ALBERTA GRID RISK SHARING POOL

JUNE 2020 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

Related Bulletin: F2020-053 Alberta RSPs June 2020 Operational Reports

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ACTUARIAL HIGHLIGHTS

RSP ALBERTA GRID

OPERATIONAL REPORT

JUNE 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; and

(b) The month's Current Accident Year recorded activity was higher than projected; the activity was reviewed, and attributed to the high level of Comprehensive recorded claims activity reported in the month in relation to the June 13, 2020 hailstorm in and around the Calgary area. In response to this, the Current Accident Year payment projections for July 2020 (next month) have been adjusted to reflect the high level of reported Comprehensive case reserves in the month.

1.1   Valuation Schedule (Fiscal Year 2020)

The June 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 decreased 2.4 points to 84.4%; discount rate increased 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 decreased 3.9 points to 80.5%; accident year 2020 loss ratio decreased 8.4 points to 81.4 %; discount rate increased 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 decreased 2.9 points to 78.5%; discount rate decreased 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 / Regulation[1]

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 liabilities[2] booked by accident year[3]. 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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[1]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.

[2]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.

[3]Accident year 2004 was an incomplete year and therefore has been excluded from the loss ratio chart.
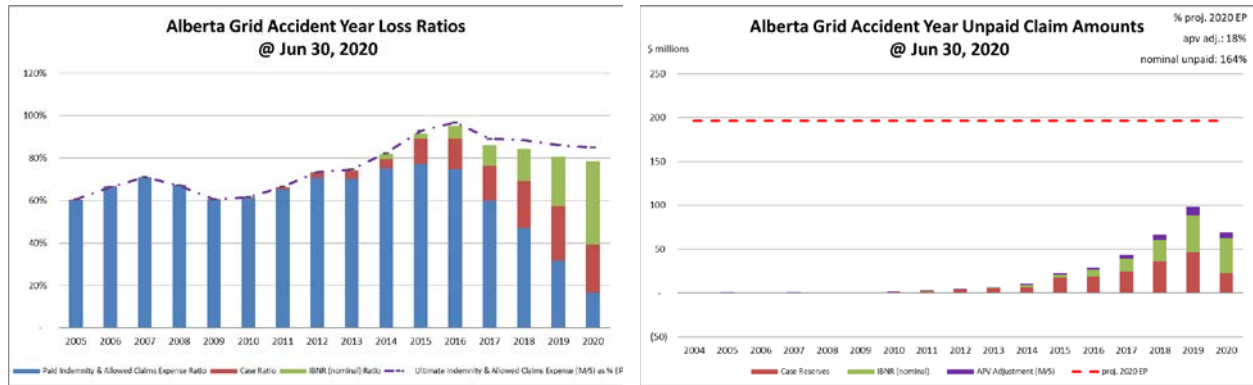
"M/S" refers to "Member Statement" values – that is, actuarial present value adjustments at the selected discount rate.

The current actuarial present value adjustments balance ($34.3 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	186,356	52.2%
ibnr	136,244	38.2%
M/S apv adjust.	34,266	9.6%
M/S total	356,866	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 60% 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	96,163	115.3%
prem def/(dpac)	(19,875)	(23.8%)
M/S apv adjust.	7,148	8.6%
M/S total	83,436	100.0%

policy liabilities ($000s)

	amt	%
claim	322,600	73.3%
premium	76,288	17.3%
M/S apv adjust.	41,414	9.4%
M/S total	440,302	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 Report[4].

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[4]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 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)	4,092	882	(4,828)	(2,887)	(736)	(2,005)
2018	(32)	(32)	1,462	416	(288)	353	1,174	769
2019	(69)	(69)	1,392	(496)	(309)	539	1,083	43
2020	14,861	(2,018)	3,232	(272)	6,499	2,412	9,731	2,140
TOTAL	14,759	(2,120)	10,178	530	1,074	417	11,252	947

