ALBERTA NON-GRID RISK SHARING POOL

NOVEMBER 2019 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

Related Bulletin: F19-098 Alberta Risk Sharing Pools - November 2019 Operational Reports

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FACILITY Association

ACTUARIAL HIGHLIGHTS

RSP ALBERTA NON-GRID

OPERATIONAL REPORT

NOVEMBER 2019

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1 Summary

Key Points

(a) Although not directly discussed in these highlights, the growth in year-over-year transfer counts this month (28%) was well below projected (52%); and

(b) otherwise, the month's activities were generally aligned with projections from last month.

1.1 Valuation Schedule (Fiscal Year 2019)

The November 2019 Operational Report leverages actuarial assumptions consistent with last month (that is, it does not reflect the results of an updated valuation). The table below summarizes the implemented valuations for fiscal year 2019.

ALBERTA NON-GRID RISK SHARING POOL
FISCAL YEAR 2019 – SCHEDULE OF VALUATIONS

Valuation Date	Discount Rate (per annum)	Operational Report	Description of Changes
Sep. 30, 2018 (completed)	2.29% mfad 25 bp	Oct. 2018	updated valuation (roll forward): accident year 2018 loss ratio decreased 2.8 points to 109.3%; discount rate increased 42 basis points; no change to selected margins for adverse deviations
Dec. 31, 2018 (completed)	1.93% mfad 25 bp	Mar. 2019	updated valuation: accident year 2019 loss ratio increased 1.4 points to 108.5%; discount rate decreased 36 basis points; no change to selected margins for adverse deviations
Mar. 31, 2019 (completed)	1.46% mfad 25 bp	May 2019	updated valuation (roll forward): accident year 2019 loss ratio increased 0.2 points to 108.7%; discount rate decreased 47 basis points; no change to selected margins for adverse deviations
Jun. 30, 2019 (completed)	1.43% mfad 25 bp	Aug. 2019	updated valuation: accident year 2019 loss ratio decreased 3.9 points to 104.8%; discount rate decreased 3 basis points; selected margins for adverse deviations were updated
Sep. 30, 2019 (completed)	1.46% mfad 25 bp	Oct. 2019	update 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

Under the proposed schedule for fiscal year 2019, the "off-half" valuation quarters ending March 31, 2019 and September 30, 2019 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) has assumed the Appointed Actuary's role effective as of October 24, 2019, from Liam McFarlane (the Appointed Actuary from June 1, 2013), due to Mr. McFarlane's departure from EY.

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 changes are provided below.

In the **Alberta Treasury Board and Finance Notice 04-2018** (Clarification of Minor Injury Regulation), dated **May 17, 2018**, the Alberta Superintendent of Insurance advised that clarifying amendments have been made to the definition of minor injuries under the Minor Injury Regulation (MIR). With the **most recent** valuation September 30, 2019), 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 December 31, 2018), impacting the selection of ultimates.

The **Minister of Treasury Board and Finance issued Ministerial Order 14/2018**, on **October 31, 2018**, which states unless otherwise directed by the Minister, the AIRB may not approve filings from insurers for cumulative rate increases on private passenger vehicles greater than +5.0% during the period between December 1, 2018 and August 31, 2019. **This order lapsed in August 2019.** At the current time, no explicit adjustments have been made to our valuation estimates or views based on this order.

