



ONTARIO RISK SHARING POOL

APRIL 2019 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

Related Bulletin: [F19-035 Ontario RSP April 2019 Operational Report](#)

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ACTUARIAL HIGHLIGHTS**RSP ONTARIO****OPERATIONAL REPORT****APRIL 2019**

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1 Summary

1.1 Valuation Schedule (Fiscal Year 2019)

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

ONTARIO RISK SHARING POOL FISCAL YEAR 2019 – SCHEDULE OF VALUATIONS			
Valuation Date	Discount Rate (per annum)	Operational Report	Description of Changes
Sep. 30, 2018 (completed)	2.22% mfad 25 bp	Oct. 2018	updated valuation (roll forward): accident year 2018 loss ratio <u>increased</u> 0.5 points to 127.0%; discount rate <u>increased</u> by 39 basis points; selected margins for adverse deviations were updated
Dec. 31, 2018 (completed)	1.88% mfad 25 bp	Mar. 2019	updated valuation: accident year 2019 loss ratio 127.1%; discount rate <u>decreased</u> by 34 basis points; no change to selected margins for adverse deviations
Mar. 31, 2019		May 2019	update valuation (roll forward)
Jun. 30, 2019		Aug. 2019	update valuation
Sep. 30, 2019		Oct. 2019	update valuation (roll forward)

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

Liam McFarlane of Ernst & Young LLP is Facility Association’s Appointed Actuary (effective as of June 1, 2013).

Facility Association operates under a “hybrid” model in relation to the management and provision of actuarial services. Under this model, actuarial services are performed by both Facility Association’s internal staff and its external actuarial consulting firm. The hybrid model approach maximizes the efficiency of resource allocation while providing access to additional expertise and capacity as needed.

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

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

Consideration and assessment of potential impacts of legal decisions and changes in legislation / regulation constitutes a regular part of the valuation process. Descriptions of some of the more recent changes are provided below.

Ontario Bill 15 (Fighting Fraud and Reducing Automobile Insurance Rates Act, 2014) was introduced into the Legislature by the Minister of Finance on July 15, 2014 and **received Royal Assent on November 20, 2014**. Bill 15 includes various amendments and provisions such as moving the Ontario Automobile Dispute Resolution System (DRS) for statutory accident benefits from the Financial Services Commission of Ontario to the Ministry of the Attorney General (Licence Appeal Tribunal), regulation of the Tow and Storage Industry (amendments to the Consumer Protection Act and Repair and Storage Liens Act), regulations related to licensing of insurance agents and adjusters, changes the applicable interest rate applied to overdue payments in the Statutory Accident Benefits Schedule (SABS), and changes to the prejudgment interest rate on general damages for non-pecuniary loss from the rate as set out in the Courts of Justice Act to rates linked to market conditions.

Ontario Bill 91 (Building Ontario Up Act (Budget Measures), 2015) was introduced into the Legislature by the Minister of Finance on April 23, 2015 and **received Royal Assent on June 4, 2015**. Bill 91 announced a number of amendments to regulations made under the Insurance Act, including: updating the Catastrophic Impairment Definition and changes to the standard benefit level under the Statutory Accident Benefits Schedule (SABS); restrictions on insurance premium increases and lowering of the maximum interest rate charged on monthly auto insurance premium payments; and adjustments to the monetary threshold beyond which the tort deductible does not apply to reflect inflation (adjustments to reflect inflation in the associated tort deductible were undertaken via an update to regulation 461/96). On August 26, 2015, the Ontario government filed Ontario regulations 250/15 and 251/15 implementing reforms set out in Bill 91. With the most recent valuation (December 31, 2018), reform adjustments (originally introduced with the September 30, 2015 valuation) specifically related to changes to the SABS impacting the bodily injury and accident benefits coverages, were included with the updated industry trend analysis (completed using industry data as at June 30, 2018), impacting the selection of ultimates.

1.4 Harmonized Sales Tax Class Action - Ontario

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

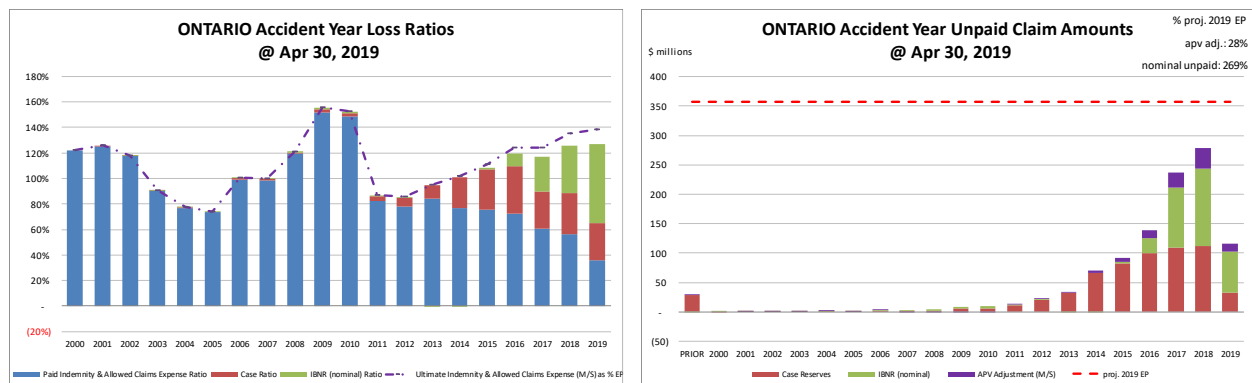
Since the end of October 2018, class action lawsuits have been brought against multiple insurers related to HST and limits / sub-limits of benefits per the Statutory Accident Benefits Schedule and FSCO's Professional Services Guideline as part of claims settlement practices in Ontario.

At the current time, no adjustments have been made to our valuation estimates, but in conjunction with FA's Appointed Actuary, FA management continues to review and consider the implications of the potential outcomes related to the class action lawsuits. Please contact Shawn Doherty at sdoherty@facilityassociation.com if you need further information.

