ALBERTA NON-GRID RISK SHARING POOL

SEPTEMBER 2020 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

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ACTUARIAL HIGHLIGHTS

RSP ALBERTA NON-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 NON-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)	1.46% mfad 25 bp	Oct. 2019	updated valuation (roll forward) : accident year 2019 loss ratio decreased 2.6 points to 102.2%; discount rate increased 3 basis points; no change to selected margins for adverse deviations
Dec. 31, 2019 (completed)	1.64% mfad 25 bp	Mar. 2020	update valuation: 2019 loss ratio decreased 1.3 points to 100.9%; accident year 2020 loss ratio decreased 7.0 points to 99.7%; discount rate increased 18 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 3.6 points to 96.1%; discount rate decreased 101 basis points; no change to selected margins for adverse deviations
Jun. 30, 2020 (completed)	0.26% mfad 25 bp	Aug. 2020	update valuation: accident year 2020 loss ratio increased 3.7 points to 99.8%; discount rate decreased by 37 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

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 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.
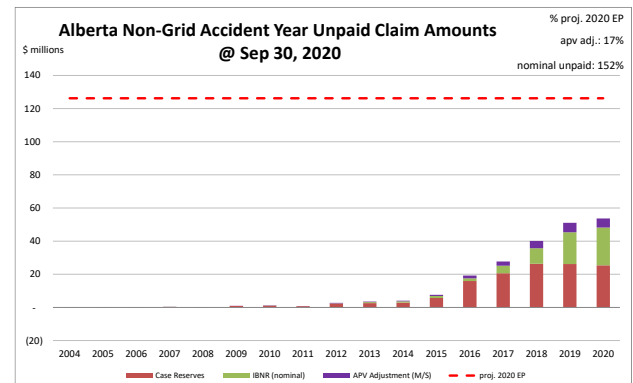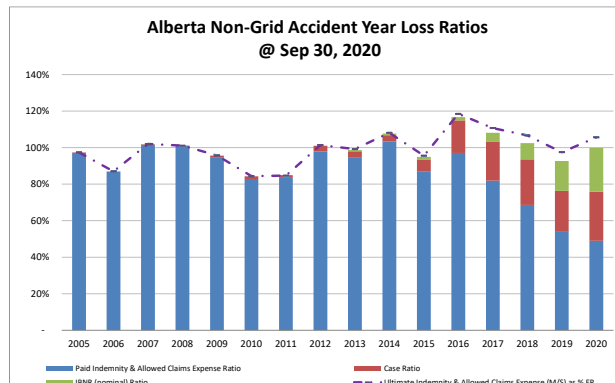
"M/S" refers to "Member Statement" values – that is, actuarial present value adjustments at the selected discount rate.

The current actuarial present value adjustments balance ($21.7 million – see the following table) represents 17% of the earned premium projected for the full year 2020 (see the upper right corner of

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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.

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	131,258	61.6%
ibnr	60,239	28.3%
M/S apv adjust.	21,694	10.2%
M/S total	213,191	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 70% of the IBNR balance relates to accident years 2019 and 2020 (see Exhibit B). Approximately 90% 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	62,387	91.7%
prem def/(dpac)	(130)	(0.2%)
M/S apv adjust.	5,794	8.5%
M/S total	68,051	100.0%

policy liabilities ($000s)

	amt	%
claim	191,497	68.1%
premium	62,257	22.1%
M/S apv adjust.	27,488	9.8%
M/S total	281,242	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 Non-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	(2)	(2)	4,892	3,499	(3,451)	(2,621)	1,441	878
2018	(38)	(38)	1,165	390	3	346	1,168	736
2019	(34)	(34)	711	19	(312)	66	400	86
2020	9,936	(501)	6,094	(103)	1,899	(1,339)	7,993	(1,442)
TOTAL	9,862	(575)	12,862	3,805	(1,860)	(3,547)	11,002	258