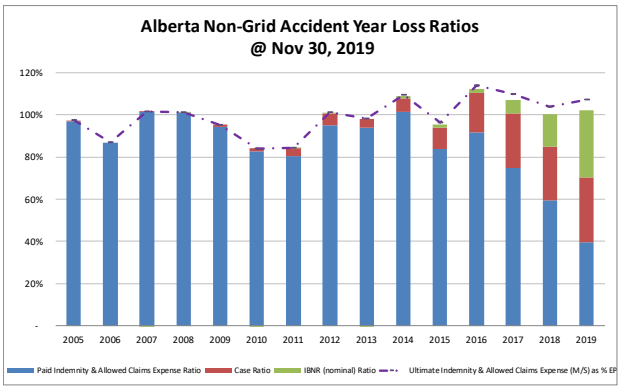
1.4 Current Provision Summary

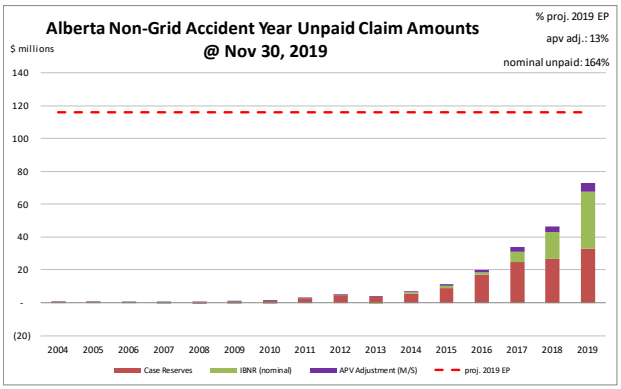
The charts at the top of the next page show the current levels of claim liabilities[2] booked by accident year[3]. The left chart displays life-to-date payments, case reserves, IBNR, and the total including actuarial present value adjustments against accident year earned premium. The right chart shows the associated dollar amounts for the components of the claim liabilities and the current projected amount of 2019 full year earned premium (the red hash-mark line) to provide some perspective.

[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 ($15.2 million – see table below) represents 13% of the earned premium projected for the full year 2019 (see the upper right corner of the right chart above). 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	129,354	63.0%
ibnr	60,739	29.6%
M/S apv adjust.	15,196	7.4%
M/S total	205,289	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 83% of the IBNR balance relates to accident years 2018 and 2019 (see Exhibit B). Approximately 90% of the M/S total claim liabilities are related to accident years 2015-2019 inclusive (i.e. the most recent 5 accident years), and approximately 1% is related to accident years 2009 and prior (i.e. prior to the most recent 10 accident years).

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

premium liabilities ($000s)

	amt	%
unearned prem	64,949	88.0%
prem def/(dpac)	4,216	5.7%
M/S apv adjust.	4,614	6.3%
M/S total	73,779	100.0%

policy liabilities ($000s)

	amt	%
claim	190,093	68.1%
premium	69,165	24.8%
M/S apv adjust.	19,810	7.1%
M/S total	279,068	100.0%

2 Activity During the Month of November 2019

2.1 Recorded Premium and Claims Activity

The table at the top of the next page 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].

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

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	(0)	(0)	2,072	973	(1,054)	(229)	1,018	744
2017	(7)	(7)	387	(557)	925	1,646	1,313	1,090
2018	(20)	(20)	644	(1,102)	(303)	774	341	(328)
2019	9,835	(260)	5,226	477	3,411	1,290	8,637	1,767
TOTAL	9,808	(287)	8,329	(209)	2,979	3,481	11,309	3,273

(Recorded transaction amounts exclude IBNR & other actuarial provisions)

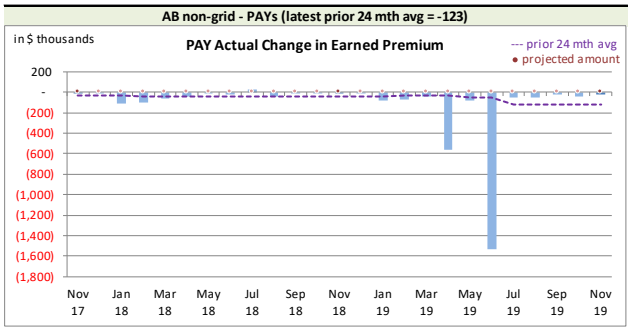
It is unusual to see actual earned premium transactions affecting prior accident years by this time in the calendar year – the prior accident years changes in the month reflect activity undertaken by a member reflecting recent audit findings.

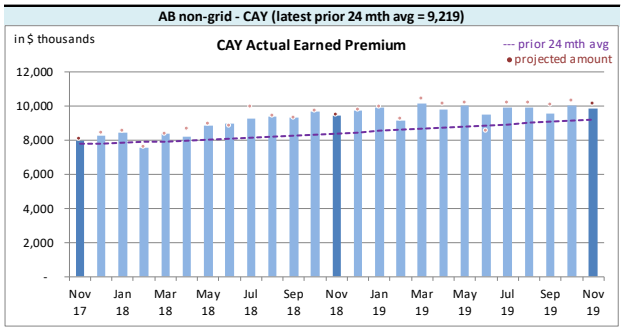
Claims transaction activity is generally volatile and changes from one month to the next are anticipated due to this natural "process variance" (i.e. random variation). Each month, the projection variances are reviewed for signs of projection bias and to identify potential ways to reduce the level of the variance. Commentary from our review is provided in the sub-sections that follow.