¹This link is to a helpful guide on how bills become laws: <http://www.ontla.on.ca/lao/en/media/laointernet/pdf/bills-and-lawmaking-background-documents/how-bills-become-law-en.pdf>.

1.5 Current Provision Summary

The charts immediately below show the current levels of claim liabilities² booked by accident year³. The left chart displays life-to-date payments, case reserves, IBNR, and the total including actuarial present value adjustments against accident year earned premium. The right chart shows the associated dollar amounts for the components of the claim liabilities and the current projected amount of 2019 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 provision for claims liabilities (\$100.5 million – see table immediately below) represents 28% 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	616,335	58.1%
ibnr	343,741	32.4%
M/S apv adjust.	100,485	9.5%
M/S total	1,060,561	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 59% of the IBNR balance relates to accident years 2018 and 2019 (see Exhibit B). Approximately 81% 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 5% is related to accident years 2009 and prior (i.e. prior to the most recent 10 accident years).

²Claim liabilities refer to provision for unpaid indemnity and allowed claims expenses. Allowed claims expenses are first party legal and other expenses as listed in the RSP Claims Guide. Claims expenses paid through the member company expense allowance are NOT included in this discussion.

³The loss ratio chart has been limited to show the most recent 20 accident years; the unpaid provision chart has been limited to show the most recent 20 accident years, and show all accident years older than 20 years collectively as "PRIOR".

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

premium liabilities (\$000s)			policy liabilities (\$000s)		
	amt	%		amt	%
unearned prem	168,873	71.7%	claim	960,076	74.1%
prem def/(dpac)	46,697	19.8%	premium	215,570	16.6%
M/S apv adjust.	19,959	8.5%	M/S apv adjust.	120,444	9.3%
M/S total	235,529	100.0%	M/S total	1,296,090	100.0%

2 Activity During the Month of April 2019

2.1 Recorded Premium and Claims Activity

The table immediately below summarizes the extent to which premiums and claims amounts recorded during the month differ from projections reflected in the prior month's Operational Report⁴.

Ontario RSP Actual vs Projected Summary: Recorded Transaction Amounts (\$ thousands)

Table 01 Accident Year	Earned Premium		Paid Indemnity & Allowed Claims Expense		Case increase / (decrease)		Recorded increase / (decrease)	
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	(32)	(32)	7,826	(3,193)	(2,910)	5,913	4,916	2,720
2017	(115)	(115)	2,469	(1,800)	(1,418)	(2,273)	1,051	(4,073)
2018	(213)	(213)	3,896	(1,068)	438	(1,415)	4,334	(2,483)
2019	28,300	(239)	13,182	2,794	6,172	(3,760)	19,354	(967)
TOTAL	27,939	(599)	27,373	(3,267)	2,282	(1,536)	29,655	(4,803)

(Recorded transaction amounts exclude IBNR & other actuarial provisions)

It is typically unusual to see actual earned premium transactions affecting accident years older than the first prior accident year – the changes in 2017 and prior accident year reflect activity undertaken by members to remove risks from the RSP.

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.

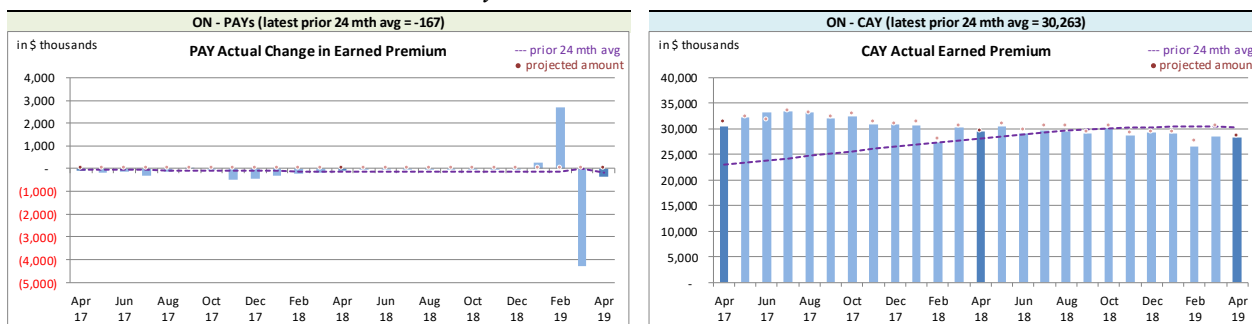
2.1.a Actual vs. Projected (AvsP): Earned Premium

The charts at the top of the next page 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.

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

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

Ontario RSP Actual *Earned Premium* by Calendar Month

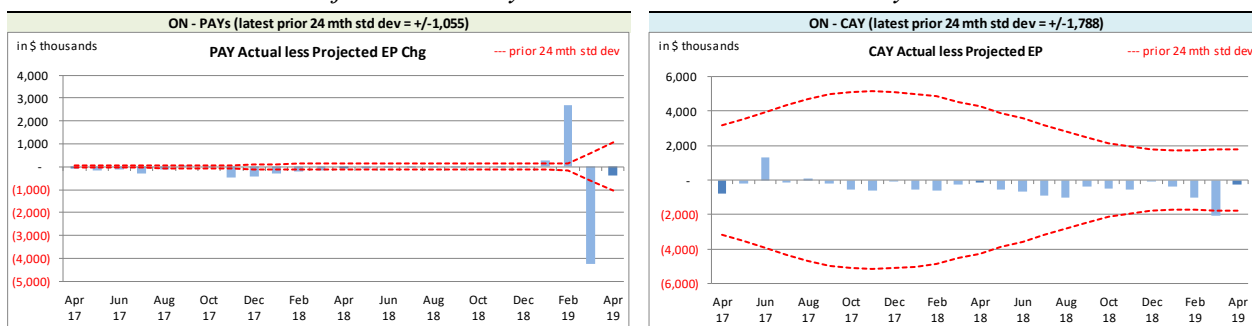


Earned premium changes during a given calendar month in relation to prior accident years tend to be at modest levels (note the different scales in the charts above), although relatively high levels generally occur at the beginning of each year.

As discussed in the March 2019 operational report, the relatively unusual activity for February and March of 2019 reflected activity by one member with correcting transactions in March 2019 related to incorrect transactions posted in February 2019.

