ALBERTA GRID RISK SHARING POOL

SEPTEMBER 2020 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

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FACILITY Association

ACTUARIAL HIGHLIGHTS

RSP ALBERTA GRID

OPERATIONAL REPORT

SEPTEMBER 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.

1.1 Valuation Schedule (Fiscal Year 2020)

The September 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 (completed)	0.24% mfad 25 bp	Aug. 2020	update valuation: update valuation: accident year 2020 loss ratio decreased 1.6 points to 76.9%; discount rate decreased by 39 basis points; selected margins for adverse deviations were updated
Sep. 30, 2020	% mfad -- bp	Oct. 2020	update valuation (roll-forward)

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

1.2 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 / Regulation[1]

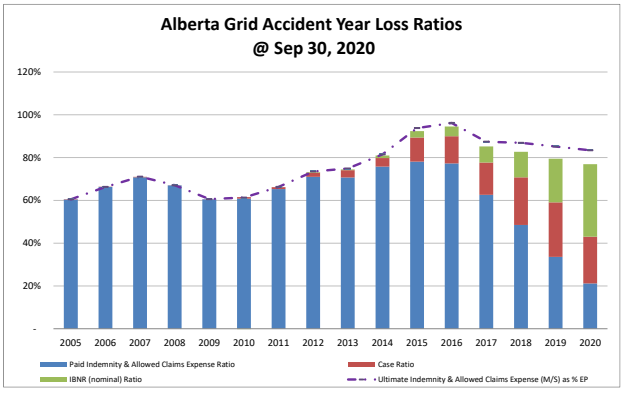
There have been no changes in these descriptions since last month's Highlights.

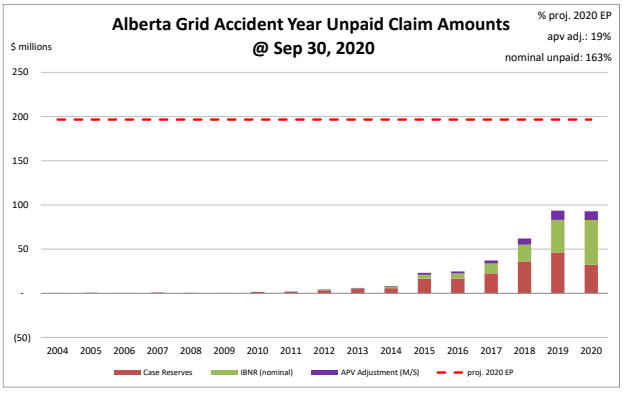
Consideration and assessment of potential impacts of legal decisions and changes in legislation / regulation constitutes a regular part of the valuation process. Descriptions of some of the more recent (i.e. within the last five years) changes are provided below.

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 (June 30, 2020), consideration of changes in the definition of minor injuries under the MIR, were included with the updated industry trend analysis (completed using industry data as at December 31, 2019).

1.4 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.





"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 ($36.8 million – see the following table)

[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.

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	189,991	53.2%
ibnr	130,270	36.5%
M/S apv adjust.	36,757	10.3%
M/S total	357,018	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 67% of the IBNR balance relates to accident years 2019 and 2020 (see Exhibit B). Approximately 87% of the M/S total claim liabilities are related to accident years 2016-2020 inclusive (i.e. the most recent 5 accident years), and approximately 1% is related to accident years 2010 and prior (i.e. prior to the most recent 10 accident years).

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

premium liabilities ($000s)

	amt	%
unearned prem	105,747	115.0%
prem def/(dpac)	(22,590)	(24.6%)
M/S apv adjust.	8,800	9.6%
M/S total	91,957	100.0%

policy liabilities ($000s)

	amt	%
claim	320,261	71.3%
premium	83,157	18.5%
M/S apv adjust.	45,557	10.1%
M/S total	448,975	100.0%

2 Activity During the Month of September 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].

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

Table 01	Earned Premium		Paid Indemnity & Allowed Claims Expense		Case increase / (decrease)		Recorded increase / (decrease)	
Accident Year	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	1	1	2,696	399	(1,385)	33	1,312	433
2018	(14)	(14)	1,058	47	(351)	342	707	389
2019	(62)	(62)	879	(551)	163	1,137	1,042	586
2020	16,040	(361)	4,562	(1,199)	6,162	3,017	10,723	1,818
TOTAL	15,964	(437)	9,195	(1,304)	4,589	4,529	13,783	3,225

