liabilities (\$000s)

	amt	%
claim	323,378	72.9%
premium	78,472	17.7%
M/S apv adjust.	41,690	9.4%
M/S total	443,540	100.0%

2 Activity During the Month of June 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	(1)	(1)	4,009	1,177	(2,029)	(2)	1,980	1,175
2018	(19)	(19)	646	(195)	419	513	1,064	317
2019	(71)	(71)	1,326	(620)	156	1,216	1,483	597
2020	16,010	(951)	5,735	(2,787)	1,366	1,444	7,102	(1,343)
TOTAL	15,919	(1,041)	11,717	(2,425)	(88)	3,171	11,629	746

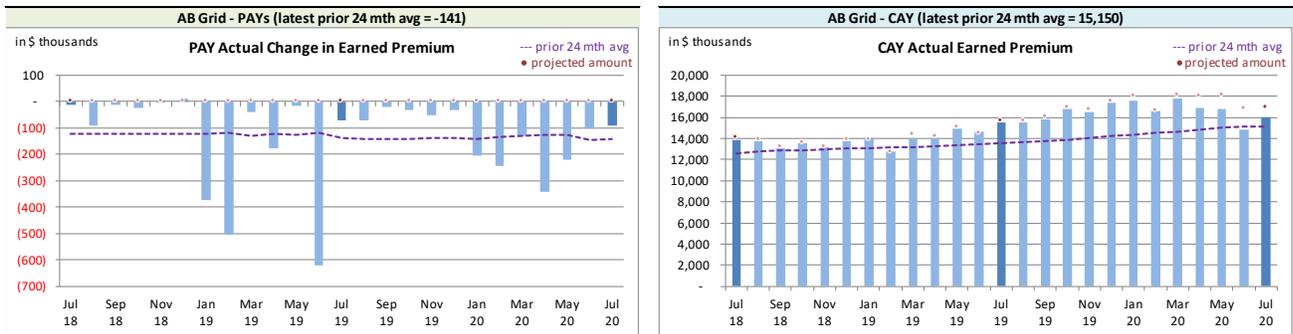
(Recorded transaction amounts exclude IBNR & other actuarial provisions)

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 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.

On Latest \$ thousands		
Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(141)	15,150
std dev	168	1,580
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

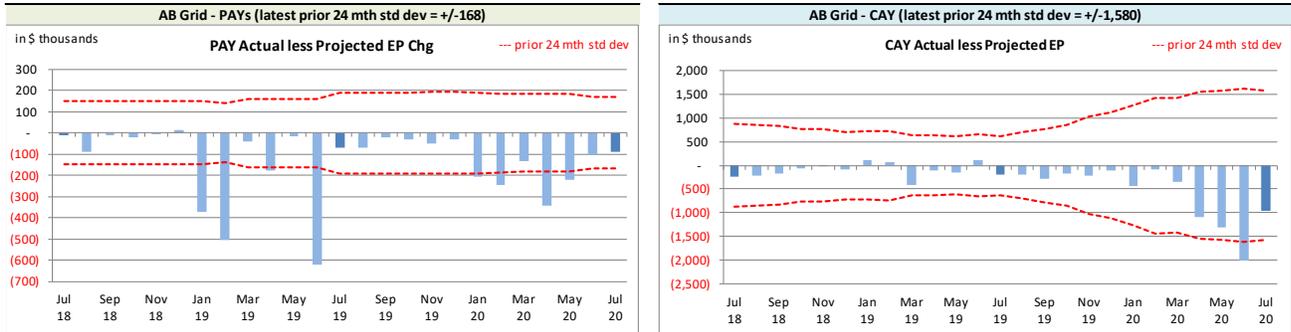
The associated variances between the actual changes and the projections from the previous month are shown in the following charts. **Earned premium** change projections are all attributed to the current accident year, as the projection upload does not accept earned premium changes for other accident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

that the actual less projection variance will equal the actual **earned premium** change in relation to

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.

prior accident years.