The associated variance between the actual changes and the projections from the previous month are shown in the charts immediately below. **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.

Ontario 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)	(167)	30,263
std dev	1,055	1,788
A-P <> std dev	13	1
% <> std dev	52.0%	4.0%
norm <> std dev	31.7%	31.7%

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) bias⁶, with actuals generally lower than projected, although the magnitude is not high relative to monthly

premium. Over time, we may consider other projection approaches to narrow monthly variance levels further, but it is not currently deemed a priority. Readers will also note the significant widening then

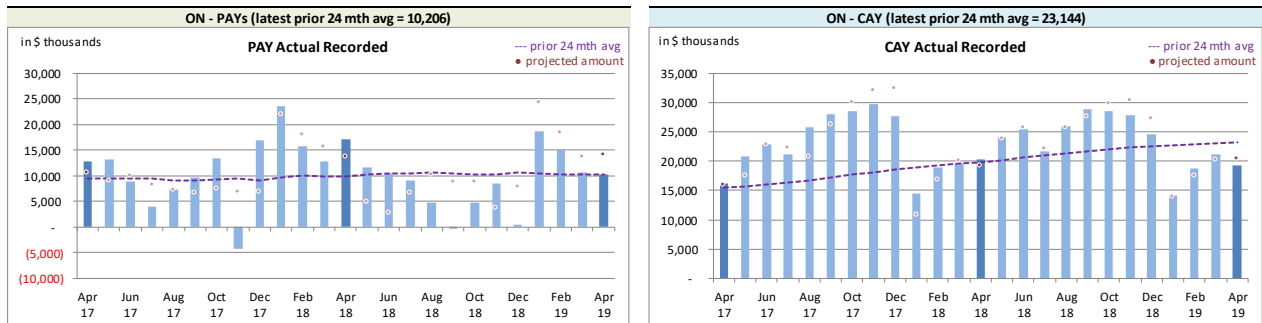
⁶The PAYs' variances will show bias as the projection upload forces all earned premium projections to be attributed to the CAY.

tapering of the CAY standard deviation band, reflecting significant volume changes and the impact as those changes were earned.

2.1.b AvsP: Recorded Indemnity & Allowed Claims Expense

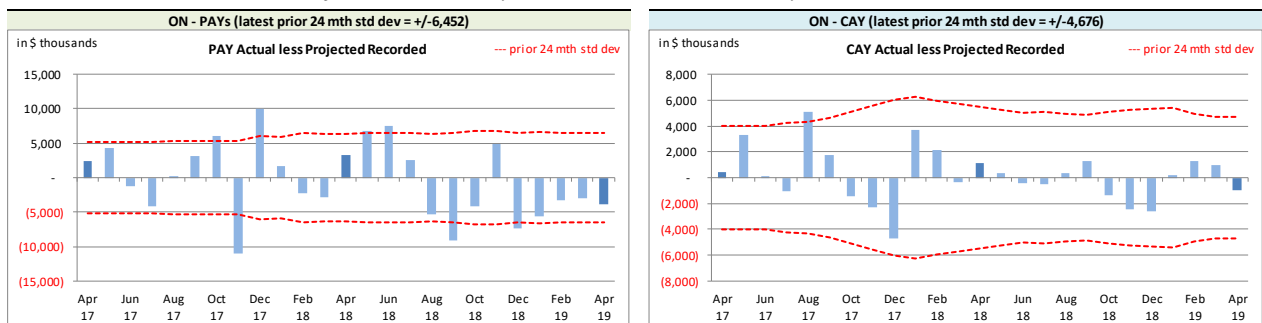
The charts immediately below show actual **recorded** activity (**paid** and **case reserve** changes), in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

Ontario RSP Actual Recorded by Calendar Month



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

Ontario RSP Actual vs Projected Summary: Recorded Variances by Calendar Month



On Latest \$ thousands			
	Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)		10,206	23,144
std dev		6,452	4,676
A-P <> std dev		7	1
% <> std dev		28.0%	4.0%
norm <> std dev		31.7%	31.7%

With respect to **recorded** indemnity & allowed claims expense, 28% 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 lagging 24-month basis.

The current accident year (CAY) **recorded** variances (right chart above) fell outside of one standard deviation 4% of the time over the last 25 calendar months suggesting that the projection process has performed better than simply projecting the prior 24-month average amount.

The averages of monthly ratios for **recorded** and **paid** to year-to-date earned premium have been on the rise generally since 2012, as is evident in the tables below. These tables show, in each row, the average monthly ratio for each calendar year. That is, each row in the *left* table (as at Dec) provides the average of the 12 monthly-ratios (i.e. Jan, Feb, ... Dec) for that row's calendar year, whereas each row in the *right* table (as at Apr) provides the April ratios.

Per the *left* table below (showing average monthly ratios for each calendar year), the 2018 average **recorded** ratio at 17.3% was the highest ratio since 2010, and the 2018 **paid** ratio at 9.0% was the highest ratio over the last 10 years. That is, both ratios remained at “elevated” levels compared with the ratios for the 3 calendar years immediately following the 2010 reforms.

As can be seen in the *right* table below, four months into 2019 has the second highest **recorded** ratio over the last 11 years (April 2010 had the highest **recorded** ratio) while the **paid** ratio is the highest in the last 11 years. While we acknowledge that these ratios are more volatile earlier in the year due to smaller year-to-date earned premium levels, this relatively poor start to the year does not seem to bode well.