(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

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[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 non-Grid RSP Actual **Earned Premium** by Calendar Month*
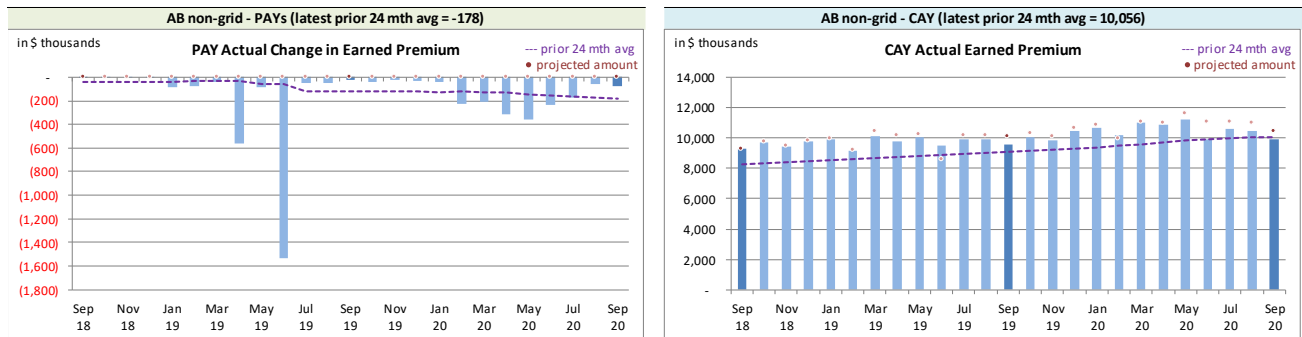
Earned premium changes during a given calendar month in relation to prior accident years tend to be at modest levels, although relatively high levels generally occur at the beginning of each year.

On Latest $ thousands		
Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(178)	10,056
std dev	320	541
A-P <> std dev	6	2
% <> std dev	24.0%	8.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	better

The associated variance 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 non-Grid RSP Actual vs. Projected Summary: **Earned Premium** Variances by Calendar Month*
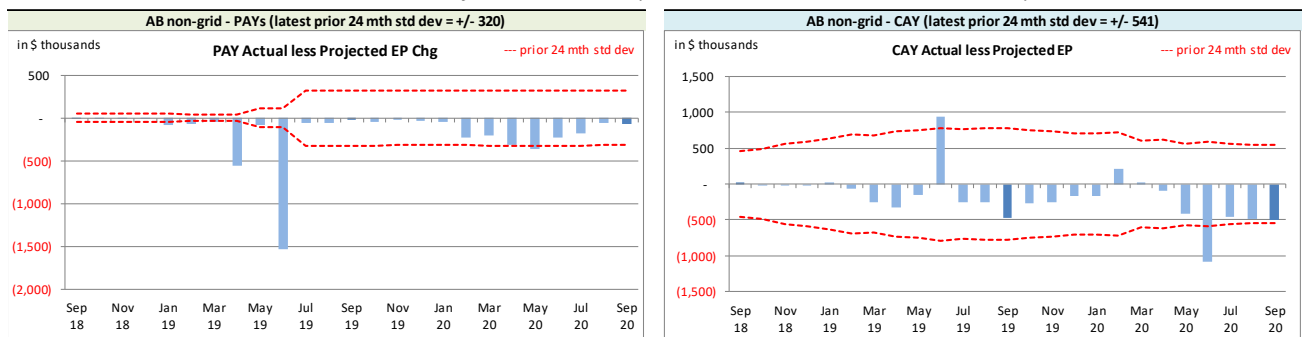
We project **earned premium** changes from known unearned premium and projected written premium levels, but upload the total projections as current accident year (CAY). This process has generated

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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' (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.