2.1.a Actual vs. Projected (AvsP): Earned Premium

The charts below 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*





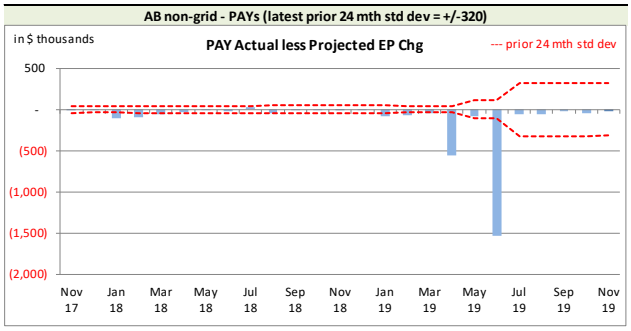
Earned premium changes during a given calendar month in relation to prior accident years tend to be at modest levels, although relatively high levels generally occur at the beginning of each year.

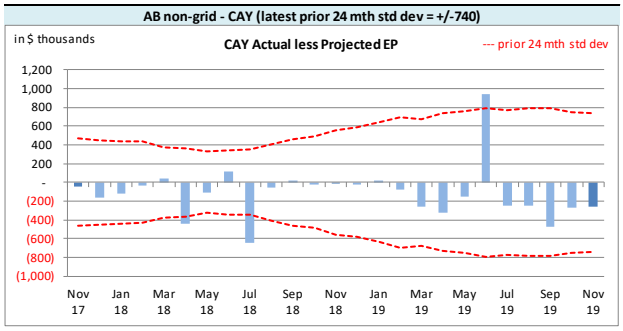
The associated variance between the actual changes and the projections from the previous month are shown in the charts at the top of the next page. **Earned premium** change projections are all attributed to the current accident year as the projection upload does not accept **earned premium** changes 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

[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.

to prior accident years.

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





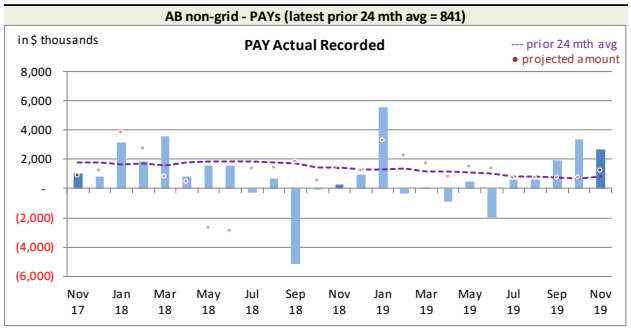
On Latest	$ thousands	
Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(123)	9,219
std dev	320	740
A-P <> std dev	8	3
% <> std dev	32.0%	12.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	no better	better

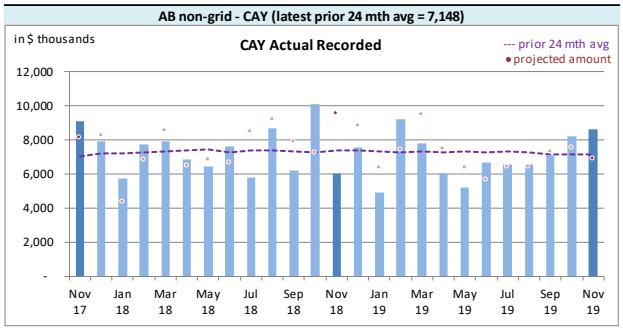
We project **earned premium** changes from known unearned premium and projected written premium levels, but upload the total projections as current accident year (CAY). This process has generated prior accident years' (PAYs) bias[6], with actuals generally lower than projected, although the magnitude 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, modifications to our projections processes in response appears to have had a favourable impact, bias still exists. Over time, we may consider other projection approaches to narrow monthly variance levels, but it is not currently deemed a priority.