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

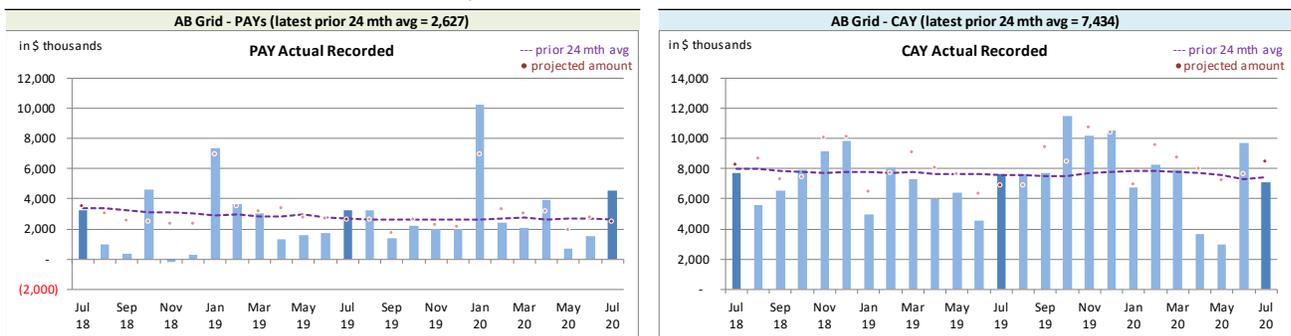


We project **earned premium** changes from known unearned premium balances and projected written premium levels, but upload the total projections as current accident year (CAY). This process has generated prior accident years’ (PAYs) bias⁶, with actuals generally lower than projected, although the magnitude 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 projection processes in response, bias still exists. Over time, we may consider other projection approaches to address the bias issue, but it is not currently deemed as priority.

2.1.b AvsP: Recorded Indemnity & Allowed Claims Expense

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

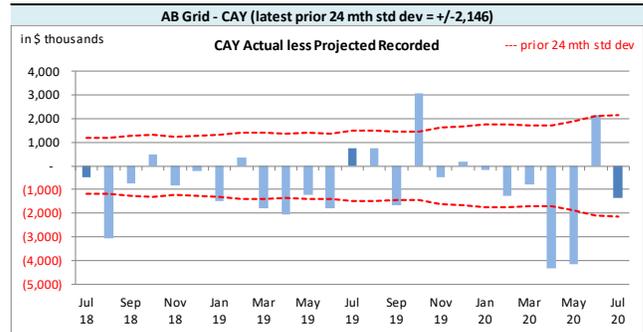
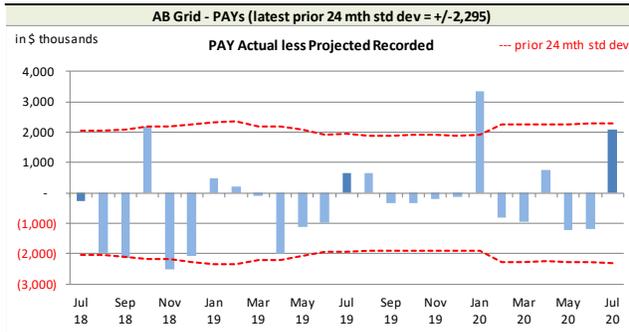
Alberta Grid RSP Actual Recorded by Calendar Month



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

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 July 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		
Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	2,627	7,434
std dev	2,295	2,146
A-P <> std dev	4	10
% <> std dev	16.0%	40.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	worse

With respect to **recorded** indemnity & allowed claims expense activity, 16% of the prior accident years' (PAYs) variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **recorded** amounts (see table on left), suggesting the projection process has performed better than simply projecting the prior 24-month average amount (assuming it follows a