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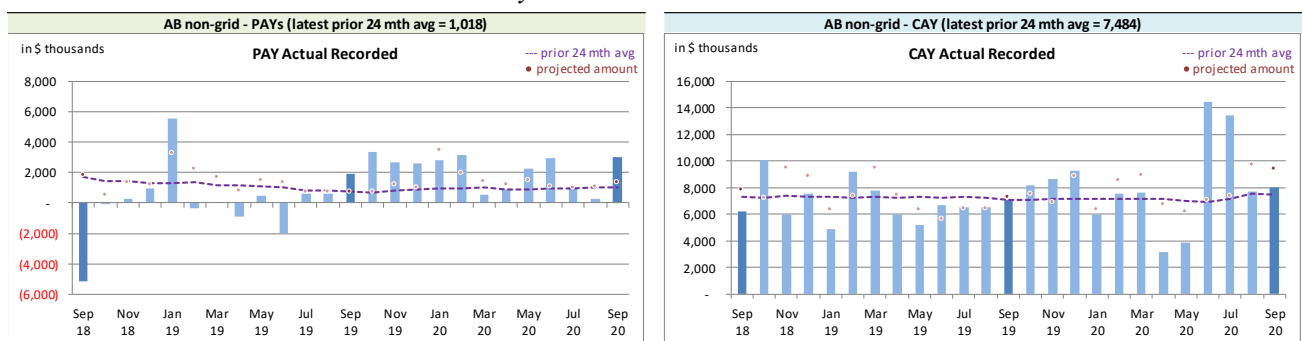
Recorded activity variances from the previous month's projections are shown in the following charts, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

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

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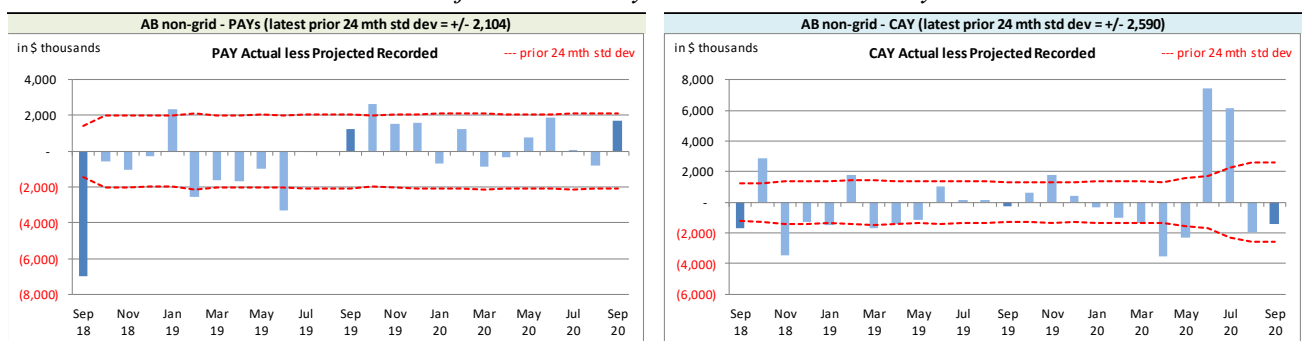
[6]The PAYs' variances will show bias as the projection upload forces all earned premium projections to be attributed to the CAY.

[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 September 2020 had only 5 months where the actuals was 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)	1,018	7,484
std dev	2,104	2,590
A-P <> std dev	5	13
% <> std dev	20.0%	52.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	worse

With respect to **recorded** indemnity & allowed claims expense activity, 20% 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 has not been indicated at a 95% confidence level on a rolling 25-month basis (10 of 25 variances are positive).

The current accident year (CAY) **recorded** variances fell outside of one standard deviation 52% of the time over the last 25 calendar months (see the 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 rolling 25-month basis (10 of 25 variances are 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, the following charts related to levels influencing **recorded** activity.

*Alberta non-Grid RSP Levels that influence[8] **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.