2.1.b AvsP: Recorded Indemnity & Allowed Claims Expense

The charts below 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*



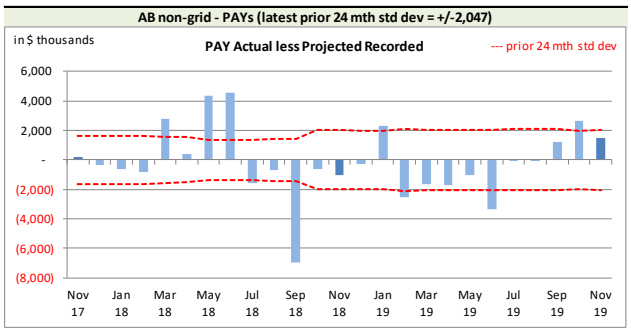


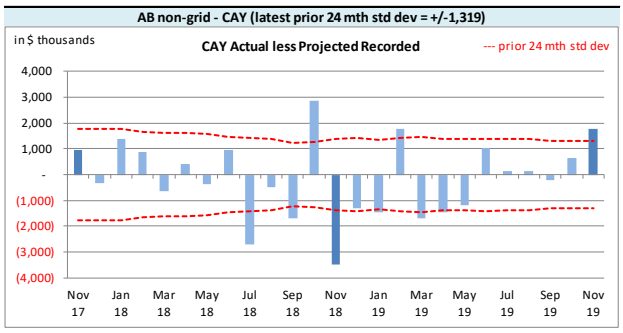
[6]The PAYs' variances will show bias as the projection upload forces all earned premium projections to be attributed to the CAY.

[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 November 2019 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.

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





On Latest $ thousands		
Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	841	7,148
std dev	2,047	1,319
A-P <> std dev	9	9
% <> std dev	36.0%	36.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	no better	no better

With respect to **recorded** indemnity & allowed claims expense activity, 36% 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 no 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 (9 of 25 variances are positive).

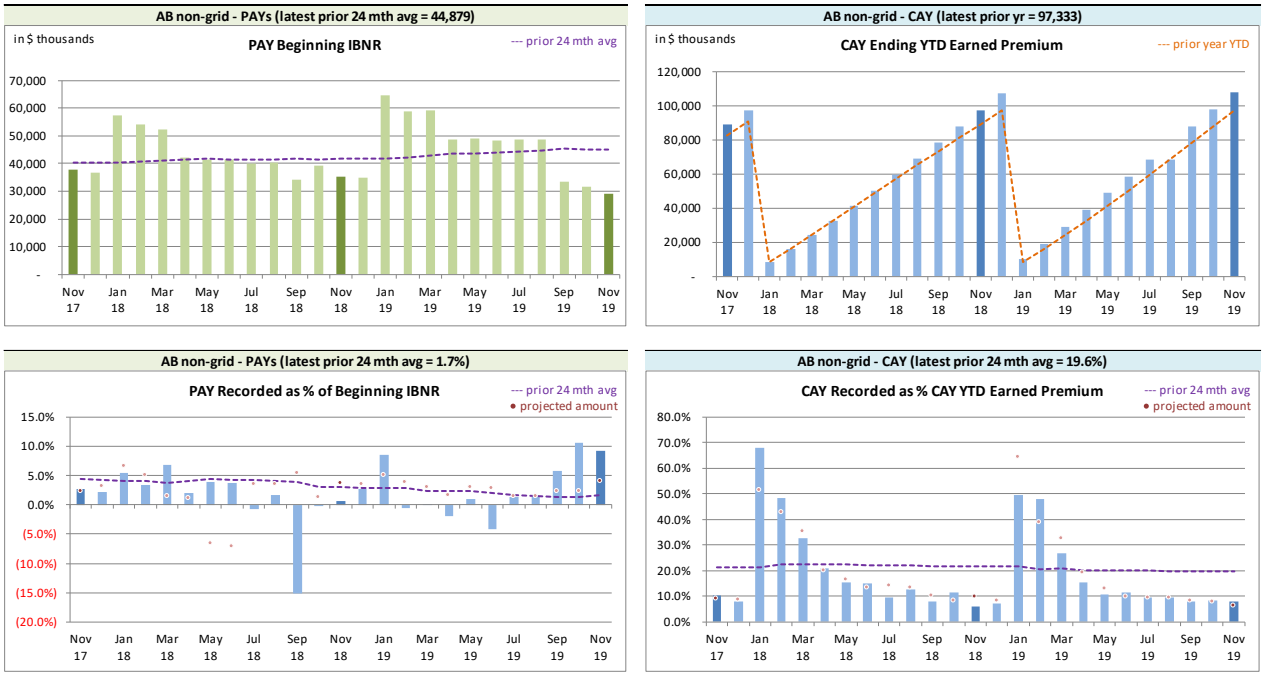
The current accident year (CAY) **recorded** variances fell outside of one standard deviation 36% of the time over the last 25 calendar months (see table above), suggesting that the projection process has performed no better than simply projecting the prior 24-month average amount. We believe this result is in part related to volume increases, but management is considering ways of improving CAY projections. Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (12 of 25 variances are positive).