(Recorded transaction amounts exclude IBNR & other actuarial provisions)

Claims transaction activity is generally volatile; changes from one month to the next are anticipated due to this natural "process variance" (i.e. random variation). Each month, the projection variances are reviewed for signs of projection bias and to identify potential ways to reduce the level of the

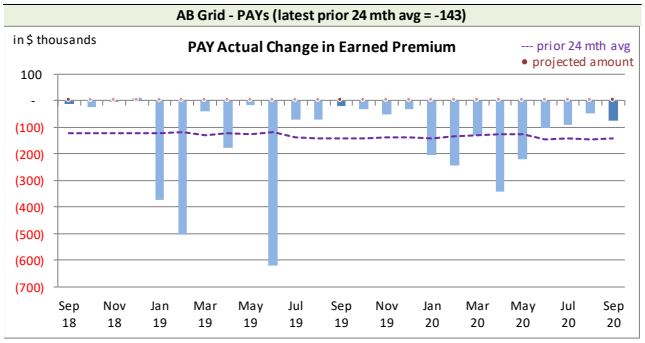
[4]There may be rounding differences in values in this document compared with the associated Bulletin and/or Operational Report.

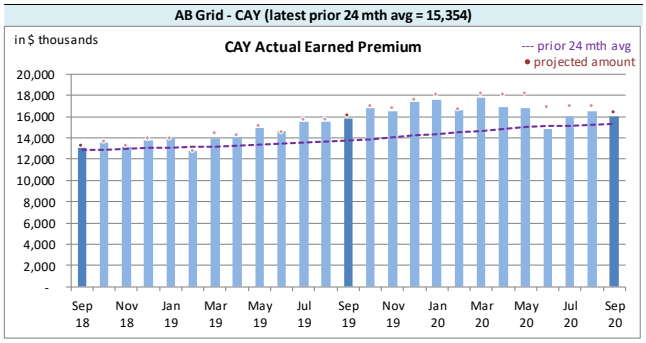
variance. Commentary from our review is provided in the sub-sections that follow.

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*



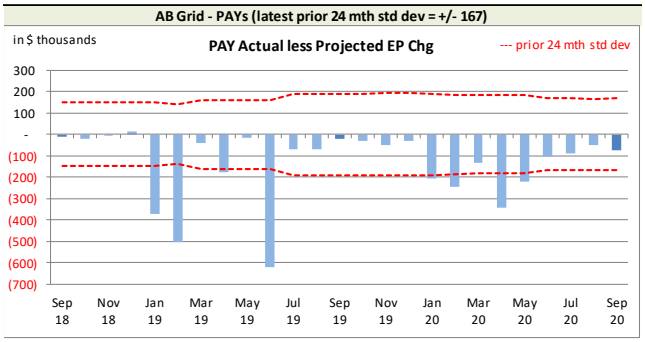


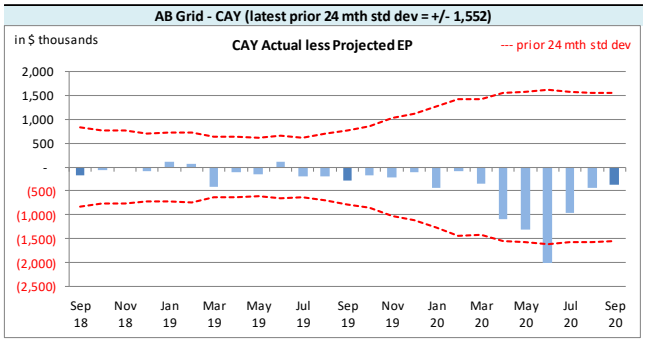
Earned premium changes during a given calendar month in relation to prior accident years tend to be at modest levels, although relatively high levels generally occur at the beginning of each year.