*Alberta non-Grid RSP Actual **Paid** activity by Calendar Month*
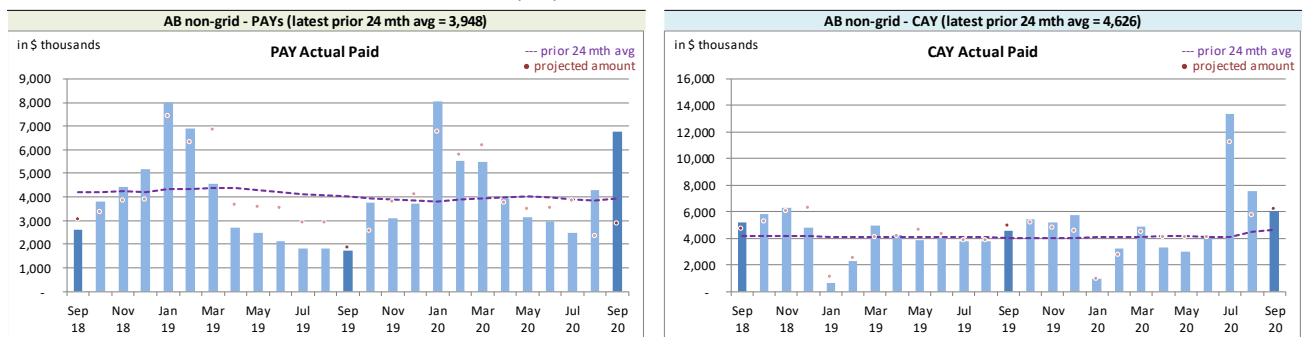
Paid activity variances from the previous month's projections are shown in the following charts, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

*Alberta non-Grid RSP Actual vs Projected Summary: **Paid** Variances by Calendar Month*
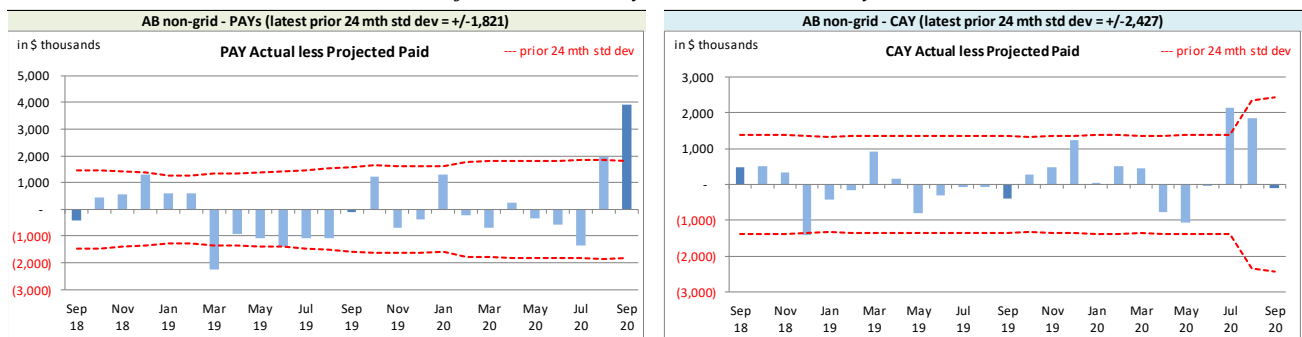
On Latest $ thousands		
Paid	PAYs	CAY
Mthly Avg Paid (prior 24 mths)	3,948	4,626
std dev	1,821	2,427
A-P <> std dev	3	2
% <> std dev	12.0%	8.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	better

With respect to **paid** indemnity & allowed claims expense, 12% 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 better than simply projecting the prior 24-month average amount (assuming it follows a normal distribution). Bias has not been indicated at a 95% confidence level on a lagging 24-month basis (10 of 25 variances are positive).

The PAY **paid** variance was outside of the one standard deviation band this month (see preceding chart on the left), the higher than projected paid activity was reviewed, and attributed to large claim settlements reported in the month, which have been confirmed by the member companies.

The current accident year (CAY) **paid** variances fell outside of one standard deviation 8% of the time over the last 25 calendar months (see the preceding table), 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 (13 of 25 variances are positive).