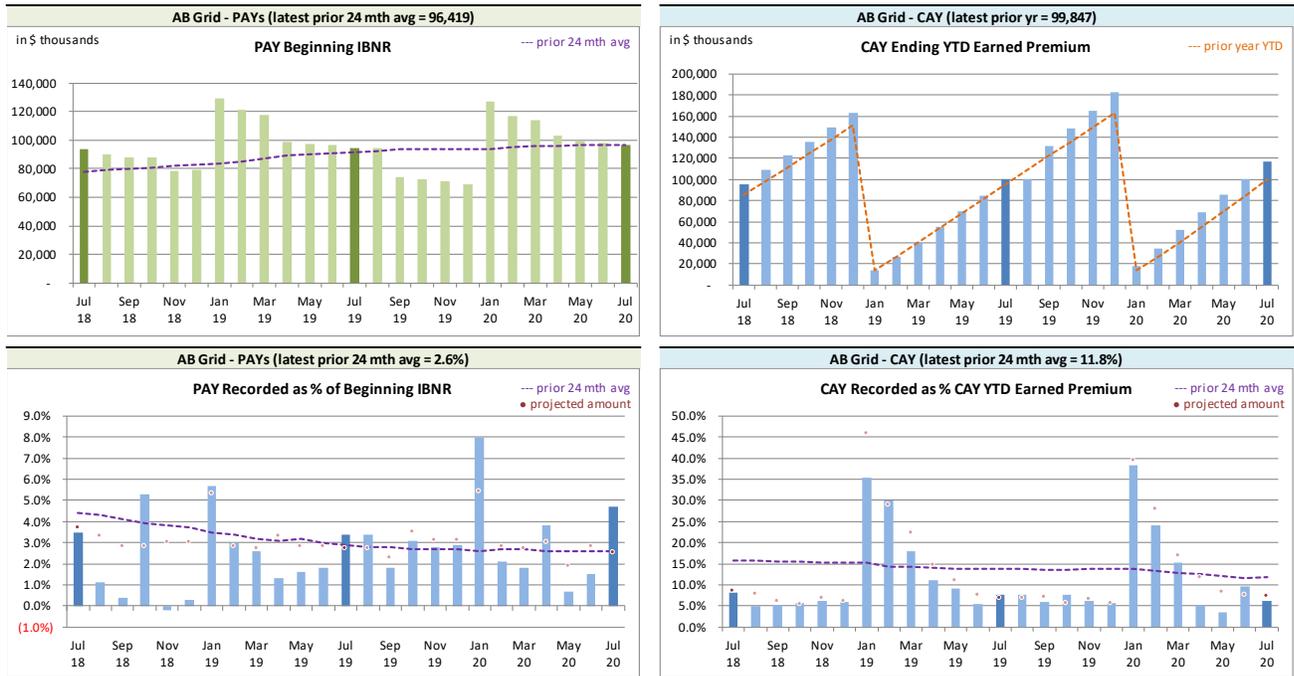
normal distribution). Bias⁸ has not been indicated at a 95% confidence level on a rolling 25-month basis (8 of 25 variances were positive).

The current accident year (CAY) **recorded** variances fell inside of one standard deviation 40% 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 been indicated at a 95% confidence level on a lagging 24-month basis (7 of 25 variances were positive); however, on a lagging 12-month basis, bias has not been indicated (4 of latest 12 variances have been 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).

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.

Alberta Grid RSP Levels that influence⁹ Recorded activity by Calendar Month


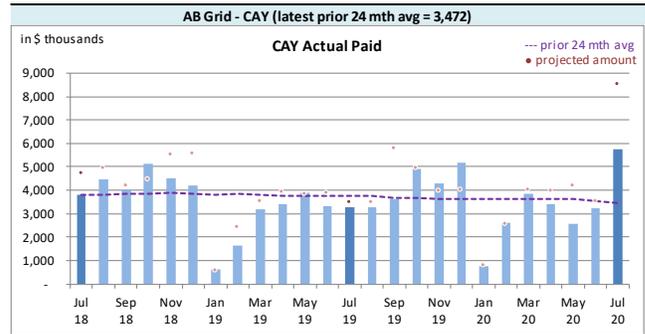
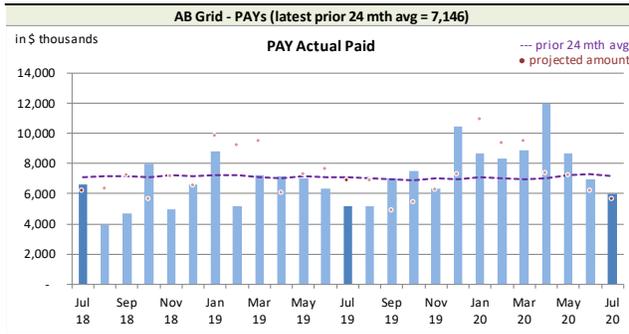
We track PAY beginning IBNR as **recorded** activity comes out of IBNR. Changes in the PAY beginning IBNR (see upper left of the preceding group of charts) occur for several possible reasons:

- 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).

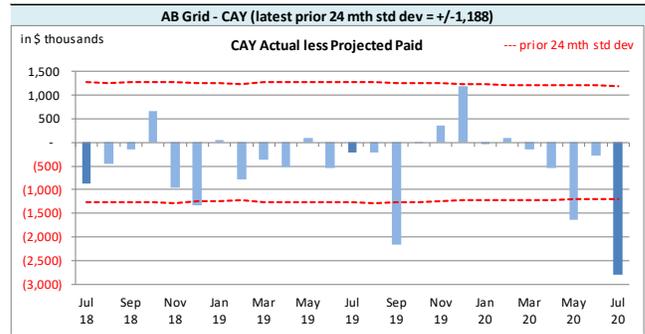
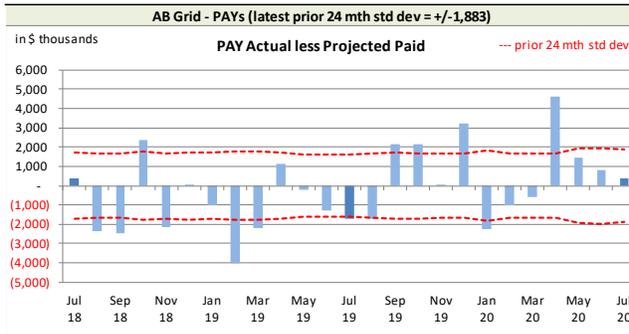
2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

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.

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.

Alberta Grid RSP Actual Paid activity by Calendar Month


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

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


On Latest \$ thousands			
	Paid	PAYs	CAY
Mthly Avg Paid (prior 24 mths)		7,146	3,472
std dev		1,883	1,188
A-P <> std dev		13	4
% <> std dev		52.0%	16.0%
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 (12 of 25 variances are positive).