On Latest $ thousands		
Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(143)	15,354
std dev	167	1,552
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 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

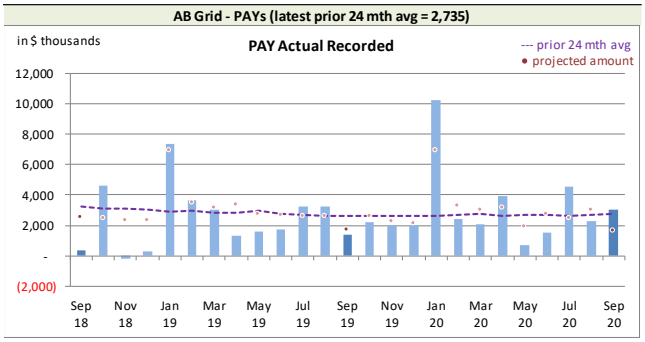
[5]Premium is earned on a daily basis based on the transaction term measured in days. As a result, months with 31 days earned relatively more than those with 30 days, and February earns the least.

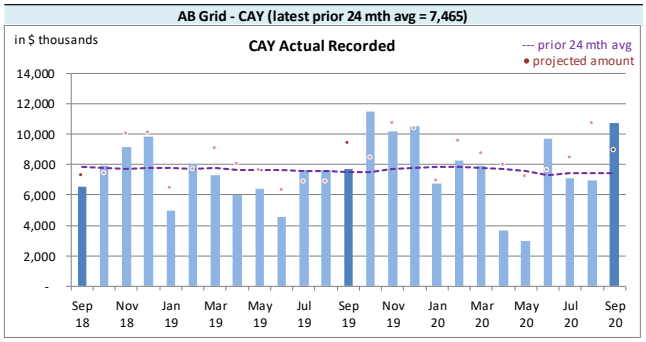
generated prior accident years' (PAYs) bias[6], with actuals generally lower than projected, although the magnitude is not high relative to monthly premium. In addition to the PAYs' bias, the CAY has also shown bias[7], with actuals being generally lower than projected, and while we modified our projections processes in response, bias still exists. Over time, we may consider other projection approaches to address the bias issue, but it has not currently deemed as a priority.

2.1.b AvsP: Recorded Indemnity & Allowed Claims Expense

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

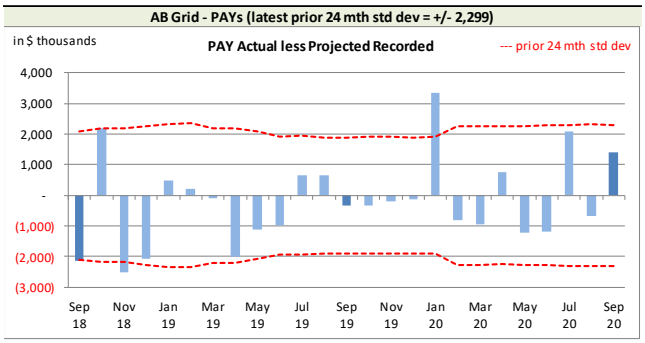
Alberta Grid RSP Actual **Recorded** *by Calendar Month*

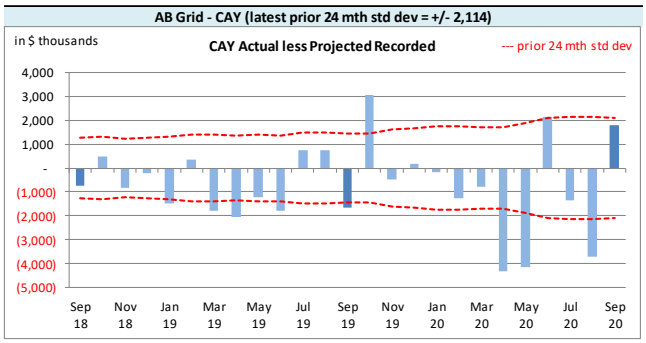




Recorded activity variances from the previous month's projections shown in the following charts, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

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





[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 September 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.

On Latest $ thousands		
Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	2,680	7,408
std dev	2,325	2,146
A-P <> std dev	4	11
% <> std dev	16.0%	44.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	worse

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

The current accident year (CAY) **recorded** variances fell inside of one standard deviation 44% of the time over the last 25 calendar months (see preceding table on the left), suggesting that the projection process has performed worse than simply projecting the prior 24-month average amount. Bias has not been indicated at a 95% confidence level on a lagging 24-month basis (8 of 25 variances were positive).