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

*Alberta non-Grid RSP Levels that influence[9] **Paid** activity by Calendar Month*

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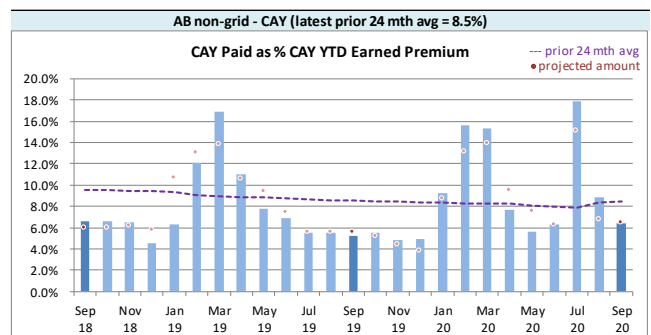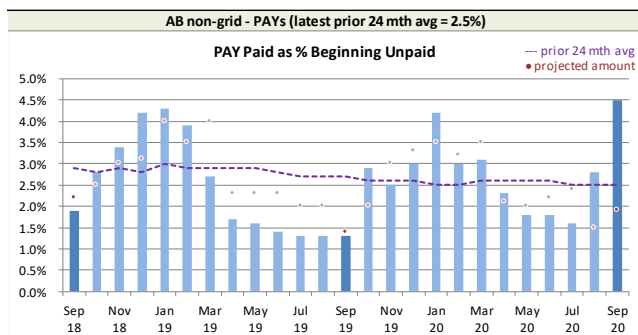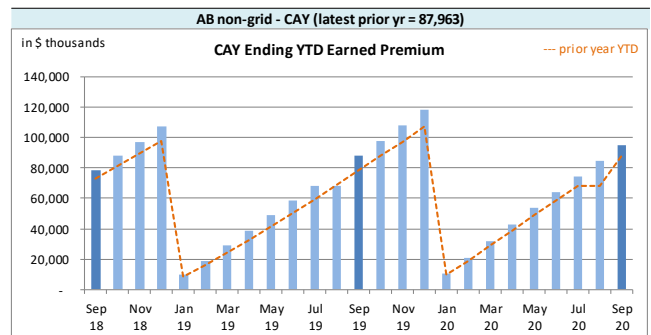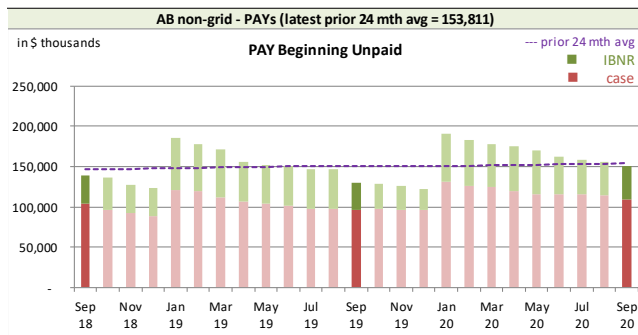
[9]Our paid projections for the prior accident years are based on selected ratios of paid to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date paid to year-to-date selected ultimate indemnity (i.e. selected LR x earned premium). In both cases, the ratio selection is based on our review of the more recent recorded activity and recent AvsP analyses.

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[10], 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 and the associated one-month projections from last month's Report.

Alberta Non-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	8,872	(881)	(425)	22	6,593	(371)	15,040	(1,230)
2018	9,340	(775)	(250)	3	4,681	(56)	13,771	(828)
2019	19,199	(117)	(318)	-	5,953	(6)	24,834	(123)
2020	22,828	941	(338)	2	5,798	(47)	28,288	896
TOTAL	60,239	(832)	(1,331)	27	23,025	(480)	81,933	(1,285)

The IBNR provision is $0.8 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

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

(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 costs asset position (shown as a negative amount) prior to and after actuarial present value adjustments. Actuarial present value adjustments increase the liability 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 Non-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:	(130)	15	5,794	(183)	5,664	(168)
balance as % unearned premium:	(0.2%)	-	9.3%	-	9.1%	-
actual unearned premium:	62,387					
less projected:	(1,969)					

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[11] 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[12], 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 101.6% rather than 99.8% (the valuation ultimate ratio for accident

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[11]"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).

[12]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.

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 Non-Grid RSP Summary of Operations due to rounding.)