CAY avg of mthly ratios for yr

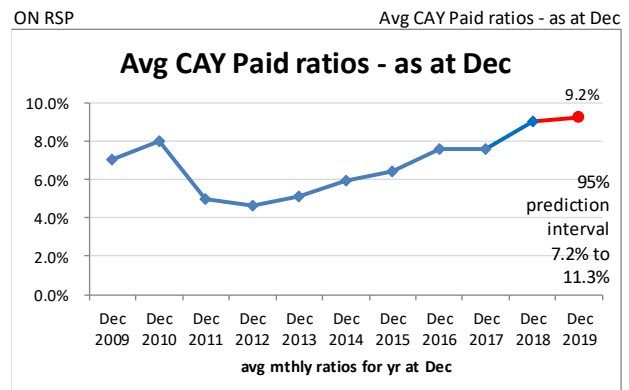
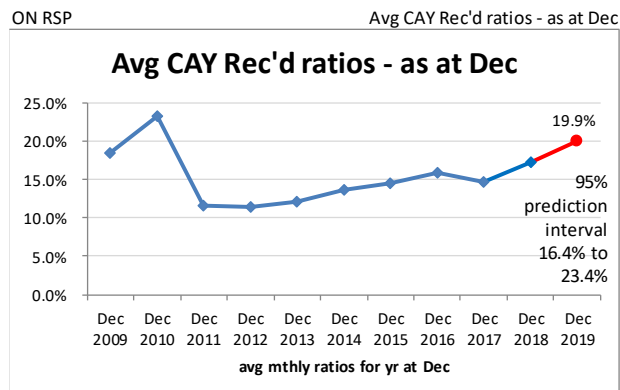
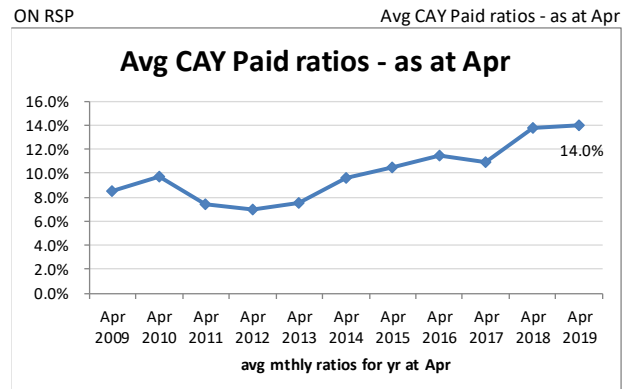
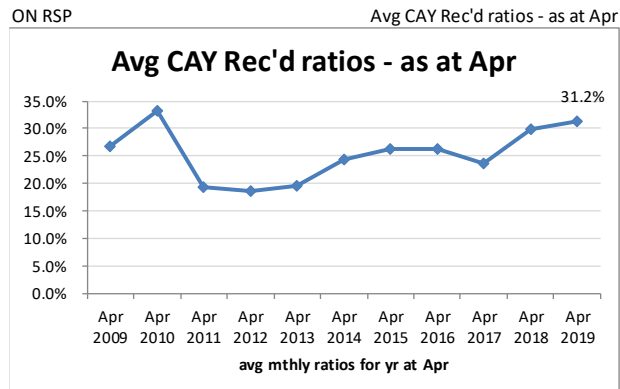
as at	Rec'd	yr-on-yr chg	Paid	yr-on-yr chg
Dec 2009	18.5%		7.0%	
Dec 2010	23.2%	4.7%	8.0%	1.0%
Dec 2011	11.5%	(11.7%)	5.0%	(3.0%)
Dec 2012	11.4%	(0.1%)	4.6%	(0.4%)
Dec 2013	12.0%	0.6%	5.1%	0.5%
Dec 2014	13.7%	1.7%	5.9%	0.8%
Dec 2015	14.4%	0.7%	6.4%	0.5%
Dec 2016	15.8%	1.4%	7.6%	1.2%
Dec 2017	14.7%	(1.1%)	7.6%	0.0%
Dec 2018	17.3%	2.6%	9.0%	1.4%

CAY avg of mthly ratios for yr

as at	Rec'd	yr-on-yr chg	Paid	yr-on-yr chg
Apr 2009	26.8%		8.5%	
Apr 2010	33.2%	6.4%	9.7%	1.2%
Apr 2011	19.2%	(14.0%)	7.4%	(2.3%)
Apr 2012	18.5%	(0.7%)	7.0%	(0.4%)
Apr 2013	19.5%	1.0%	7.5%	0.5%
Apr 2014	24.3%	4.8%	9.6%	2.1%
Apr 2015	26.2%	1.9%	10.5%	0.9%
Apr 2016	26.3%	0.1%	11.5%	1.0%
Apr 2017	23.7%	(2.6%)	10.9%	(0.6%)
Apr 2018	29.8%	6.1%	13.8%	2.9%
Apr 2019	31.2%	1.4%	14.0%	0.2%

There has been very strong (94%) correlation between the ytd monthly average **recorded** ratios and very strong (91%) correlation between the ytd monthly average **paid** ratios at April each year and the corresponding ytd monthly average ratios at December, suggesting the April **recorded** ratio is predictive of where the 2019 ytd monthly average **recorded** ratios will be at year-end (that is, the 12 monthly ratios Jan 2019 – Dec 2019), and April ytd monthly **paid** ratios would likewise be predictive of December ytd monthly paid ratios. Using simple regression, we forecast the average of the 12 monthly ratios for calendar year 2019 (i.e. the average of the monthly ratios for Jan 2019 – Dec 2019) will be 19.9% (95% prediction interval of 16.4% to 23.4%) for **recorded** and 9.2% (95% prediction interval of 7.2% to 11.3%) for **paid**. The results are presented in charts at the top of the next page.