The 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 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:

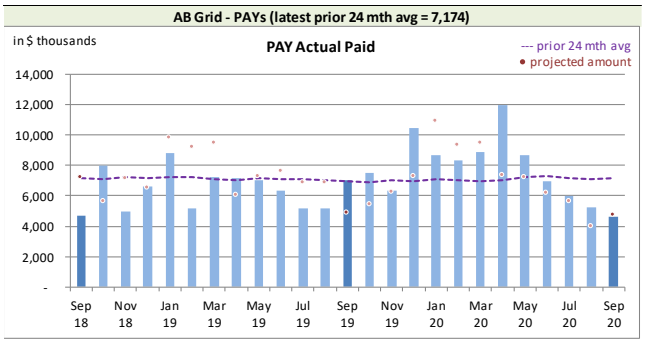
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a CAY becomes a PAY (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of PAYs' ultimates (will show up as a beginning IBNR change one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

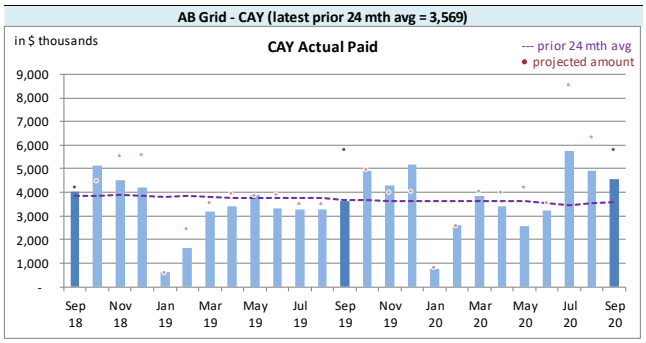
2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

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.

[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.

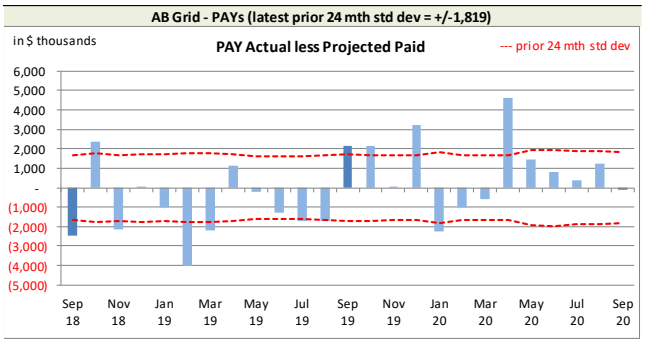
*Alberta Grid RSP Actual **Paid** activity by Calendar Month*

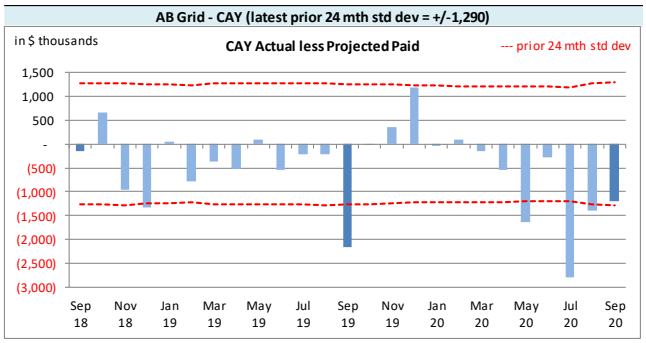




Paid activity variances from the previous month's projections shown in the following charts, including the prior 24-month standard deviation levels to show how the variances from projection compare with historical standard deviations.