Alberta Non-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	(5,319)	(5.7%)	927	1.0%	(4,392)	(4.7%)	(801)	(0.4%)
CAY	94,662	101.6%	5,460	5.9%	100,122	107.5%	10,347	(0.3%)
TOTAL	89,343	95.9%	6,387	6.9%	95,730	102.8%	9,546	(0.7%)

("% 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 detailed in section 6, Exhibit B, refer to the estimates derived on the basis of various actuarial methodologies applied to the experience of the Alberta Non-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

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	42	42	41	39	38
	2005	13	13	13	12	12
	2006	83	83	81	77	75
	2007	96	96	94	90	86
	2008	68	69	68	65	63
	2009	65	65	61	60	58
	2010	129	126	122	117	113
	2011	(8)	(158)	(156)	(148)	(144)
	2012	553	358	347	334	322
	2013	905	904	881	842	814
	2014	1,162	1,144	1,117	1,068	1,032
discount rate	2015	2,042	1,905	1,857	1,776	1,716
0.26%	2016	4,524	3,338	3,220	3,112	2,984
	2017	7,295	7,055	6,931	6,660	6,459
interest rate margin	2018	15,128	13,771	13,286	12,994	12,647
25 basis pts	2019	25,358	24,834	24,500	24,132	23,479
	2020	25,934	28,288	29,894	31,126	44,257
	TOTAL	83,389	81,933	82,357	82,356	94,011
	Change		(1,456)	424	(1)	

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
	349.1%	2004	36	36	35	33	32
	97.4%	2005	5	5	5	5	5
	87.0%	2006	75	75	74	70	68
	101.9%	2007	60	60	59	56	54
	101.1%	2008	65	66	65	62	60
	95.6%	2009	(21)	(21)	(21)	(20)	(19)
	84.3%	2010	22	19	19	18	17
	84.6%	2011	(211)	(212)	(208)	(198)	(192)
	101.1%	2012	201	110	108	103	100
	98.8%	2013	586	585	574	545	529
	107.7%	2014	771	778	764	726	704
	94.8%	2015	1,341	1,224	1,202	1,142	1,108
	116.6%	2016	2,712	1,596	1,527	1,451	1,387
	108.1%	2017	4,674	4,551	4,505	4,280	4,126
	102.5%	2018	10,547	9,340	8,948	8,760	8,515
	92.7%	2019	19,630	19,199	18,949	18,665	18,105
	99.8%	2020	20,906	22,828	24,015	24,705	35,733
		TOTAL	61,399	60,239	60,620	60,403	70,332
		Change		(1,160)	381	(217)	

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 Aug. 2020	Actual Sep. 2020	Projected Oct. 2020	Projected Nov. 2020	Projected Dec. 2020
(1) unearned premium (UP)	62,963	62,387	65,021	75,141	81,205
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	109.2%	109.1%	108.9%	108.8%	108.6%
(3) expected future costs {(1) x (2)}	68,752	68,051	70,823	81,734	88,213
(4) premium deficiency / (deferred policy acquisition cost)	5,789	5,664	5,802	6,593	7,008
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	99.9%	99.8%	99.6%	99.5%	99.4%
(6) expected future costs {(1) x (5)}	62,898	62,257	64,792	74,774	80,702
(7) premium deficiency / (deferred policy acquisition cost)	(65)	(130)	(229)	(367)	(503)