The CAY **recorded** variances were outside of the one standard deviation band this month (see right chart above). The activity was reviewed and attributed to process variance.

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 at the top of the next page 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 chart above) occur for several possible reasons:

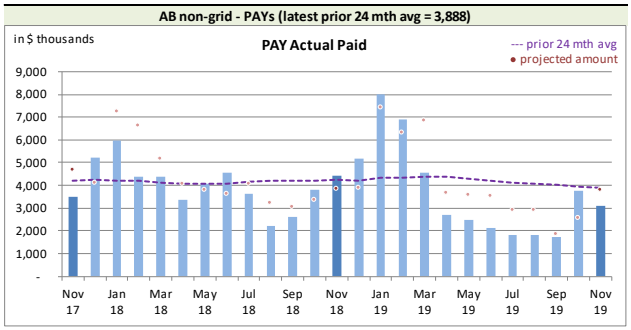
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a CAY becomes a PAY(occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of PAYs' ultimates (will show up as a beginning IBNR change one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

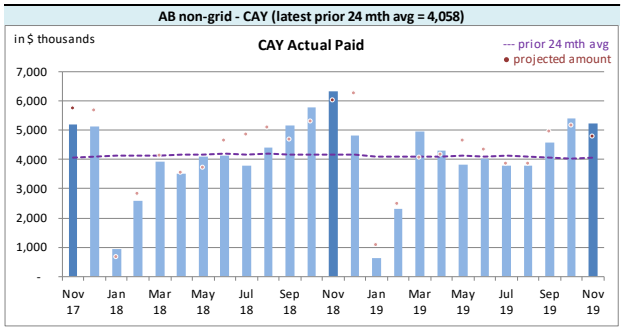
2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

The charts at the top of the next page 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.

[8]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.

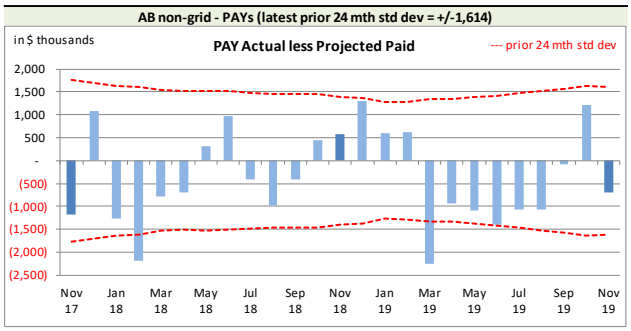
*Alberta non-Grid RSP Actual **Paid** activity by Calendar Month*

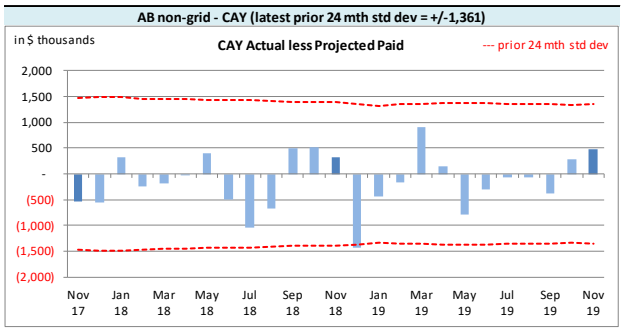




Paid activity variances from the previous month's projections are shown in the charts below, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

*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)	3,888	4,058
std dev	1,614	1,361
A-P <> std dev	2	1
% <> std dev	8.0%	4.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	better

With respect to **paid** indemnity & allowed claims expense, 8% 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 (9 of 25 variances are positive).

The current accident year (CAY) **paid** variances fell outside of one standard deviation 4% of the time over the last 25 calendar months (see table above), 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 (9 of 25 variances are positive).

We have included, for reference, additional charts at the top of the next page related to levels influencing **paid** activity.

Alberta non-Grid RSP Levels that influence[9] ***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 chart above) 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 table at the top of the next page summarizes variances in provisions included in this month's

[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.