Ontario RSP average of monthly CAY claims activity ratios to EP



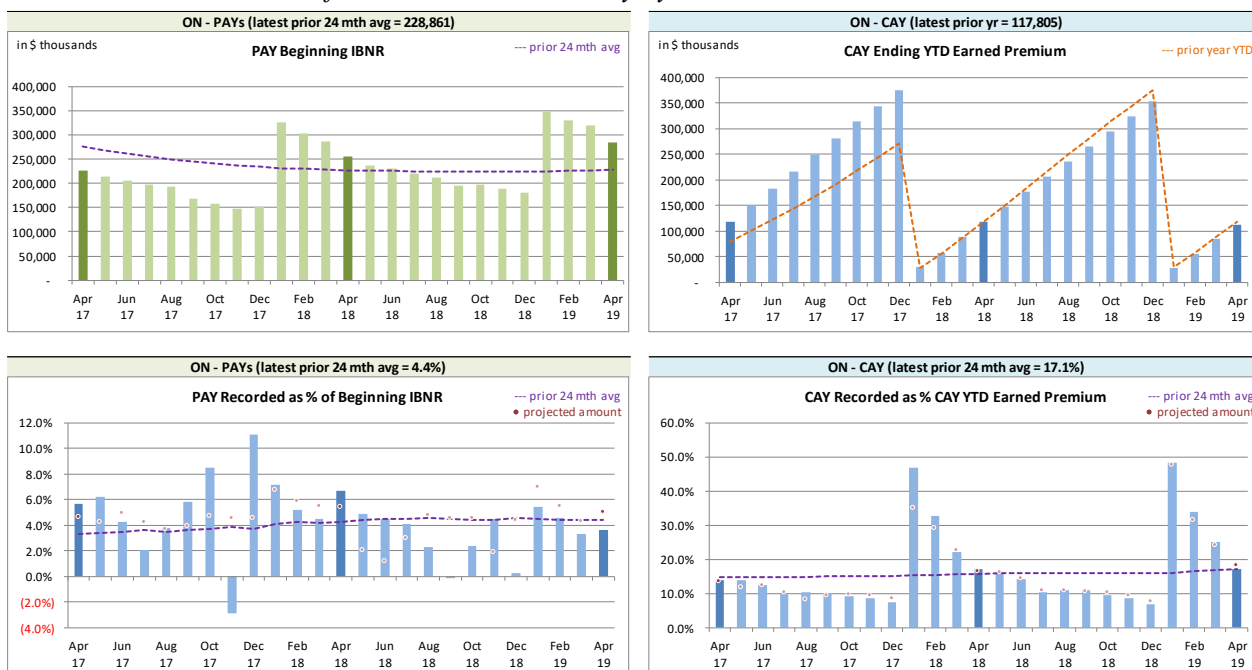
We are taking this information into consideration as part of our projection process.

These monthly-average ratios may be signalling an actual increase in relative claim amounts generally, signaling a change in the pattern of **recorded** / **paid** activity, or signaling belated impacts of rate decreases (reducing **earned premium** level per loss cost level). The CAY **recorded** activity will be monitored to determine if this is an ongoing trend.

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. Note in particular the reduction 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).

Ontario RSP Levels that influence⁷ Recorded activity by Calendar Month



We track beginning prior accident years' IBNR as **recorded** activity "comes out of" IBNR. Changes in the prior accident years' beginning IBNR (see upper left chart above) occur for several possible reasons:

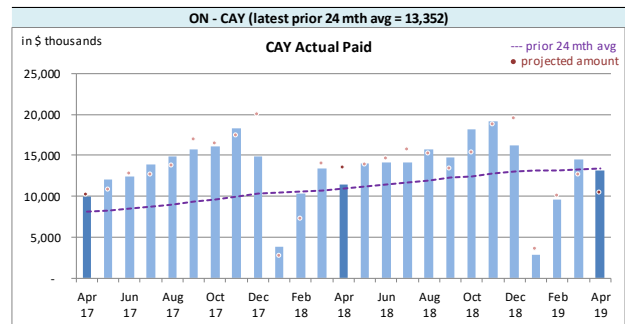
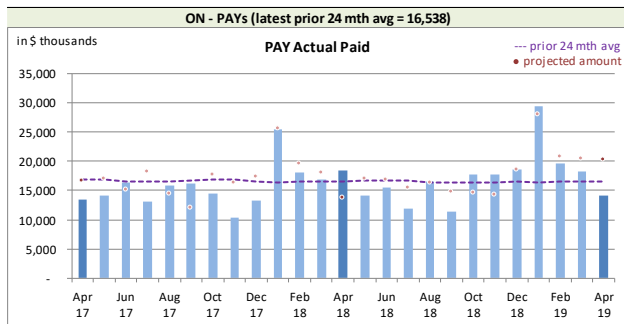
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a current accident year becomes a prior accident year (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of prior accident years' ultimate (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.

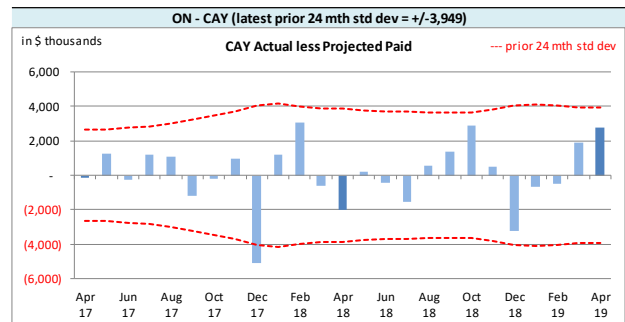
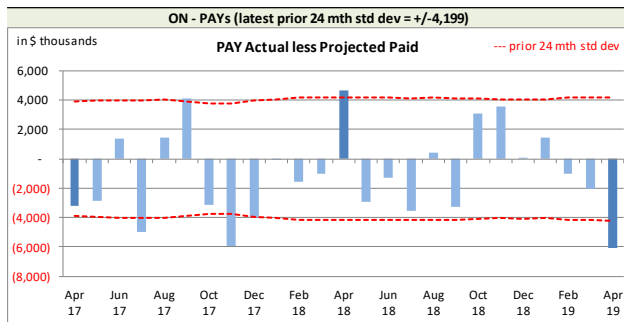
⁷Our recorded activity projections for the prior accident years are based on selected ratios of recorded activity to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date IBNR to year-to-date selected ultimate (i.e. selected LR x earned 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.

Ontario RSP Actual **Paid** activity by Calendar Month



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

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



On Latest \$ thousands		
	Paid	
	PAYS	CAY
Mthly Avg Paid (prior 24 mths)	16,538	13,352
std dev	4,199	3,949
A-P <> std dev	5	1
% <> std dev	20.0%	4.0%
norm <> std dev	31.7%	31.7%

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

The PAY **paid** variance (left chart above) was outside of one standard deviation this month. The activity was reviewed and confirmed, with the variance attributed to process variance.

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 lagging 24-month basis.