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





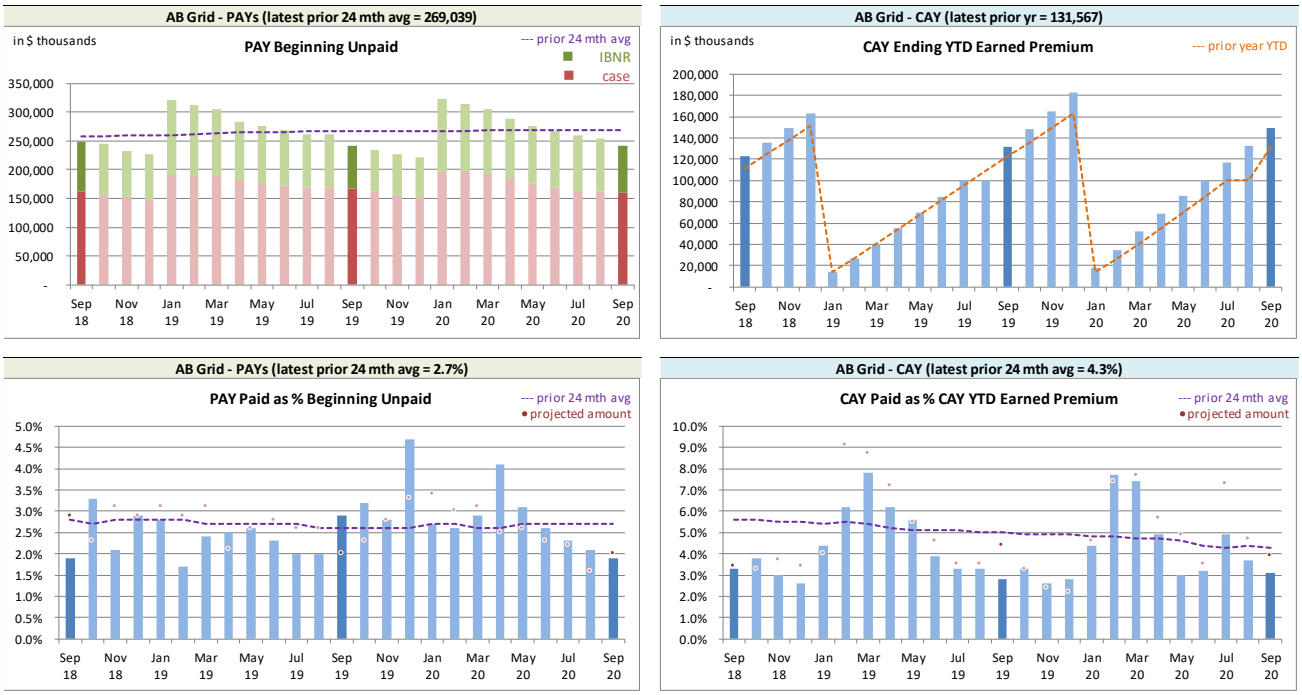
On Latest $ thousands		
Paid	PAYs	CAY
Mthly Avg Paid (prior 24 mths)	7,174	3,569
std dev	1,819	1,290
A-P <> std dev	12	5
% <> std dev	48.0%	20.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	worse	better

With respect to **paid** indemnity & allowed claims expense, 48% 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 20% 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).

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 based on the applicable valuation.

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

[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

	IBNR		actuarial present value adjustments: Discount Amount		actuarial present value adjustments: 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	23,643	(431)	(512)	3	10,375	(46)	33,506	(474)
2018	19,141	(400)	(331)	-	7,179	(7)	25,989	(407)
2019	36,940	(635)	(582)	(3)	10,905	65	47,263	(573)
2020	50,546	(2,096)	(581)	(7)	10,304	114	60,269	(1,989)
TOTAL	130,270	(3,562)	(2,006)	(7)	38,763	126	167,027	(3,443)

The IBNR provision is $3.6 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 years IBNR amount change from last month to this month are broken down:

(i) the change projected last month;

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

(iii) the additional change due to valuation implementation impacts (as applicable)

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

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

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

Table 03

	Premium Deficiency / (Deferred Policy Acquisition Costs)		actuarial present value adjustments		Premium Deficiency / (DPAC) including actuarial present value adjustments	
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
balance:	(22,590)	153	8,800	(56)	(13,790)	97
balance as % unearned premium:	(21.4%)	-	8.3%	-	(13.0%)	-
actual unearned premium:	105,747					
less projected:	(673)					

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 77.7% rather than 76.9% (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	(16,633)	(11.3%)	1,405	1.0%	(15,228)	(10.3%)	(574)	0.8%
CAY	114,660	77.7%	9,723	6.6%	124,383	84.2%	13,244	(0.2%)
TOTAL	98,027	66.4%	11,128	7.5%	109,155	73.9%	12,670	0.6%

("% 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.

[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.