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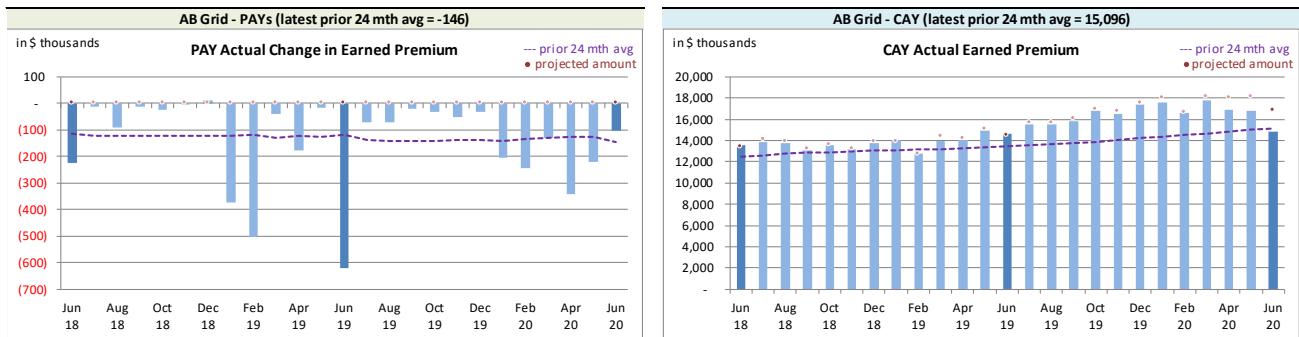
Earned premium changes during a given calendar month in relation to prior accident years tend to be at modest levels, although relatively high levels generally occur at the beginning of each year.

On Latest $ thousands		
Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(146)	15,096
std dev	169	1,612
A-P <> std dev	9	1
% <> std dev	36.0%	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

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[5]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.

prior accident years.

*Alberta Grid RSP Actual vs. Projected Summary: **Earned Premium** Variances by Calendar Month*
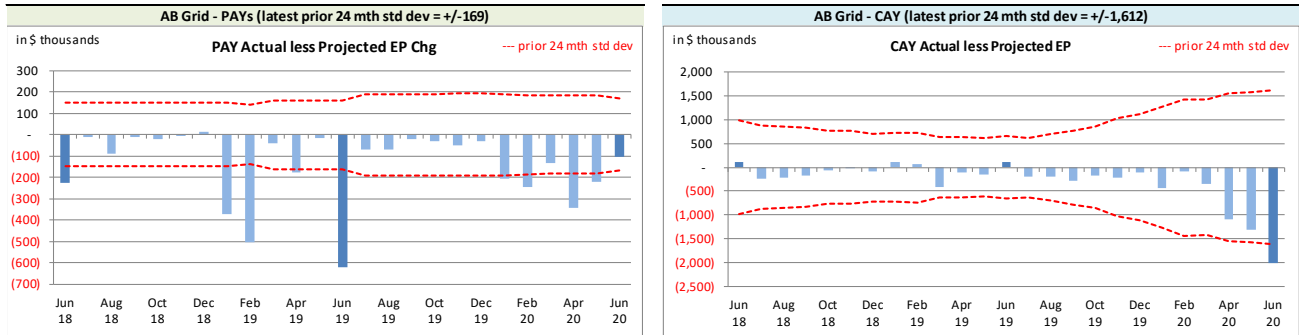
We project **earned premium** changes from known unearned premium balances and projected written premium levels, but upload the total projections as current accident year (CAY). This process has generated prior accident years' (PAYs) bias[6], with actuals generally lower than projected, although the magnitude is not high relative to monthly premium. In addition to the PAYs' bias, the CAY has also shown bias[7], with actuals being generally lower than projected, and while we modified our projections processes in response, bias still exists. Over time, we may consider other projection approaches to address the bias issue, but it is not currently deemed as priority.

The CAY **earned premium** variance was outside of the one standard deviation band this month (see preceding chart on the right). The significant lower than projected recorded activity was reviewed, and it was largely driven by one company group removing vehicles from the Alberta Grid risk sharing pool.