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

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	3,959	(744)	(1,745)	37	4,952	(98)	7,166	(805)
2017	6,111	(1,098)	(1,180)	(21)	3,920	68	8,851	(1,051)
2018	16,355	308	(1,720)	(44)	5,417	138	20,052	402
2019	34,314	(2,033)	(2,701)	30	8,253	(90)	39,866	(2,093)
TOTAL	60,739	(3,567)	(7,346)	2	22,542	18	75,935	(3,547)

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 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 table below 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 premium deficiency position (shown as a positive 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:	4,216	(112)	4,614	(93)	8,830	(205)
balance as % unearned premium:	6.5%	-	7.1%	-	13.6%	-
actual unearned premium:	64,949					
less projected:	(1,274)					

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 table below 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 104.7% rather than 102.2% (the valuation ultimate ratio for accident year 2019), 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	(24,069)	(22.9%)	(491)	(0.5%)	(24,560)	(23.3%)	(256)	2.2%
CAY	110,212	104.7%	5,552	5.3%	115,764	109.9%	10,449	(0.4%)
TOTAL	86,142	81.8%	5,061	4.8%	91,203	86.6%	10,193	1.8%

("% EP" based on 2019 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.

[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.

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
EXHIBIT B	IBNR
EXHIBIT C	Premium Liabilities
EXHIBIT D	Projected Year-end Policy Liabilities
EXHIBIT E	Discount Rate & Margins for Adverse Deviations
EXHIBIT F	Interest Rate Sensitivity
EXHIBIT G	Components of IBNR Change During Month

EXHIBIT A

IBNR for Member Sharing – includes Actuarial Present Value Adjustments

TABLE EXHIBIT A

IBNR + M/S actuarial present value adjustments

discount rate
1.46%

interest rate margin
25 basis pts

Amounts in $000s					
Accident Year	Actual Oct. 2019	Actual Nov. 2019	Projected Dec. 2019	Projected Jan. 2020	Projected Dec. 2020
2004	42	42	40	38	27
2005	13	13	13	12	10
2006	18	18	17	16	11
2007	89	(211)	(198)	(187)	(135)
2008	65	66	62	58	42
2009	33	33	33	50	35
2010	(103)	(86)	(81)	(69)	(52)
2011	291	291	276	274	195
2012	573	550	524	496	355
2013	229	148	144	158	113
2014	1,195	1,253	1,187	1,140	815
2015	2,149	2,098	1,984	1,905	1,365
2016	3,723	2,951	2,880	2,804	1,781
2017	10,209	8,851	8,614	8,326	5,181
2018	20,471	20,052	19,251	18,364	12,695
2019	38,054	39,866	42,400	39,727	32,663
2020	-	-	-	6,299	46,531
TOTAL	77,051	75,935	77,146	79,411	101,632
Change		(1,116)	1,211	2,265	

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 Oct. 2019	Actual Nov. 2019	Projected Dec. 2019	Projected Jan. 2020	Projected Dec. 2020
349.1%	2004	36	36	34	32	23
97.4%	2005	5	5	5	5	5
86.9%	2006	16	16	15	14	10
101.5%	2007	81	(219)	(206)	(196)	(141)
101.1%	2008	62	63	59	56	40
95.3%	2009	(25)	(25)	(23)	(22)	(16)
84.0%	2010	(167)	(150)	(141)	(134)	(98)
84.1%	2011	98	98	92	87	62
101.0%	2012	239	220	207	197	142
98.1%	2013	-	(80)	(75)	(71)	(50)
108.8%	2014	773	839	789	750	540
95.4%	2015	1,451	1,422	1,337	1,270	916
112.5%	2016	2,408	1,734	1,699	1,648	901
107.0%	2017	7,432	6,111	5,928	5,632	3,026
100.2%	2018	16,716	16,355	15,701	14,759	9,809
102.2%	2019	32,899	34,314	36,329	34,149	28,466
106.7%	2020	-	-	-	5,393	39,321
	TOTAL	62,024	60,739	61,750	63,569	82,956
	Change		(1,285)	1,011	1,819	

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

EXHIBIT C

Premium Liabilities

TABLE EXHIBIT C

Premium Liabilities	Actual Oct. 2019	Actual Nov. 2019	Projected Dec. 2019	Projected Jan. 2020	Projected Dec. 2020
	Amounts in $000s				
(1) unearned premium (UP)	63,196	64,949	66,675	66,814	77,096
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	112.9%	113.6%	114.4%	114.3%	116.5%
(3) expected future costs {(1) x (2)}	71,371	73,779	76,258	76,397	89,790
(4) premium deficiency / (deferred policy acquisition cost)	8,175	8,830	9,583	9,583	12,694
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	105.9%	106.5%	107.2%	107.2%	109.2%
(6) expected future costs {(1) x (5)}	66,907	69,165	71,489	71,618	84,173
(7) premium deficiency / (deferred policy acquisition cost)	3,711	4,216	4,814	4,804	7,077

EXHIBIT D

Projected Year-end Policy Liabilities

The table below presents the projected policy liabilities as at December 31, 2019, broken down by component.