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

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

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

6 EXHIBITS

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

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

EXHIBIT A

IBNR for Member Sharing – includes Actuarial Present Value Adjustments

TABLE EXHIBIT A

Amounts in $000s

IBNR + M/S actuarial present value adjustments

Accident Year	Actual Aug. 2020	Actual Sep. 2020	Projected Oct. 2020	Projected Nov. 2020	Projected Dec. 2020
2004	(70)	(70)	(68)	(65)	(64)
2005	13	14	14	13	11
2006	(118)	(119)	(116)	(111)	(110)
2007	161	162	158	151	145
2008	(107)	(113)	(111)	(105)	(105)
2009	30	29	29	28	27
2010	(297)	(297)	(290)	(275)	(277)
2011	179	161	156	150	140
2012	899	982	955	912	885
2013	1,412	1,126	1,094	1,046	1,010
2014	2,466	2,464	2,397	2,289	2,231
2015	6,605	6,542	6,363	6,075	5,918
2016	8,277	8,106	7,885	7,548	7,143
2017	15,634	14,519	14,149	13,518	13,219
2018	26,839	25,989	25,366	24,945	24,548
2019	48,469	47,263	45,922	44,799	43,329
2020	57,748	60,269	64,196	65,035	68,992
TOTAL	168,140	167,027	168,099	165,953	167,042
Change		(1,113)	1,072	(2,146)	

discount rate
0.24%

interest rate margin
25 basis pts

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 Aug. 2020	Actual Sep. 2020	Projected Oct. 2020	Projected Nov. 2020	Projected Dec. 2020
51.6%	2004	(78)	(78)	(76)	(72)	(71)
60.5%	2005	(27)	(26)	(25)	(24)	(24)
66.3%	2006	(128)	(129)	(126)	(120)	(119)
71.1%	2007	82	83	81	77	76
67.1%	2008	(134)	(139)	(136)	(129)	(128)
60.6%	2009	8	8	8	8	8
61.3%	2010	(402)	(402)	(392)	(373)	(369)
66.2%	2011	(6)	(24)	(23)	(22)	(22)
73.3%	2012	487	571	557	530	525
74.5%	2013	841	575	561	534	529
81.0%	2014	1,690	1,717	1,674	1,594	1,578
92.4%	2015	4,478	4,452	4,341	4,133	4,092
94.5%	2016	5,962	5,872	5,725	5,496	5,177
85.2%	2017	12,180	11,163	10,884	10,351	10,165
82.7%	2018	19,859	19,141	18,662	18,382	18,143
79.5%	2019	38,031	36,940	35,795	34,864	33,574
76.9%	2020	48,935	50,546	53,741	53,884	56,327
	TOTAL	131,778	130,270	131,251	129,113	129,461
	Change		(1,508)	981	(2,138)	

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

EXHIBIT C

Premium Liabilities

TABLE EXHIBIT C

Premium Liabilities	Actual Aug. 2020	Actual Sep. 2020	Projected Oct. 2020	Projected Nov. 2020	Projected Dec. 2020
	Amounts in $000s				
(1) unearned premium (UP)	102,258	105,747	107,957	108,568	107,642
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	86.6%	87.0%	87.3%	87.7%	88.0%
(3) expected future costs {(1) x (2)}	88,601	91,957	94,240	95,163	94,764
(4) premium deficiency / (deferred policy acquisition cost)	(13,657)	(13,790)	(13,717)	(13,405)	(12,878)
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	78.4%	78.6%	78.9%	79.3%	79.6%
(6) expected future costs {(1) x (5)}	80,122	83,157	85,220	86,055	85,694
(7) premium deficiency / (deferred policy acquisition cost)	(22,136)	(22,590)	(22,737)	(22,513)	(21,948)