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

Ontario RSP Levels that influence⁸ Paid activity by Calendar Month



We track beginning prior accident years' unpaid balance (case and IBNR) as **paid** activity "comes out of" the unpaid balance. Changes in the prior accident years' 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 current accident year becomes a prior accident year (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of prior accident years' ultimate (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 IBNR⁹, 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 Operational Report and the associated one-month

⁸Our 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.

⁹For ease of discussion, "IBNR" is used in place of "provisions for incurred but not recorded (IBNR) and development".

projections from last month's Report.

Ontario RSP Actual vs Projected Summary: IBNR and APV Amounts (\$ thousands)

Table 02		actuarial present value adjustments					
Accident Year	IBNR		Discount Amount		Provisions for Adverse Deviations		IBNR + actuarial present value adjustments
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual Actual less Projected
Prior	41,147	(2,757)	(22,205)	(209)	48,919	326	67,861 (2,640)
2017	101,292	3,938	(9,910)	(78)	36,229	287	127,611 4,147
2018	131,740	2,215	(13,177)	(43)	47,646	156	166,209 2,328
2019	69,562	663	(5,857)	177	18,840	(568)	82,545 272
TOTAL	343,741	4,059	(51,149)	(153)	151,634	201	444,226 4,107

The IBNR provision is \$4.1 million higher 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 immediately 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.

Ontario 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:		46,697	(162)	19,959	(70)	66,656	(232)
balance as % unearned premium:		27.7%	-	11.8%	-	39.5%	-
actual unearned premium:		168,873					
less projected:		(591)					

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 loss¹⁰ 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 expenses¹¹, 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 129.0% rather than 127.1% (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 Ontario RSP Summary of Operations due to rounding.)

Ontario 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	(19,744)	(17.8%)	5,379	4.9%	(14,365)	(13.0%)	(1,918)	2.0%
CAY	142,938	129.0%	12,983	11.7%	155,921	140.7%	38,847	(0.6%)
TOTAL	123,194	111.2%	18,362	16.6%	141,556	127.8%	36,930	1.5%

(“% 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.

5 Current Operational Report – Additional Exhibits

Section 6 provides exhibits pertaining to the actuarial provisions reflected in the current month’s

¹⁰“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).

¹¹Allowed claims expenses are first party legal and other expenses as listed in the RSP Claims Guide. Claims expenses paid through the member company expense allowance are NOT included in this analysis.

Operational Report.

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

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

The ultimate loss ratios presented in section 6, Exhibit B, refer to the estimates derived on the basis of various actuarial methodologies applied to the experience of the Ontario Risk Sharing Pool for the purposes of the most recent quarterly valuation. As discussed in section 3, IBNR 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
 1.88%

 interest rate margin
 25 basis pts

Amounts in \$000s					
Accident Year	Actual Mar. 2019	Actual Apr. 2019	Projected May. 2019	Projected Jun. 2019	Projected Dec. 2019
prior	1,099	984	977	952	795
2000	13	13	12	12	11
2001	40	40	40	39	34
2002	68	68	64	63	52
2003	140	140	134	133	113
2004	257	257	248	246	208
2005	439	447	428	424	359
2006	684	712	685	677	575
2007	813	812	780	771	655
2008	2,154	2,297	2,205	2,183	1,856
2009	2,734	2,772	2,659	2,633	2,239
2010	3,990	4,029	3,867	3,828	3,255
2011	1,720	2,019	1,944	1,923	1,631
2012	1,566	2,022	1,955	1,931	1,637
2013	(62)	(18)	11	(1)	(8)
2014	3,862	2,138	2,133	2,080	1,743
2015	10,657	9,883	9,628	9,379	6,267
2016	43,204	39,246	37,944	36,688	23,790
2017	129,122	127,611	123,164	118,884	88,144
2018	171,399	166,209	160,249	154,515	130,310
2019	63,052	82,545	101,261	116,391	211,076
TOTAL	436,951	444,226	450,388	453,751	474,742
Change		7,275	6,162	3,363	

Please see Exhibit G, page 1 for Components of Change during Current Month

EXHIBIT B
IBNR
TABLE EXHIBIT B

TABLE EXHIBIT B		Amounts in \$000s					
IBNR	Ultimate	Accident	Actual	Actual	Projected	Projected	Projected
	Loss Ratio	Year	Mar. 2019	Apr. 2019	May. 2019	Jun. 2019	Dec. 2019
	-	prior	(317)	(428)	(411)	(408)	(349)
	122.0%	2000	13	13	12	12	11
	125.8%	2001	9	9	9	9	9
	117.9%	2002	63	63	60	59	49
	90.7%	2003	125	125	120	119	102
	77.7%	2004	227	227	218	216	183
	73.7%	2005	432	440	422	418	354
	100.4%	2006	674	702	674	667	567
	100.1%	2007	823	822	789	781	663
	121.3%	2008	2,198	2,341	2,247	2,225	1,891
	155.6%	2009	2,854	2,893	2,777	2,749	2,336
	152.4%	2010	4,050	4,089	3,925	3,886	3,303
	87.0%	2011	1,508	1,814	1,741	1,724	1,464
	85.3%	2012	1,021	1,482	1,423	1,409	1,197
	94.4%	2013	(1,196)	(1,129)	(1,084)	(1,073)	(911)
	100.8%	2014	582	(1,048)	(1,006)	(996)	(845)
	108.2%	2015	3,576	2,909	2,793	2,681	859
	119.2%	2016	29,458	25,823	24,790	23,798	12,716
	116.9%	2017	102,478	101,292	97,240	93,350	65,755
	125.7%	2018	136,342	131,740	126,470	121,411	100,079
	127.1%	2019	52,947	69,562	85,263	97,570	173,567
		TOTAL	337,867	343,741	348,472	350,607	363,000
		Change		5,874	4,731	2,135	