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*
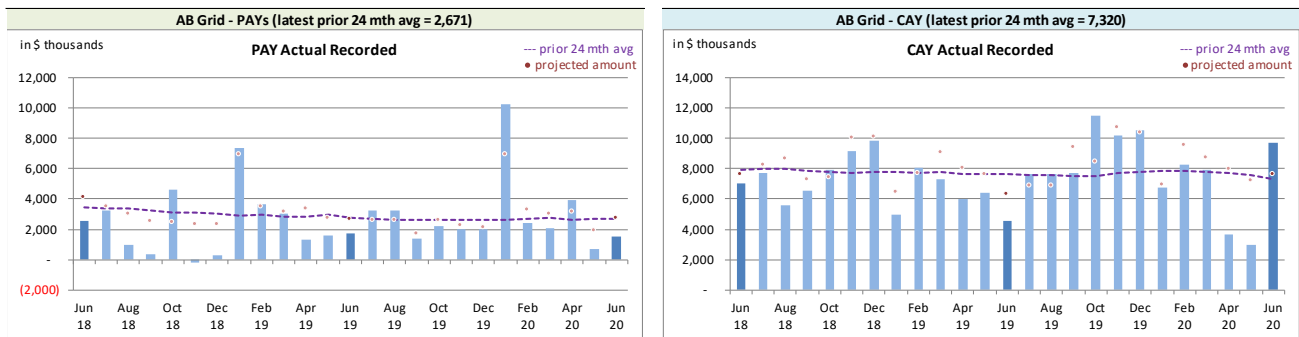
Recorded activity variances from the previous month's projections are shown in the following charts,

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

[7]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 June 2020 has only 4 months where the actuals were higher than projected, and as the 95% confidence range is 8 to 17, bias continues to be indicated.

including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

*Alberta Grid RSP Actual vs Projected Summary: **Recorded** Variances by Calendar Month*
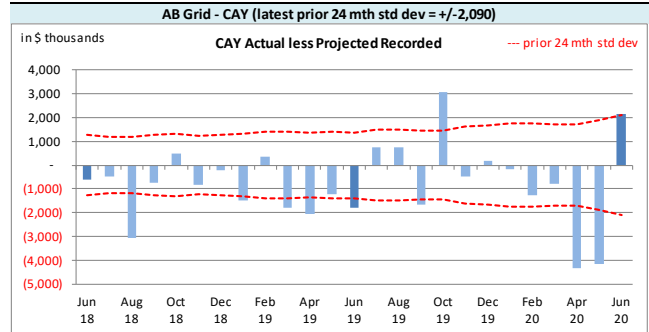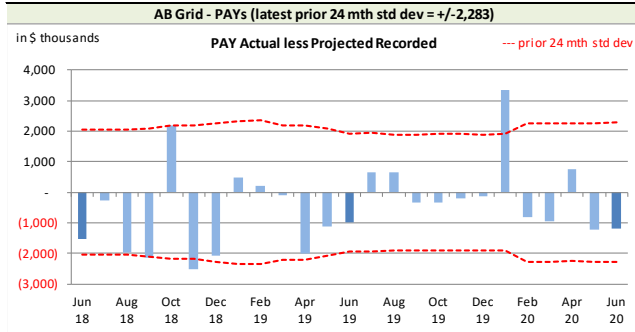
On Latest $ thousands		
Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	2,671	7,320
std dev	2,283	2,090
A-P <> std dev	4	10
% <> std dev	16.0%	40.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	worse

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). Bias[8] has been indicated at a 95% confidence level on a rolling 25-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 current accident year (CAY) **recorded** variances fell outside 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 (5 of latest 12 variances have been positive).

The CAY **recorded** variance was outside of the one standard deviation band this month (see preceding chart on the right). The higher than projected recorded activity was reviewed, and attributed to the high level of Comprehensive recorded claims activity reported in the month in relation to the June 13, 2020 hailstorm in and around the Calgary area. In response to this, the Current Accident Year payment projections for July 2020 (next month) have been adjusted to reflect the high level of reported Comprehensive case reserves 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

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[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.