EXHIBIT D

Projected Year-end Policy Liabilities

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

Alberta Grid	Projected Balances as at Dec. 31, 2020 ($000s)									
ending 2020	nominal values			actuarial present value adjustments (apvs)						
Acc Yr	Case	IBNR	Total Unpaid	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL
2004	3	(71)	(68)	-	-	7	-	7	7	(61)
2005	377	(24)	353	-	-	35	-	35	35	388
2006	205	(119)	86	-	-	9	-	9	9	95
2007	615	76	691	(2)	2	69	-	69	69	760
2008	356	(128)	228	(1)	1	23	-	23	23	251
2009	179	8	187	(1)	1	19	-	19	19	206
2010	1,286	(369)	917	(4)	4	92	-	92	92	1,009
2011	1,648	(22)	1,626	(7)	7	163	(1)	162	162	1,788
2012	3,085	525	3,610	(14)	14	361	(1)	360	360	3,970
2013	4,301	529	4,830	(19)	19	483	(2)	481	481	5,311
2014	4,986	1,578	6,564	(33)	33	656	(3)	653	653	7,217
2015	14,261	4,092	18,353	(92)	92	1,835	(9)	1,826	1,826	20,179
2016	14,581	5,177	19,758	(99)	99	1,976	(10)	1,966	1,966	21,724
2017	20,551	10,165	30,716	(184)	184	3,072	(18)	3,054	3,054	33,770
2018	33,409	18,143	51,552	(309)	309	6,444	(39)	6,405	6,405	57,957
2019	45,021	33,574	78,595	(550)	550	9,824	(69)	9,755	9,755	88,350
PAYs (sub-total):	144,864	73,134	217,998	(1,315)	1,315	25,068	(152)	24,916	24,916	242,914
CAY (2020)	51,759	56,327	108,086	(757)	757	12,754	(89)	12,665	12,665	120,751
claims liabilities:	196,623	129,461	326,084	(2,072)	2,072	37,822	(241)	37,581	37,581	363,665
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	107,642	(21,948)	85,694	(598)	598	9,134	(64)	9,070	9,070	94,764
									*Total may not be sum of parts, as apvs apply to future costs within UPR	
policy liabilities:			**411,778**	**(2,670)**	**2,670**	**46,956**	**(305)**	**46,651**	**46,651**	**458,429**

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 (Jun. 30, 2020)

Accident Year	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%	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%	9.8%	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%	5.8%	11.8%
2021	12.0%	10.0%	5.8%	10.7%
prem liab	12.0%	10.0%	5.8%	10.7%

discount rate:	0.24%
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 (0.24%), the prior valuation assumption (0.63%) 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

	Actuarial Present Value of Provisions at Various Discount Rates - Dec. 31, 2020 projected Unpaid							
AY	0.00%	0.00%	0.24%	0.74%	1.24%	1.74%	0.63%	1.44%
2004	-	-	-	-	-	-	-	-
2005	178	178	178	178	178	177	178	178
2006	189	189	189	189	188	187	189	188
2007	653	653	653	649	646	642	650	644
2008	267	267	267	265	263	261	265	262
2009	260	260	260	258	256	254	259	256
2010	802	802	802	795	788	781	796	785
2011	1,827	1,827	1,826	1,810	1,794	1,778	1,814	1,788
2012	3,663	3,663	3,662	3,631	3,600	3,571	3,638	3,589
2013	5,386	5,386	5,384	5,338	5,293	5,250	5,348	5,276
2014	7,954	7,954	7,951	7,872	7,794	7,718	7,889	7,764
2015	19,130	19,130	19,121	18,909	18,699	18,495	18,956	18,616
2016	23,304	23,304	23,294	23,041	22,787	22,544	23,095	22,690
2017	35,167	35,167	35,148	34,735	34,324	33,927	34,827	34,163
2018	56,786	56,786	56,748	56,019	55,289	54,591	56,180	55,008
2019	87,769	87,769	87,701	86,436	85,180	83,980	86,720	84,701
2020	118,160	118,160	118,072	116,340	114,624	112,973	116,716	113,956
Total	361,495	361,495	361,256	356,465	351,703	347,129	357,520	349,864
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

	Dollar Impact Relative to Valuation Assumption							
AY	0.00%	0.00%	0.24%	0.74%	1.24%	1.74%	0.63%	1.44%
Total	239	239	-	(4,791)	(9,553)	(14,127)	(3,736)	(11,392)
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