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

EXHIBIT C
Premium Liabilities
TABLE EXHIBIT C

	Amounts in \$000s				
	Actual Mar. 2019	Actual Apr. 2019	Projected May. 2019	Projected Jun. 2019	Projected Dec. 2019
Premium Liabilities					
(1) unearned premium (UP)	164,022	168,873	173,542	179,417	209,343
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	139.3%	139.5%	139.7%	139.9%	142.3%
(3) expected future costs {(1) x (2)}	228,482	235,529	242,406	251,065	297,847
(4) premium deficiency / (deferred policy acquisition cost)	64,460	66,656	68,864	71,648	88,504
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	127.5%	127.7%	127.8%	128.1%	130.2%
(6) expected future costs {(1) x (5)}	209,121	215,570	221,865	229,790	272,607
(7) premium deficiency / (deferred policy acquisition cost)	45,099	46,697	48,323	50,373	63,264

EXHIBIT D

Projected Year-end Policy Liabilities

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

Ontario		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
prior	23,575	(349)	23,226	(1,214)	148	2,331	(121)	2,210	1,144
2000	1	11	12	(1)	-	1	-	1	-
2001	542	9	551	(31)	4	55	(3)	52	25
2002	54	49	103	(7)	1	10	(1)	9	3
2003	263	102	365	(26)	3	37	(3)	34	11
2004	882	183	1,065	(84)	11	106	(8)	98	25
2005	53	354	407	(36)	4	41	(4)	37	5
2006	1,459	567	2,026	(199)	24	203	(20)	183	8
2007	1,527	663	2,190	(232)	28	219	(23)	196	(8)
2008	1,564	1,891	3,455	(390)	48	346	(39)	307	(35)
2009	4,300	2,336	6,636	(776)	93	664	(78)	586	(97)
2010	4,937	3,303	8,240	(890)	107	824	(89)	735	(48)
2011	8,725	1,464	10,189	(876)	112	1,019	(88)	931	167
2012	16,871	1,197	18,068	(1,391)	163	1,807	(139)	1,668	440
2013	26,408	(911)	25,497	(1,683)	204	2,550	(168)	2,382	903
2014	54,008	(845)	53,163	(2,818)	372	5,316	(282)	5,034	2,588
2015	65,396	859	66,255	(2,849)	331	8,282	(356)	7,926	5,408
2016	91,202	12,716	103,918	(4,468)	624	15,588	(670)	14,918	11,074
2017	113,614	65,755	179,369	(8,430)	1,076	31,210	(1,467)	29,743	22,389
2018	113,943	100,079	214,022	(11,557)	1,498	42,590	(2,300)	40,290	30,231
PAYs (sub-total):	529,324	189,433	718,757	(37,958)	4,851	113,199	(5,859)	107,340	74,233
CAY (2019)	123,324	173,567	296,891	(16,923)	2,078	55,519	(3,165)	52,354	37,509
claims liabilities:	652,648	363,000	1,015,648	(54,881)	6,929	168,718	(9,024)	159,694	111,742
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs
premium liabilities:	209,343	63,264	272,607	(12,247)	1,361	37,828	(1,702)	36,126	25,240
*Total may not be sum of parts, as apvs apply to future costs within UPR									
policy liabilities:			1,288,255	(67,128)	8,290	206,546	(10,726)	195,820	136,982

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.

Accident Year	Selected Claims Development MfADs (Dec. 31, 2018)			Total Margins
	Third Party Liability	Accident Benefits	Other Coverages	
	Margins	Margins	Margins	
1993	10.0%	10.0%	10.0%	10.0%
1994	10.0%	10.0%	10.0%	10.0%
1995	10.0%	10.0%	10.0%	10.0%
1996	10.0%	10.0%	10.0%	10.0%
1997	10.0%	10.0%	10.0%	10.0%
1998	10.0%	10.0%	10.0%	10.0%
1999	10.0%	10.0%	10.0%	10.0%
2000	10.0%	10.0%	10.0%	10.0%
2001	10.0%	10.0%	10.0%	10.0%
2002	9.1%	10.0%	10.0%	10.0%
2003	10.0%	10.0%	10.0%	10.0%
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%	8.6%	10.0%
2013	10.0%	10.0%	8.5%	10.0%
2014	10.0%	10.0%	9.5%	10.0%
2015	12.5%	12.5%	11.9%	12.5%
2016	15.0%	15.0%	13.3%	15.0%
2017	17.4%	17.5%	11.9%	17.4%
2018	19.8%	20.0%	14.0%	19.9%
2019	18.5%	20.0%	6.2%	18.7%
prem liab	13.5%	20.0%	5.2%	13.9%