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*
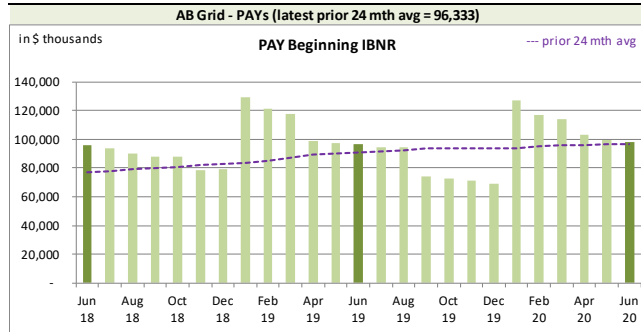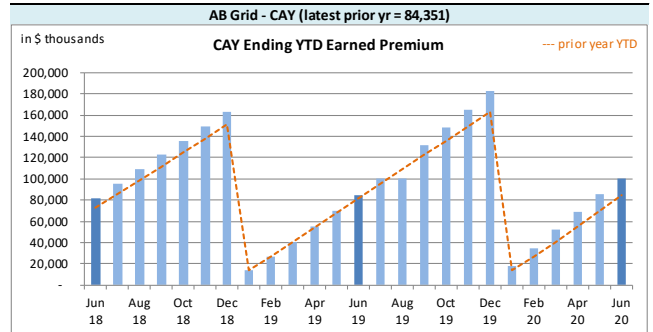
*RSP Levels that influence[9] **Recorded** activity by Calendar Month*
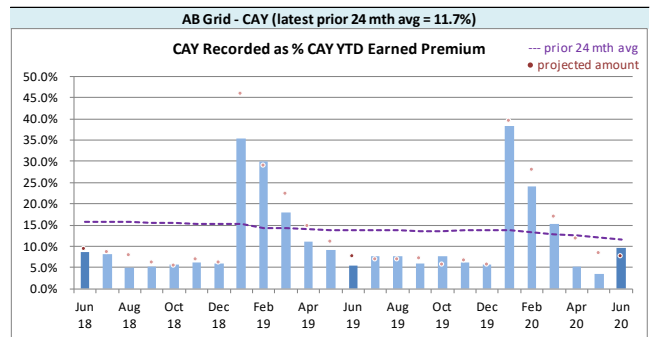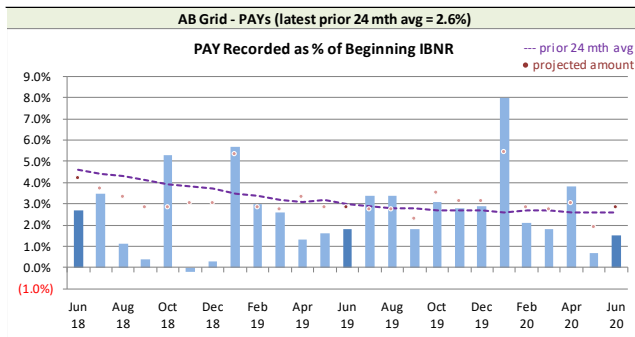
We track PAY beginning IBNR as **recorded** activity comes out of IBNR. Changes in the PAY beginning IBNR (see upper left of the preceding group of charts) occur for several possible reasons:

- 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.

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[9]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*
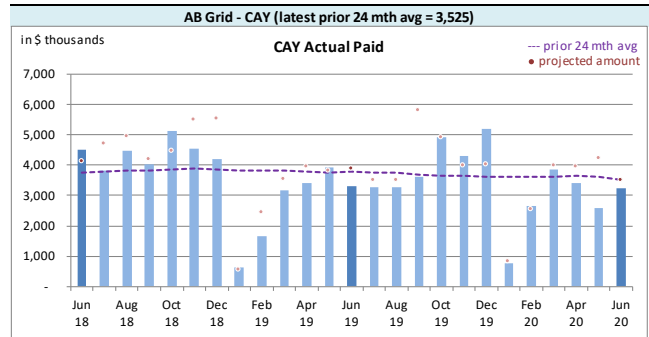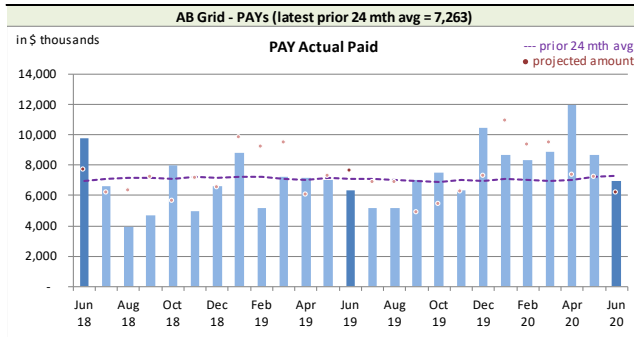
Paid activity variances from the previous month's projections are shown in the following charts, including the prior 24-month standard deviation levels to show how the variances from projection compare with historical standard deviations.