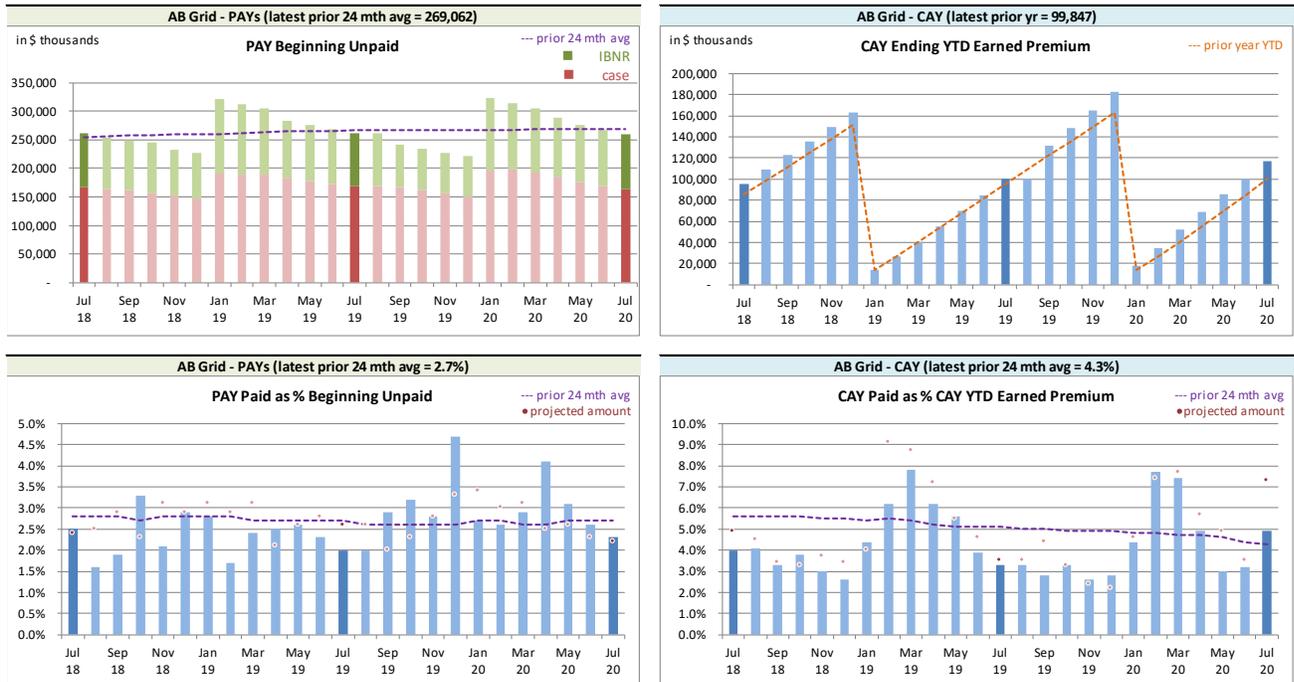
The current accident year (CAY) **paid** variances fell outside one standard deviation 16% of the time over the last 25 calendar months (see preceding table on the left), suggesting the projection process has performed better than simply projecting the prior 24-month average amount. Bias has been indicated at a 95% confidence level on a rolling 25-month basis (6 of 25 variances are positive).

The CAY **paid** variance was outside of the one standard deviation band this month (see preceding chart on the right). With last month’s projections, the CAY paid projections for July 2020 were adjusted to reflect the high level of Comprehensive recorded claims activity (reserve increase), reported in the month, in relation to the June 13, 2020 hailstorm in and around the Calgary area; while, CAY paid activity was elevated compared to prior months, the actual paid activity reported in July was

lower relative to the recorded activity seen in June, we will continue to monitor the recorded activity, but no adjustments were included with this month’s paid projections.

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
- 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

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”.

Provisions for Adverse Deviations. The loss ratios and the factors used to determine the projections and actuals were 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	28,387	(1,175)	(1,475)	17	12,121	(160)	39,033	(1,318)
2018	23,030	(333)	(1,010)	(3)	7,715	24	29,735	(312)
2019	40,641	(654)	(1,567)	(10)	11,296	72	50,370	(592)
2020	45,052	597	(1,316)	(39)	8,572	252	52,308	810
TOTAL	137,110	(1,565)	(5,368)	(35)	39,704	188	171,446	(1,412)

The IBNR provision is \$1.6 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.

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 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.

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:	(20,198)	(662)	7,354	246	(12,844)	(416)
balance as % unearned premium:	(20.5%)	-	7.5%	-	(13.0%)	-
actual unearned premium:	98,670					
less projected:	3,282					

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 79.4% rather than 78.5% (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	(9,661)	(8.4%)	1,451	1.3%	(8,210)	(7.1%)	(718)	0.4%
CAY	91,485	79.4%	7,256	6.3%	98,741	85.7%	13,283	(0.4%)
TOTAL	81,824	71.0%	8,707	7.6%	90,531	78.6%	12,565	0.1%

("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.