discount rate: 1.88%
 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 (1.88%), the prior valuation assumption (2.22%) and the prior fiscal year end valuation assumption (2.22%) 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	0.88%	1.38%	1.88%	2.38%	2.88%	3.38%	2.22%	2.22%
2004 & prior	29,525	29,095	28,669	28,259	27,856	27,462	28,387	28,387
2005	421	411	401	391	382	373	394	394
2006	2,432	2,366	2,303	2,243	2,184	2,129	2,261	2,261
2007	2,846	2,763	2,683	2,607	2,534	2,464	2,631	2,631
2008	4,189	4,058	3,932	3,814	3,699	3,591	3,851	3,851
2009	7,169	6,936	6,713	6,502	6,301	6,110	6,568	6,568
2010	7,307	7,088	6,880	6,684	6,497	6,320	6,745	6,745
2011	10,073	9,836	9,610	9,397	9,195	9,003	9,464	9,464
2012	19,680	19,265	18,870	18,497	18,142	17,805	18,614	18,614
2013	21,476	21,087	20,718	20,367	20,031	19,713	20,476	20,476
2014	43,513	42,888	42,291	41,725	41,180	40,658	41,903	41,903
2015	67,910	67,122	66,359	65,634	64,932	64,255	65,860	65,860
2016	114,736	113,414	112,129	110,903	109,709	108,553	111,286	111,286
2017	207,889	205,257	202,691	200,205	197,810	195,486	200,993	200,993
2018	253,670	249,962	246,344	242,879	239,494	236,208	243,964	243,964
2019	359,983	354,380	348,976	343,743	338,636	333,740	345,363	345,363
Total	1,152,819	1,135,928	1,119,569	1,103,850	1,088,582	1,073,870	1,108,760	1,108,760
	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	0.88%	1.38%	1.88%	2.38%	2.88%	3.38%	2.22%	2.22%
Total	33,250	16,359	-	(15,719)	(30,987)	(45,699)	(10,809)	(10,809)
	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	0.88%	1.38%	1.88%	2.38%	2.88%	3.38%	2.22%	2.22%
2004 & prior	3.0%	1.5%	-	(1.4%)	(2.8%)	(4.2%)	(1.0%)	(1.0%)
2005	5.0%	2.5%	-	(2.5%)	(4.7%)	(7.0%)	(1.7%)	(1.7%)
2006	5.6%	2.7%	-	(2.6%)	(5.2%)	(7.6%)	(1.8%)	(1.8%)
2007	6.1%	3.0%	-	(2.8%)	(5.6%)	(8.2%)	(1.9%)	(1.9%)
2008	6.5%	3.2%	-	(3.0%)	(5.9%)	(8.7%)	(2.1%)	(2.1%)
2009	6.8%	3.3%	-	(3.1%)	(6.1%)	(9.0%)	(2.2%)	(2.2%)
2010	6.2%	3.0%	-	(2.8%)	(5.6%)	(8.1%)	(2.0%)	(2.0%)
2011	4.8%	2.4%	-	(2.2%)	(4.3%)	(6.3%)	(1.5%)	(1.5%)
2012	4.3%	2.1%	-	(2.0%)	(3.9%)	(5.6%)	(1.4%)	(1.4%)
2013	3.7%	1.8%	-	(1.7%)	(3.3%)	(4.9%)	(1.2%)	(1.2%)
2014	2.9%	1.4%	-	(1.3%)	(2.6%)	(3.9%)	(0.9%)	(0.9%)
2015	2.3%	1.1%	-	(1.1%)	(2.2%)	(3.2%)	(0.8%)	(0.8%)
2016	2.3%	1.1%	-	(1.1%)	(2.2%)	(3.2%)	(0.8%)	(0.8%)
2017	2.6%	1.3%	-	(1.2%)	(2.4%)	(3.6%)	(0.8%)	(0.8%)
2018	3.0%	1.5%	-	(1.4%)	(2.8%)	(4.1%)	(1.0%)	(1.0%)
2019	3.2%	1.5%	-	(1.5%)	(3.0%)	(4.4%)	(1.0%)	(1.0%)
Total	3.0%	1.5%	-	(1.4%)	(2.8%)	(4.1%)	(1.0%)	(1.0%)
	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 Ontario
AccountCode Desc IBNR - Discounted

M/S IBNR - in \$000s

AccYear	Values				Sum of Total Change	Sum of % Total Change	Sum of Current Month Final Amount
	Sum of Prior Month Actual Amount	Sum of Projected Change	Sum of Change Due to AvsP Variances	Sum of Change Due to Valuation Implementation			
prior	1,099	(34)	(81)	-	(115)	(10.5%)	984
2000	13	-	-	-	-	-	13
2001	40	(1)	1	-	-	-	40
2002	68	(2)	2	-	-	-	68
2003	140	(4)	4	-	-	-	140
2004	257	(6)	6	-	-	-	257
2005	439	(9)	17	-	8	1.8%	447
2006	684	(14)	42	-	28	4.1%	712
2007	813	(16)	15	-	(1)	(0.1%)	812
2008	2,154	(42)	185	-	143	6.6%	2,297
2009	2,734	(53)	91	-	38	1.4%	2,772
2010	3,990	(79)	118	-	39	1.0%	4,029
2011	1,720	(38)	337	-	299	17.4%	2,019
2012	1,566	(36)	492	-	456	29.1%	2,022
2013	(62)	(9)	53	-	44	(71.0%)	(18)
2014	3,862	(110)	(1,614)	-	(1,724)	(44.6%)	2,138
2015	10,657	(677)	(97)	-	(774)	(7.3%)	9,883
2016	43,204	(1,747)	(2,211)	-	(3,958)	(9.2%)	39,246
2017	129,122	(5,658)	4,147	-	(1,511)	(1.2%)	127,611
2018	171,399	(7,518)	2,328	-	(5,190)	(3.0%)	166,209
2019	63,052	19,221	272	-	19,493	30.9%	82,545
Grand Total	436,951	3,168	4,107	-	7,275	1.7%	444,226

EXHIBIT G

Page 2 of 2

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

RSP
AccountCode Desc Ontario
IBNR - Undiscounted

IBNR - in \$000s

AccYear	Values				Sum of Total Change	Sum of % Total Change	Sum of Current Month Final Amount
	Sum of Prior Month Actual Amount	Sum of Projected Change	Sum of Change Due to AvsP Variances	Sum of Change Due to Valuation Implementation			
prior	(317)	9	(120)	-	(111)	35.0%	(428)
2000	13	-	-	-	-	-	13
2001	9	-	-	-	-	-	9
2002	63	(1)	1	-	-	-	63
2003	125	(3)	3	-	-	-	125
2004	227	(5)	5	-	-	-	227
2005	432	(9)	17	-	8	1.9%	440
2006	674	(13)	41	-	28	4.2%	702
2007	823	(16)	15	-	(1)	(0.1%)	822
2008	2,198	(44)	187	-	143	6.5%	2,341
2009	2,854	(57)	96	-	39	1.4%	2,893
2010	4,050	(81)	120	-	39	1.0%	4,089
2011	1,508	(30)	336	-	306	20.3%	1,814
2012	1,021	(20)	481	-	461	45.2%	1,482
2013	(1,196)	24	43	-	67	(5.6%)	(1,129)
2014	582	(12)	(1,618)	-	(1,630)	(280.1%)	(1,048)
2015	3,576	(465)	(202)	-	(667)	(18.7%)	2,909
2016	29,458	(1,473)	(2,162)	-	(3,635)	(12.3%)	25,823
2017	102,478	(5,124)	3,938	-	(1,186)	(1.2%)	101,292
2018	136,342	(6,817)	2,215	-	(4,602)	(3.4%)	131,740
2019	52,947	15,952	663	-	16,615	31.4%	69,562
Grand Total	337,867	1,815	4,059	-	5,874	1.7%	343,741