*Alberta Grid RSP Actual vs Projected Summary: **Paid** Variances by Calendar Month*
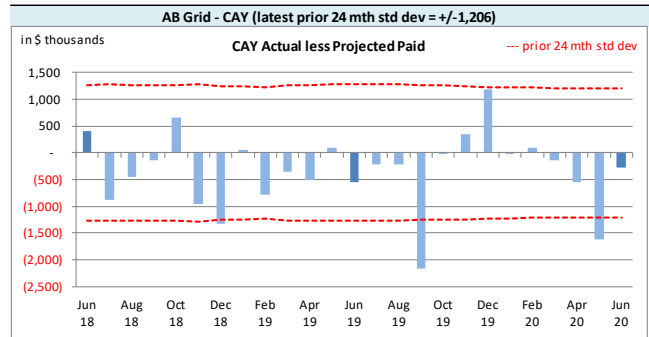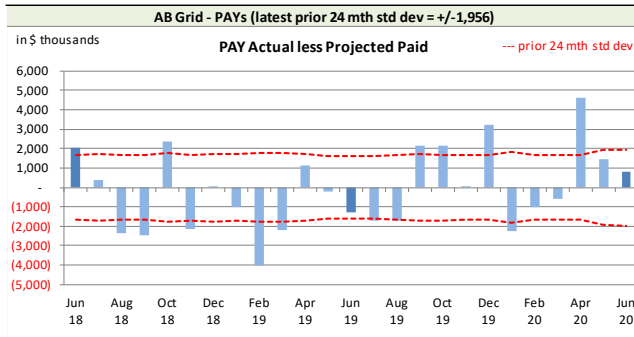
On Latest $ thousands		
Paid	PAYs	CAY
Mthly Avg Paid (prior 24 mths)	7,263	3,525
std dev	1,956	1,206
A-P <> std dev	14	3
% <> std dev	56.0%	12.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	worse	better

With respect to **paid** indemnity & allowed claims expense, 56% 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 12% 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 not been indicated at a 95% confidence level on a rolling 25-month basis (7 of 25 variances are positive).

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

*Alberta Grid RSP Levels that influence[10] **Paid** activity by Calendar Month*
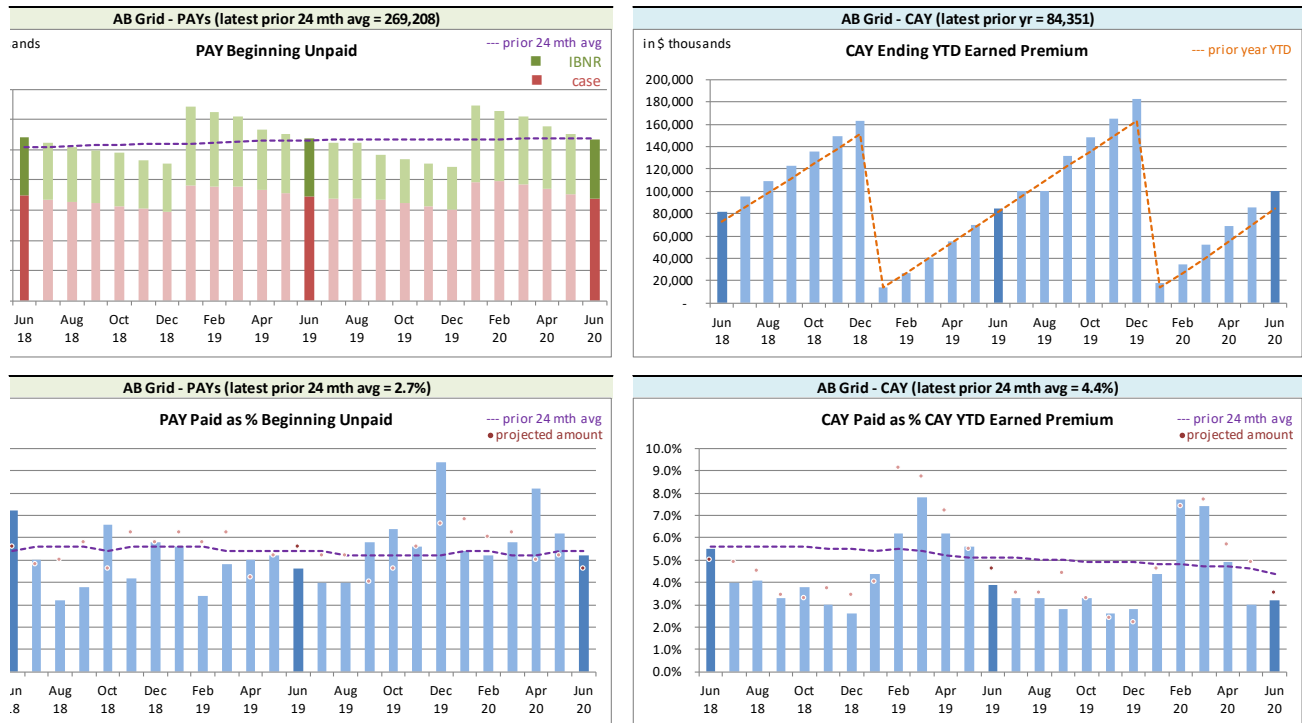