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 non-Grid ending 2020	Projected Balances as at Dec. 31, 2020 ($000s)									
	nominal values			actuarial present value adjustments (apvs)						
Acc Yr	Case	IBNR	Total Unpaid	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL
2004	24	32	56	-	-	6	-	6	6	62
2005	67	5	72	-	-	7	-	7	7	79
2006	-	68	68	-	-	7	-	7	7	75
2007	270	54	324	(1)	1	32	-	32	32	356
2008	(32)	60	28	-	-	3	-	3	3	31
2009	785	(19)	766	(4)	4	77	-	77	77	843
2010	948	17	965	(5)	5	96	-	96	96	1,061
2011	677	(192)	485	(3)	3	48	-	48	48	533
2012	2,126	100	2,226	(11)	11	223	(1)	222	222	2,448
2013	2,340	529	2,869	(17)	17	287	(2)	285	285	3,154
2014	2,596	704	3,300	(23)	23	330	(2)	328	328	3,628
2015	5,087	1,108	6,195	(50)	50	613	(5)	608	608	6,803
2016	14,688	1,387	16,075	(113)	113	1,608	(11)	1,597	1,597	17,672
2017	19,366	4,126	23,492	(164)	164	2,349	(16)	2,333	2,333	25,825
2018	24,776	8,515	33,291	(233)	233	4,161	(29)	4,132	4,132	37,423
2019	25,192	18,105	43,297	(303)	303	5,412	(38)	5,374	5,374	48,671
PAYs (sub-total):	98,910	34,599	133,509	(927)	927	15,259	(104)	15,155	15,155	148,664
CAY (2020)	39,561	35,733	75,294	(527)	527	8,584	(60)	8,524	8,524	83,818
claims liabilities:	138,471	70,332	208,803	(1,454)	1,454	23,843	(164)	23,679	23,679	232,482

	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	81,205	(503)	80,702	(402)	402	7,549	(38)	7,511	7,511	88,213

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

policy liabilities:			289,505	(1,856)	1,856	31,392	(202)	31,190	31,190	320,695

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 (Jun. 30, 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%	5.0%	10.0%
2014	10.0%	10.0%	9.3%	10.0%
2015	10.0%	10.0%	10.0%	9.9%
2016	10.0%	10.0%	10.0%	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%	6.0%	12.5%
2020	12.2%	10.0%	6.5%	11.4%
2021	11.8%	10.0%	5.1%	9.4%
prem liab	11.8%	10.0%	5.1%	9.4%

| | discount rate: | 0.26% |
| | margin (basis points): | 25 |

FI **FACILITY Association**

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 (0.26%), the prior valuation assumption (0.63%) and the prior fiscal year end valuation assumption (1.46%) 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%	0.26%	0.76%	1.26%	1.76%	0.63%	1.46%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	1	1	1	1	1	1	1	1
2007	277	277	277	275	274	272	276	273
2008	-	-	-	-	-	-	-	-
2009	687	687	687	681	675	669	682	672
2010	1,062	1,062	1,061	1,051	1,042	1,033	1,054	1,038
2011	2,410	2,410	2,409	2,383	2,357	2,333	2,389	2,348
2012	3,293	3,293	3,291	3,257	3,224	3,192	3,266	3,211
2013	3,162	3,162	3,159	3,124	3,089	3,056	3,133	3,076
2014	4,236	4,236	4,232	4,172	4,114	4,058	4,187	4,091
2015	6,655	6,655	6,648	6,542	6,439	6,340	6,569	6,399
2016	16,616	16,616	16,602	16,373	16,151	15,937	16,432	16,065
2017	23,904	23,904	23,884	23,578	23,276	22,989	23,655	23,161
2018	37,889	37,889	37,852	37,375	36,909	36,461	37,496	36,729
2019	48,714	48,714	48,666	47,990	47,335	46,705	48,163	47,083
2020	82,955	82,955	82,879	81,770	80,689	79,658	82,049	80,273
Total	231,861	231,861	231,648	228,572	225,575	222,704	229,352	224,420
	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%	0.26%	0.76%	1.26%	1.76%	0.63%	1.46%
Total	213	213	-	(3,076)	(6,073)	(8,944)	(2,296)	(7,228)
	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%	0.26%	0.76%	1.26%	1.76%	0.63%	1.46%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-
2007	-	-	-	(0.7%)	(1.1%)	(1.8%)	(0.4%)	(1.4%)
2008	-	-	-	-	-	-	-	-
2009	-	-	-	(0.9%)	(1.7%)	(2.6%)	(0.7%)	(2.2%)
2010	0.1%	0.1%	-	(0.9%)	(1.8%)	(2.6%)	(0.7%)	(2.2%)
2011	0.0%	0.0%	-	(1.1%)	(2.2%)	(3.2%)	(0.8%)	(2.5%)
2012	0.1%	0.1%	-	(1.0%)	(2.0%)	(3.0%)	(0.8%)	(2.4%)
2013	0.1%	0.1%	-	(1.1%)	(2.2%)	(3.3%)	(0.8%)	(2.6%)
2014	0.1%	0.1%	-	(1.4%)	(2.8%)	(4.1%)	(1.1%)	(3.3%)
2015	0.1%	0.1%	-	(1.6%)	(3.1%)	(4.6%)	(1.2%)	(3.7%)
2016	0.1%	0.1%	-	(1.4%)	(2.7%)	(4.0%)	(1.0%)	(3.2%)
2017	0.1%	0.1%	-	(1.3%)	(2.5%)	(3.7%)	(1.0%)	(3.0%)
2018	0.1%	0.1%	-	(1.3%)	(2.5%)	(3.7%)	(0.9%)	(3.0%)
2019	0.1%	0.1%	-	(1.4%)	(2.7%)	(4.0%)	(1.0%)	(3.3%)
2020	0.1%	0.1%	-	(1.3%)	(2.6%)	(3.9%)	(1.0%)	(3.1%)
Total	0.1%	0.1%	-	(1.3%)	(2.6%)	(3.9%)	(1.0%)	(3.1%)
	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 Non-Grid**
AccountCode Desc	**IBNR - Discounted**