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 is 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 Jun. 2020	Actual Jul. 2020	Projected Aug. 2020	Projected Sep. 2020	Projected Dec. 2020
	2004	(71)	(71)	(68)	(64)	(59)
	2005	12	12	13	12	10
	2006	(119)	(119)	(113)	(107)	(100)
	2007	141	155	151	144	130
	2008	(106)	(105)	(101)	(95)	(90)
	2009	(178)	(174)	(167)	(159)	(147)
	2010	599	428	414	396	359
	2011	826	822	794	759	688
	2012	612	683	664	636	570
	2013	984	1,035	1,006	964	866
	2014	4,162	3,872	3,736	3,562	3,245
discount rate	2015	5,411	4,843	4,693	4,490	4,055
0.63%	2016	10,198	9,597	9,160	8,775	7,745
	2017	18,958	18,055	17,187	16,859	15,395
interest rate margin	2018	30,889	29,735	28,762	28,289	26,728
25 basis pts	2019	52,065	50,370	49,605	48,963	44,999
	2020	46,127	52,308	55,676	59,572	69,148
	TOTAL	170,510	171,446	171,412	172,996	173,542
	Change		936	(34)	1,584	

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 Jun. 2020	Actual Jul. 2020	Projected Aug. 2020	Projected Sep. 2020	Projected Dec. 2020
51.6%	2004	(79)	(79)	(76)	(72)	(66)
60.5%	2005	(27)	(27)	(26)	(25)	(23)
66.3%	2006	(128)	(128)	(123)	(117)	(108)
71.1%	2007	67	81	78	74	68
67.1%	2008	(132)	(131)	(126)	(120)	(111)
60.5%	2009	(187)	(184)	(177)	(168)	(155)
61.5%	2010	460	290	278	264	243
66.5%	2011	597	594	570	541	498
73.2%	2012	206	319	306	290	267
74.3%	2013	448	527	506	480	443
81.9%	2014	3,286	3,028	2,907	2,759	2,543
91.5%	2015	3,532	2,981	2,862	2,716	2,504
95.0%	2016	7,825	7,280	6,887	6,550	5,793
86.1%	2017	14,499	13,836	13,047	12,773	11,679
84.2%	2018	24,110	23,030	22,132	21,778	20,643
80.7%	2019	42,181	40,641	40,031	39,551	36,095
78.5%	2020	39,586	45,052	47,686	50,781	57,576
	TOTAL	136,244	137,110	136,762	138,055	137,889
	Change		866	(348)	1,293	

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

EXHIBIT C
Premium Liabilities

TABLE EXHIBIT C

Premium Liabilities	Amounts in \$000s				
	Actual	Actual	Projected	Projected	Projected
	Jun. 2020	Jul. 2020	Aug. 2020	Sep. 2020	Dec. 2020
(1) unearned premium (UP)	96,163	98,670	101,046	104,304	109,279
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	86.8%	87.0%	87.2%	87.5%	88.4%
(3) expected future costs {(1) x (2)}	83,436	85,826	88,141	91,251	96,585
(4) premium deficiency / (deferred policy acquisition cost)	(12,727)	(12,844)	(12,905)	(13,053)	(12,694)
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	79.3%	79.5%	79.8%	80.0%	80.8%
(6) expected future costs {(1) x (5)}	76,288	78,472	80,589	83,433	88,308
(7) premium deficiency / (deferred policy acquisition cost)	(19,875)	(20,198)	(20,457)	(20,871)	(20,971)