We track the PAY beginning unpaid balance (case and IBNR) as **paid** activity comes out of the unpaid balance. Changes in the PAY beginning unpaid balance (see upper left of the preceding group of charts) occur for several possible reasons:

- 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[11], and factors are applied to the nominal unpaid claims liability (case plus IBNR) to determine the discount amount (shown as a negative value to indicate its impact of reducing the liability) and the Provisions for Adverse Deviations. The loss ratios and the factors used to determine the projections and actuals were based on the applicable valuation.

The following table summarizes variances in provisions included in this month's Operational Report

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[10]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.

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

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					
	IBNR		Discount Amount		Provisions for Adverse Deviations		IBNR + actuarial present value adjustments	
Accident Year	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	30,367	2,005	(1,529)	11	12,591	(119)	41,429	1,897
2018	24,110	(796)	(1,021)	8	7,800	(58)	30,889	(846)
2019	42,181	(98)	(1,592)	(8)	11,476	57	52,065	(49)
2020	39,586	(3,724)	(1,186)	25	7,727	(162)	46,127	(3,861)
TOTAL	136,244	(2,613)	(5,328)	36	39,594	(282)	170,510	(2,859)

The IBNR provision is $2.6 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:	(19,875)	58	7,148	(7)	(12,727)	51
balance as % unearned premium:	(20.7%)	-	7.4%	0.1%	(13.2%)	0.1%
actual unearned premium:	96,163					
less projected:	(132)					

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[12] 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[13], 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 79.5% 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.)

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	(9,588)	(9.7%)	2,096	2.1%	(7,492)	(7.5%)	(828)	0.4%
CAY	78,917	79.5%	6,541	6.6%	85,458	86.1%	12,550	(0.2%)
TOTAL	69,329	69.8%	8,637	8.7%	77,966	78.5%	11,722	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

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[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).

[13]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.

Operational Report.