M/S 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	42	(1)	1	-	-	-	42
2005	13	-	-	-	-	-	13
2006	83	(2)	2	-	-	-	83
2007	96	(1)	1	-	-	-	96
2008	68	(1)	2	-	1	1.5%	69
2009	65	(2)	2	-	-	-	65
2010	129	(2)	(1)	-	(3)	(2.3%)	126
2011	(8)	-	(150)	-	(150)	1,875.0%	(158)
2012	553	(11)	(184)	-	(195)	(35.3%)	358
2013	905	(17)	16	-	(1)	(0.1%)	904
2014	1,162	(22)	4	-	(18)	(1.5%)	1,144
2015	2,042	(39)	(98)	-	(137)	(6.7%)	1,905
2016	4,524	(228)	(958)	-	(1,186)	(26.2%)	3,338
2017	7,295	(373)	133	-	(240)	(3.3%)	7,055
2018	15,128	(529)	(828)	-	(1,357)	(9.0%)	13,771
2019	25,358	(401)	(123)	-	(524)	(2.1%)	24,834
2020	25,934	1,458	896	-	2,354	9.1%	28,288
Grand Total	**83,389**	**(171)**	**(1,285)**	**-**	**(1,456)**	**(1.7%)**	**81,933**

EXHIBIT G

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

RSP	Alberta Non-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	36	(1)	1	-	-	-	36
2005	5	-	-	-	-	-	5
2006	75	(1)	1	-	-	-	75
2007	60	(1)	1	-	-	-	60
2008	65	(1)	2	-	1	1.5%	66
2009	(21)	-	-	-	-	-	(21)
2010	22	-	(3)	-	(3)	(13.6%)	19
2011	(211)	4	(5)	-	(1)	0.5%	(212)
2012	201	(4)	(87)	-	(91)	(45.3%)	110
2013	586	(11)	10	-	(1)	(0.2%)	585
2014	771	(14)	21	-	7	0.9%	778
2015	1,341	(24)	(93)	-	(117)	(8.7%)	1,224
2016	2,712	(187)	(929)	-	(1,116)	(41.2%)	1,596
2017	4,674	(323)	200	-	(123)	(2.6%)	4,551
2018	10,547	(432)	(775)	-	(1,207)	(11.4%)	9,340
2019	19,630	(314)	(117)	-	(431)	(2.2%)	19,199
2020	20,906	981	941	-	1,922	9.2%	22,828
Grand Total	**61,399**	**(328)**	**(832)**	**-**	**(1,160)**	**(1.9%)**	**60,239**