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)								
Acc Yr	nominal values			actuarial present value adjustments (apvs)					TOTAL	
	Case	IBNR	Total Unpaid	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD		Total apvs
2004	(1)	(66)	(67)	-	-	7	-	7	7	(60)
2005	359	(23)	336	(1)	-	34	-	34	33	369
2006	191	(108)	83	-	-	8	-	8	8	91
2007	590	68	658	(5)	2	66	(1)	65	62	720
2008	336	(111)	225	(2)	1	22	-	22	21	246
2009	244	(155)	89	(1)	-	9	-	9	8	97
2010	1,014	243	1,257	(14)	5	126	(1)	125	116	1,373
2011	1,554	498	2,052	(23)	10	205	(2)	203	190	2,242
2012	3,033	267	3,300	(36)	13	330	(4)	326	303	3,603
2013	4,164	443	4,607	(51)	18	461	(5)	456	423	5,030
2014	5,112	2,543	7,655	(92)	38	765	(9)	756	702	8,357
2015	14,620	2,504	17,124	(240)	103	1,712	(24)	1,688	1,551	18,675
2016	15,994	5,793	21,787	(305)	109	2,179	(31)	2,148	1,952	23,739
2017	20,891	11,679	32,570	(489)	195	4,071	(61)	4,010	3,716	36,286
2018	33,266	20,643	53,909	(916)	377	6,739	(115)	6,624	6,085	59,994
2019	43,576	36,095	79,671	(1,434)	558	9,959	(179)	9,780	8,904	88,575
PAYs (sub-total):	144,943	80,313	225,256	(3,609)	1,429	26,693	(432)	26,261	24,081	249,337
CAY (2020)	52,909	57,576	110,485	(2,099)	773	13,148	(250)	12,898	11,572	122,057
claims liabilities:	197,852	137,889	335,741	(5,708)	2,202	39,841	(682)	39,159	35,653	371,394
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	109,279	(20,971)	88,308	(1,583)	616	9,413	(169)	9,244	8,277	96,585
policy liabilities:			424,049	(7,291)	2,818	49,254	(851)	48,403	43,930	467,979

*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 (Mar. 31,
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%	9.6%	10.0%
2014	10.0%	10.0%	9.9%	10.0%
2015	10.0%	10.0%	9.8%	10.0%
2016	10.0%	10.0%	10.0%	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%	12.5%	12.5%
2020	12.2%	10.0%	7.5%	11.9%
2021	11.9%	10.0%	5.9%	10.7%
<u>prem liab</u>	11.9%	10.0%	5.9%	10.7%

discount rate: 0.63%
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 (0.63%), the prior valuation assumption (1.63%) 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%	0.13%	0.63%	1.13%	1.63%	2.13%	1.63%	1.44%
2004	-	-	-	-	-	-	-	-
2005	146	146	146	146	146	146	146	146
2006	167	167	167	166	165	165	165	166
2007	1,436	1,436	1,429	1,420	1,412	1,403	1,412	1,415
2008	236	236	235	233	231	230	231	232
2009	186	186	185	184	182	181	182	183
2010	1,546	1,546	1,535	1,521	1,508	1,495	1,508	1,513
2011	2,288	2,287	2,272	2,253	2,234	2,216	2,234	2,241
2012	3,162	3,161	3,140	3,113	3,087	3,062	3,087	3,097
2013	4,966	4,965	4,931	4,889	4,848	4,808	4,848	4,864
2014	9,132	9,130	9,060	8,975	8,889	8,806	8,889	8,922
2015	19,262	19,257	19,090	18,882	18,679	18,480	18,679	18,756
2016	25,461	25,454	25,230	24,950	24,676	24,409	24,676	24,779
2017	38,387	38,374	38,005	37,548	37,099	36,663	37,099	37,270
2018	60,008	59,988	59,352	58,571	57,813	57,071	57,813	58,102
2019	90,172	90,132	89,090	87,789	86,536	85,300	86,536	87,008
2020	134,333	134,276	132,660	130,659	128,721	126,828	128,721	129,446
Total	390,888	390,741	386,527	381,299	376,226	371,263	376,226	378,140
	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%	0.13%	0.63%	1.13%	1.63%	2.13%	1.63%	1.44%
Total	4,361	4,214	-	(5,228)	(10,301)	(15,264)	(10,301)	(8,387)
	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%	0.13%	0.63%	1.13%	1.63%	2.13%	1.63%	1.44%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	-	-	-	(0.6%)	(1.2%)	(1.2%)	(1.2%)	(0.6%)
2007	0.5%	0.5%	-	(0.6%)	(1.2%)	(1.8%)	(1.2%)	(1.0%)
2008	0.4%	0.4%	-	(0.9%)	(1.7%)	(2.1%)	(1.7%)	(1.3%)
2009	0.5%	0.5%	-	(0.5%)	(1.6%)	(2.2%)	(1.6%)	(1.1%)
2010	0.7%	0.7%	-	(0.9%)	(1.8%)	(2.6%)	(1.8%)	(1.4%)
2011	0.7%	0.7%	-	(0.8%)	(1.7%)	(2.5%)	(1.7%)	(1.4%)
2012	0.7%	0.7%	-	(0.9%)	(1.7%)	(2.5%)	(1.7%)	(1.4%)
2013	0.7%	0.7%	-	(0.9%)	(1.7%)	(2.5%)	(1.7%)	(1.4%)
2014	0.8%	0.8%	-	(0.9%)	(1.9%)	(2.8%)	(1.9%)	(1.5%)
2015	0.9%	0.9%	-	(1.1%)	(2.2%)	(3.2%)	(2.2%)	(1.7%)
2016	0.9%	0.9%	-	(1.1%)	(2.2%)	(3.3%)	(2.2%)	(1.8%)
2017	1.0%	1.0%	-	(1.2%)	(2.4%)	(3.5%)	(2.4%)	(1.9%)
2018	1.1%	1.1%	-	(1.3%)	(2.6%)	(3.8%)	(2.6%)	(2.1%)
2019	1.2%	1.2%	-	(1.5%)	(2.9%)	(4.3%)	(2.9%)	(2.3%)
2020	1.3%	1.2%	-	(1.5%)	(3.0%)	(4.4%)	(3.0%)	(2.4%)
Total	1.1%	1.1%	-	(1.4%)	(2.7%)	(3.9%)	(2.7%)	(2.2%)
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