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

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

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

6   EXHIBITS

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

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

EXHIBIT B   IBNR

EXHIBIT C   Premium Liabilities

EXHIBIT D   Projected Year-end Policy Liabilities

EXHIBIT E   Discount Rate & Margins for Adverse Deviations

EXHIBIT F   Interest Rate Sensitivity

EXHIBIT G   Components of IBNR Change During Month

FACILITY Association

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 May. 2020	Actual Jun. 2020	Projected Jul. 2020	Projected Aug. 2020	Projected Dec. 2020
	2004	(71)	(71)	(70)	(67)	(59)
	2005	12	12	11	11	8
	2006	(119)	(119)	(116)	(112)	(98)
	2007	300	141	137	133	114
	2008	(105)	(106)	(105)	(101)	(89)
	2009	(180)	(178)	(175)	(168)	(148)
	2010	630	599	586	566	493
	2011	812	826	808	781	678
	2012	629	612	592	578	494
	2013	1,036	984	955	928	798
	2014	3,953	4,162	4,072	3,929	3,414
discount rate	2015	4,645	5,411	5,281	5,112	4,424
0.63%	2016	10,428	10,198	9,763	9,316	7,876
	2017	19,138	18,958	18,612	17,716	15,871
interest rate margin	2018	32,259	30,889	30,047	29,063	27,008
25 basis pts	2019	53,365	52,065	50,962	50,188	45,521
	2020	43,308	46,127	51,498	55,957	68,928
	TOTAL	170,040	170,510	172,858	173,830	175,233
	Change		470	2,348	972	

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 May. 2020	Actual Jun. 2020	Projected Jul. 2020	Projected Aug. 2020	Projected Dec. 2020
51.6%	2004	(79)	(79)	(78)	(75)	(65)
60.5%	2005	(27)	(27)	(27)	(26)	(23)
66.3%	2006	(129)	(128)	(126)	(121)	(106)
71.1%	2007	138	67	66	63	54
67.1%	2008	(131)	(132)	(130)	(125)	(110)
60.5%	2009	(189)	(187)	(184)	(177)	(155)
61.5%	2010	467	460	452	434	380
66.5%	2011	583	597	587	564	494
73.2%	2012	220	206	202	194	169
74.3%	2013	499	448	440	422	368
81.9%	2014	3,068	3,286	3,230	3,101	2,713
91.5%	2015	2,701	3,532	3,472	3,333	2,916
95.0%	2016	8,028	7,825	7,434	7,033	5,916
86.1%	2017	14,482	14,499	14,224	13,413	12,006
84.2%	2018	25,311	24,110	23,363	22,452	20,942
80.7%	2019	43,319	42,181	41,295	40,676	36,676
78.5%	2020	37,651	39,586	44,455	48,126	57,393
	TOTAL	135,912	136,244	138,675	139,287	139,568
	Change		332	2,431	612	

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 May. 2020	Actual Jun. 2020	Projected Jul. 2020	Projected Aug. 2020	Projected Dec. 2020
(1) unearned premium (UP)	96,275	96,163	95,388	98,073	107,581
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	86.6%	86.8%	87.0%	87.2%	88.4%
(3) expected future costs {(1) x (2)}	83,333	83,436	82,960	85,542	95,081
(4) premium deficiency / (deferred policy acquisition cost)	(12,942)	(12,727)	(12,428)	(12,531)	(12,500)
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	79.1%	79.3%	79.5%	79.7%	80.8%
(6) expected future costs {(1) x (5)}	76,193	76,288	75,852	78,212	86,935
(7) premium deficiency / (deferred policy acquisition cost)	(20,082)	(19,875)	(19,536)	(19,861)	(20,646)

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	1	(65)	(64)	-	-	6	-	6	6	(58)
2005	345	(23)	322	(1)	-	32	-	32	31	353
2006	186	(106)	80	-	-	8	-	8	8	88
2007	583	54	637	(5)	2	64	(1)	63	60	697
2008	326	(110)	216	(2)	1	22	-	22	21	237
2009	238	(155)	83	(1)	-	8	-	8	7	90
2010	835	380	1,215	(13)	5	122	(1)	121	113	1,328
2011	1,487	494	1,981	(22)	10	198	(2)	196	184	2,165
2012	3,373	169	3,542	(39)	14	354	(4)	350	325	3,867
2013	4,305	368	4,673	(51)	19	467	(5)	462	430	5,103
2014	4,927	2,713	7,640	(92)	38	764	(9)	755	701	8,341
2015	13,721	2,916	16,637	(233)	100	1,664	(23)	1,641	1,508	18,145
2016	15,978	5,916	21,894	(307)	109	2,189	(31)	2,158	1,960	23,854
2017	21,863	12,006	33,869	(508)	203	4,234	(64)	4,170	3,865	37,734
2018	32,804	20,942	53,746	(914)	376	6,718	(114)	6,604	6,066	59,812
2019	42,479	36,676	79,155	(1,425)	554	9,894	(178)	9,716	8,845	88,000
PAYs (sub-total):	143,451	82,175	225,626	(3,613)	1,431	26,744	(432)	26,312	24,130	249,756
CAY (2020)	52,739	57,393	110,132	(2,093)	771	13,106	(249)	12,857	11,535	121,667
claims liabilities:	196,190	139,568	335,758	(5,706)	2,202	39,850	(681)	39,169	35,665	371,423