Alberta non-Grid	Projected Balances as at Dec. 31, 2019 ($000s)									
ending 2019	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	26	34	60	-	-	6	-	6	6	66
2005	72	5	77	-	-	8	-	8	8	85
2006	1	15	16	-	-	2	-	2	2	18
2007	305	(206)	99	(2)	-	10	-	10	8	107
2008	(32)	59	27	-	-	3	-	3	3	30
2009	763	(23)	740	(20)	4	74	(2)	72	56	796
2010	1,013	(141)	872	(28)	4	87	(3)	84	60	932
2011	2,650	92	2,742	(96)	16	274	(10)	264	184	2,926
2012	4,329	207	4,536	(145)	23	454	(15)	439	317	4,853
2013	3,423	(75)	3,348	(124)	20	335	(12)	323	219	3,567
2014	5,300	789	6,089	(225)	37	609	(23)	586	398	6,487
2015	8,733	1,337	10,070	(373)	60	997	(37)	960	647	10,717
2016	16,385	1,699	18,084	(669)	109	1,808	(67)	1,741	1,181	19,265
2017	24,510	5,928	30,438	(1,157)	183	3,805	(145)	3,660	2,686	33,124
2018	25,568	15,701	41,269	(1,651)	248	5,159	(206)	4,953	3,550	44,819
PAYs (sub-total):	93,046	25,421	118,467	(4,490)	704	13,631	(520)	13,111	9,325	127,792
CAY (2019)	37,539	36,329	73,868	(2,955)	517	8,864	(355)	8,509	6,071	79,939
claims liabilities:	130,585	61,750	192,335	(7,445)	1,221	22,495	(875)	21,620	15,396	207,731
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	66,675	4,814	71,489	(2,205)	356	6,830	(212)	6,618	4,769	76,258
									*Total may not be sum of parts, as apvs apply to future costs within UPR	
policy liabilities:			**263,824**	**(9,650)**	**1,577**	**29,325**	**(1,087)**	**28,238**	**20,165**	**283,989**

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, 2019 from the valuation), followed by the selected discount rate and the associated margin for investment income.

Selected Claims Development MfADs (Sep. 30, 2019)

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%	8.1%	10.0%
2014	10.0%	10.0%	10.0%	10.0%
2015	10.0%	10.0%	8.9%	9.9%
2016	10.0%	10.0%	10.0%	10.0%
2017	12.5%	10.0%	12.5%	12.5%
2018	12.4%	10.0%	12.5%	12.5%
2019	12.2%	10.0%	11.0%	12.0%
2020	11.8%	10.0%	5.2%	9.6%
prem liab	11.8%	10.0%	5.2%	9.6%