EXHIBIT G

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)	1	(1)	-	-	-	(71)
2005	12	(1)	1	-	-	-	12
2006	(119)	3	(3)	-	-	-	(119)
2007	141	(4)	18	-	14	9.9%	155
2008	(106)	1	-	-	1	(0.9%)	(105)
2009	(178)	3	1	-	4	(2.2%)	(174)
2010	599	(13)	(158)	-	(171)	(28.5%)	428
2011	826	(18)	14	-	(4)	(0.5%)	822
2012	612	(20)	91	-	71	11.6%	683
2013	984	(29)	80	-	51	5.2%	1,035
2014	4,162	(90)	(200)	-	(290)	(7.0%)	3,872
2015	5,411	(130)	(438)	-	(568)	(10.5%)	4,843
2016	10,198	(435)	(166)	-	(601)	(5.9%)	9,597
2017	18,958	(346)	(557)	-	(903)	(4.8%)	18,055
2018	30,889	(842)	(312)	-	(1,154)	(3.7%)	29,735
2019	52,065	(1,103)	(592)	-	(1,695)	(3.3%)	50,370
2020	46,127	5,371	810	-	6,181	13.4%	52,308
Grand Total	170,510	2,348	(1,412)	-	936	0.5%	171,446

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)	1	(1)	-	-	-	(79)	
2005	(27)	-	-	-	-	-	(27)	
2006	(128)	2	(2)	-	-	-	(128)	
2007	67	(1)	15	-	14	20.9%	81	
2008	(132)	2	(1)	-	1	(0.8%)	(131)	
2009	(187)	3	-	-	3	(1.6%)	(184)	
2010	460	(8)	(162)	-	(170)	(37.0%)	290	
2011	597	(10)	7	-	(3)	(0.5%)	594	
2012	206	(4)	117	-	113	54.9%	319	
2013	448	(8)	87	-	79	17.6%	527	
2014	3,286	(56)	(202)	-	(258)	(7.9%)	3,028	
2015	3,532	(60)	(491)	-	(551)	(15.6%)	2,981	
2016	7,825	(391)	(154)	-	(545)	(7.0%)	7,280	
2017	14,499	(275)	(388)	-	(663)	(4.6%)	13,836	
2018	24,110	(747)	(333)	-	(1,080)	(4.5%)	23,030	
2019	42,181	(886)	(654)	-	(1,540)	(3.7%)	40,641	
2020	39,586	4,869	597	-	5,466	13.8%	45,052	
Grand Total	136,244	2,431	(1,565)	-	866	0.6%	137,110	