	Percentage Impact Relative to Valuation Assumption							
AY	0.00%	0.00%	0.24%	0.74%	1.24%	1.74%	0.63%	1.44%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	(0.6%)	-	-
2006	-	-	-	-	(0.5%)	(1.1%)	-	(0.5%)
2007	-	-	-	(0.6%)	(1.1%)	(1.7%)	(0.5%)	(1.4%)
2008	-	-	-	(0.7%)	(1.5%)	(2.2%)	(0.7%)	(1.9%)
2009	-	-	-	(0.8%)	(1.5%)	(2.3%)	(0.4%)	(1.5%)
2010	-	-	-	(0.9%)	(1.7%)	(2.6%)	(0.7%)	(2.1%)
2011	0.1%	0.1%	-	(0.9%)	(1.8%)	(2.6%)	(0.7%)	(2.1%)
2012	0.0%	0.0%	-	(0.8%)	(1.7%)	(2.5%)	(0.7%)	(2.0%)
2013	0.0%	0.0%	-	(0.9%)	(1.7%)	(2.5%)	(0.7%)	(2.0%)
2014	0.0%	0.0%	-	(1.0%)	(2.0%)	(2.9%)	(0.8%)	(2.4%)
2015	0.0%	0.0%	-	(1.1%)	(2.2%)	(3.3%)	(0.9%)	(2.6%)
2016	0.0%	0.0%	-	(1.1%)	(2.2%)	(3.2%)	(0.9%)	(2.6%)
2017	0.1%	0.1%	-	(1.2%)	(2.3%)	(3.5%)	(0.9%)	(2.8%)
2018	0.1%	0.1%	-	(1.3%)	(2.6%)	(3.8%)	(1.0%)	(3.1%)
2019	0.1%	0.1%	-	(1.4%)	(2.9%)	(4.2%)	(1.1%)	(3.4%)
2020	0.1%	0.1%	-	(1.5%)	(2.9%)	(4.3%)	(1.1%)	(3.5%)
Total	0.1%	0.1%	-	(1.3%)	(2.6%)	(3.9%)	(1.0%)	(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

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	(70)	4	(4)	-	-	-	(70)
2005	13	-	1	-	1	7.7%	14
2006	(118)	7	(8)	-	(1)	0.8%	(119)
2007	161	(6)	7	-	1	0.6%	162
2008	(107)	6	(12)	-	(6)	5.6%	(113)
2009	30	(1)	-	-	(1)	(3.3%)	29
2010	(297)	19	(19)	-	-	-	(297)
2011	179	(5)	(13)	-	(18)	(10.1%)	161
2012	899	(38)	121	-	83	9.2%	982
2013	1,412	(63)	(223)	-	(286)	(20.3%)	1,126
2014	2,466	(115)	113	-	(2)	(0.1%)	2,464
2015	6,605	(307)	244	-	(63)	(1.0%)	6,542
2016	8,277	(316)	145	-	(171)	(2.1%)	8,106
2017	15,634	(289)	(826)	-	(1,115)	(7.1%)	14,519
2018	26,839	(443)	(407)	-	(850)	(3.2%)	25,989
2019	48,469	(633)	(573)	-	(1,206)	(2.5%)	47,263
2020	57,748	4,510	(1,989)	-	2,521	4.4%	60,269
Grand Total	**168,140**	**2,330**	**(3,443)**	**-**	**(1,113)**	**(0.7%)**	**167,027**

EXHIBIT G

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

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

IBNR - in $000s

AccYear	Values 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	(78)	4	(4)	-	-	-	(78)
2005	(27)	1	-	-	1	(3.7%)	(26)
2006	(128)	7	(8)	-	(1)	0.8%	(129)
2007	82	(4)	5	-	1	1.2%	83
2008	(134)	7	(12)	-	(5)	3.7%	(139)
2009	8	-	-	-	-	-	8
2010	(402)	22	(22)	-	-	-	(402)
2011	(6)	-	(18)	-	(18)	300.0%	(24)
2012	487	(26)	110	-	84	17.2%	571
2013	841	(45)	(221)	-	(266)	(31.6%)	575
2014	1,690	(91)	118	-	27	1.6%	1,717
2015	4,478	(242)	216	-	(26)	(0.6%)	4,452
2016	5,962	(268)	178	-	(90)	(1.5%)	5,872
2017	12,180	(244)	(773)	-	(1,017)	(8.3%)	11,163
2018	19,859	(318)	(400)	-	(718)	(3.6%)	19,141
2019	38,031	(456)	(635)	-	(1,091)	(2.9%)	36,940
2020	48,935	3,707	(2,096)	-	1,611	3.3%	50,546
Grand Total	**131,778**	**2,054**	**(3,562)**	**-**	**(1,508)**	**(1.1%)**	**130,270**