discount rate:	1.46%
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, 2019 from the latest valuation date (projections in exhibits A to D are to Dec. 31, 2019, and are based on more up-to-date information). We have included the most recent valuation selection (1.46%), the prior valuation assumption (1.43%) and the prior fiscal year end valuation assumption (2.29%) 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, 2019 projected Unpaid							
AY	0.46%	0.96%	1.46%	1.96%	2.46%	2.96%	1.43%	2.29%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	1	1	1	1	1	1	1	1
2007	19	19	19	19	19	19	19	19
2008	-	-	-	-	-	-	-	-
2009	816	809	801	794	787	780	802	789
2010	1,358	1,343	1,328	1,313	1,299	1,285	1,328	1,304
2011	2,662	2,629	2,597	2,566	2,536	2,506	2,599	2,546
2012	4,790	4,736	4,685	4,634	4,585	4,537	4,688	4,602
2013	4,076	4,024	3,973	3,923	3,875	3,828	3,976	3,892
2014	6,938	6,847	6,759	6,672	6,589	6,507	6,763	6,618
2015	11,017	10,872	10,732	10,595	10,463	10,333	10,739	10,508
2016	20,786	20,515	20,253	19,997	19,749	19,509	20,266	19,833
2017	32,391	31,953	31,535	31,124	30,728	30,345	31,556	30,862
2018	47,550	46,877	46,229	45,597	44,984	44,390	46,261	45,189
2019	76,476	75,404	74,373	73,368	72,402	71,460	74,433	72,729
Total	208,880	206,029	203,285	200,603	198,017	195,500	203,431	198,892
	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	0.46%	0.96%	1.46%	1.96%	2.46%	2.96%	1.43%	2.29%
Total	5,595	2,744	-	(2,682)	(5,268)	(7,785)	146	(4,393)
	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	0.46%	0.96%	1.46%	1.96%	2.46%	2.96%	1.43%	2.29%
2004	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-
2009	1.9%	1.0%	-	(0.9%)	(1.7%)	(2.6%)	0.1%	(1.5%)
2010	2.3%	1.1%	-	(1.1%)	(2.2%)	(3.2%)	-	(1.8%)
2011	2.5%	1.2%	-	(1.2%)	(2.3%)	(3.5%)	0.1%	(2.0%)
2012	2.2%	1.1%	-	(1.1%)	(2.1%)	(3.2%)	0.1%	(1.8%)
2013	2.6%	1.3%	-	(1.3%)	(2.5%)	(3.6%)	0.1%	(2.0%)
2014	2.6%	1.3%	-	(1.3%)	(2.5%)	(3.7%)	0.1%	(2.1%)
2015	2.7%	1.3%	-	(1.3%)	(2.5%)	(3.7%)	0.1%	(2.1%)
2016	2.6%	1.3%	-	(1.3%)	(2.5%)	(3.7%)	0.1%	(2.1%)
2017	2.7%	1.3%	-	(1.3%)	(2.6%)	(3.8%)	0.1%	(2.1%)
2018	2.9%	1.4%	-	(1.4%)	(2.7%)	(4.0%)	0.1%	(2.2%)
2019	2.8%	1.4%	-	(1.4%)	(2.7%)	(3.9%)	0.1%	(2.2%)
Total	2.8%	1.3%	-	(1.3%)	(2.6%)	(3.8%)	0.1%	(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

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	(2)	2	-	-	-	42
2005	13	-	-	-	-	-	13
2006	18	(1)	1	-	-	-	18
2007	89	(4)	(296)	-	(300)	(337.1%)	(211)
2008	65	(3)	4	-	1	1.5%	66
2009	33	-	-	-	-	-	33
2010	(103)	5	12	-	17	(16.5%)	(86)
2011	291	(10)	10	-	-	-	291
2012	573	(22)	(1)	-	(23)	(4.0%)	550
2013	229	(9)	(72)	-	(81)	(35.4%)	148
2014	1,195	(52)	110	-	58	4.9%	1,253
2015	2,149	(78)	27	-	(51)	(2.4%)	2,098
2016	3,723	(170)	(602)	-	(772)	(20.7%)	2,951
2017	10,209	(307)	(1,051)	-	(1,358)	(13.3%)	8,851
2018	20,471	(821)	402	-	(419)	(2.0%)	20,052
2019	38,054	3,905	(2,093)	-	1,812	4.8%	39,866
Grand Total	**77,051**	**2,431**	**(3,547)**	**-**	**(1,116)**	**(1.4%)**	**75,935**

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	(2)	2	-	-	-	36
2005	5	-	-	-	-	-	5
2006	16	(1)	1	-	-	-	16
2007	81	(4)	(296)	-	(300)	(370.4%)	(219)
2008	62	(3)	4	-	1	1.6%	63
2009	(25)	1	(1)	-	-	-	(25)
2010	(167)	8	9	-	17	(10.2%)	(150)
2011	98	(5)	5	-	-	-	98
2012	239	(12)	(7)	-	(19)	(7.9%)	220
2013	-	-	(80)	-	(80)	100.0%	(80)
2014	773	(39)	105	-	66	8.5%	839
2015	1,451	(73)	44	-	(29)	(2.0%)	1,422
2016	2,408	(144)	(530)	-	(674)	(28.0%)	1,734
2017	7,432	(223)	(1,098)	-	(1,321)	(17.8%)	6,111
2018	16,716	(669)	308	-	(361)	(2.2%)	16,355
2019	32,899	3,448	(2,033)	-	1,415	4.3%	34,314
Grand Total	**62,024**	**2,282**	**(3,567)**	**-**	**(1,285)**	**(2.1%)**	**60,739**