	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	107,581	(20,646)	86,935	(1,559)	606	9,266	(167)	9,099	8,146	95,081

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

policy liabilities:			**422,693**	**(7,265)**	**2,808**	**49,116**	**(848)**	**48,268**	**43,811**	**466,504**

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.

Accident Year	Selected Claims Development MfADs (Mar. 31, 2020)			
	Third Party Liability	Accident Benefits	Other Coverages	Total
	Margins	Margins	Margins	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%
prem liab	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

	Values						
AccYear	**Sum of Prior Month Actual Amount**	**Sum of Projected Change**	**Sum of Change Due to AvsP Variances**	**Sum of Change Due to Valuation Implementation**	**Sum of Total Change**	**Sum of % Total Change**	**Sum of Current Month Final Amount**
2004	(71)	4	(4)	-	-	-	(71)
2005	12	-	-	-	-	-	12
2006	(119)	6	(6)	-	-	-	(119)
2007	300	(12)	(147)	-	(159)	(53.0%)	141
2008	(105)	5	(6)	-	(1)	1.0%	(106)
2009	(180)	9	(7)	-	2	(1.1%)	(178)
2010	630	(29)	(2)	-	(31)	(4.9%)	599
2011	812	(36)	50	-	14	1.7%	826
2012	629	(28)	11	-	(17)	(2.7%)	612
2013	1,036	(46)	(6)	-	(52)	(5.0%)	984
2014	3,953	(180)	389	-	209	5.3%	4,162
2015	4,645	(210)	976	-	766	16.5%	5,411
2016	10,428	(507)	277	-	(230)	(2.2%)	10,198
2017	19,138	(552)	372	-	(180)	(0.9%)	18,958
2018	32,259	(524)	(846)	-	(1,370)	(4.2%)	30,889
2019	53,365	(1,251)	(49)	-	(1,300)	(2.4%)	52,065
2020	43,308	6,680	(3,861)	-	2,819	6.5%	46,127
Grand Total	**170,040**	**3,329**	**(2,859)**	**-**	**470**	**0.3%**	**170,510**

EXHIBIT G

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

RSP	Alberta Grid					
AccountCode Desc	IBNR - Undiscounted					IBNR - in $000s

	Values						
AccYear	**Sum of Prior Month Actual Amount**	**Sum of Projected Change**	**Sum of Change Due to AvsP Variances**	**Sum of Change Due to Valuation Implementation**	**Sum of Total Change**	**Sum of % Total Change**	**Sum of Current Month Final Amount**
2004	(79)	4	(4)	-	-	-	(79)
2005	(27)	1	(1)	-	-	-	(27)
2006	(129)	6	(5)	-	1	(0.8%)	(128)
2007	138	(6)	(65)	-	(71)	(51.4%)	67
2008	(131)	6	(7)	-	(1)	0.8%	(132)
2009	(189)	9	(7)	-	2	(1.1%)	(187)
2010	467	(22)	15	-	(7)	(1.5%)	460
2011	583	(27)	41	-	14	2.4%	597
2012	220	(10)	(4)	-	(14)	(6.4%)	206
2013	499	(23)	(28)	-	(51)	(10.2%)	448
2014	3,068	(144)	362	-	218	7.1%	3,286
2015	2,701	(127)	958	-	831	30.8%	3,532
2016	8,028	(458)	255	-	(203)	(2.5%)	7,825
2017	14,482	(478)	495	-	17	0.1%	14,499
2018	25,311	(405)	(796)	-	(1,201)	(4.7%)	24,110
2019	43,319	(1,040)	(98)	-	(1,138)	(2.6%)	42,181
2020	37,651	5,659	(3,724)	-	1,935	5.1%	39,586
Grand Total	**135,912**	**2,945**	**(2,613)**	**-**	**332**	**0.2%**	**136,244**