



**ONTARIO RISK SHARING POOL**

**JANUARY 2019 OPERATIONAL REPORT**

**ACTUARIAL HIGHLIGHTS**

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

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## 1 Summary

### 1.1 Valuation Schedule (Fiscal Year 2019)

The January 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.

<b>ONTARIO RISK SHARING POOL          FISCAL YEAR 2019 – SCHEDULE OF VALUATIONS</b>			
<b>Valuation Date</b>	<b>Discount Rate (per annum)</b>	<b>Operational Report</b>	<b>Description of Changes</b>
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		Mar. 2019	update valuation:
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 / Regulation<sup>1</sup>

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 /

<sup>1</sup>How bills become laws in Ontario is described in detail in the publication: <http://www.ontla.on.ca/lao/en/media/laointernet/pdf/bills-and-lawmaking-background-documents/how-bills-become-law-en.pdf>.

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. With the most recent valuation (September 30, 2018), reform adjustments (originally introduced with the June 30, 2015 valuation) specifically related to changes in the non-pecuniary prejudgment interest provision calculation impacting the bodily injury coverage and the applicable interest rate applied to overdue payments in the SABS impacting the accident benefits coverage, were included with the updated industry trend analysis (completed using industry data as at December 31, 2017) and nominal valuation selections, impacting the selection of ultimates. Additional discussion in relation to the application of changes to the prejudgment interest rate on general damages for non-pecuniary loss can be found in section 1.5.

**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 (September 30, 2018), reform adjustments (originally introduced with the September 30, 2015 valuation) specifically related to changes in the tort threshold and deductibles impacting the bodily injury coverage and 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 December 31, 2017) and nominal valuation estimates, impacting the selection of ultimates. Additional discussion in relation to the application of changes in the tort threshold and deductibles can be found in section 1.5.

The **Supreme Court of Canada** rendered its judgment on **Saadati v Moorhead (2017 SCC 28, rendered on June 2, 2017)**. Saadati was involved in a collision in July of 2005 in British Columbia and sued the at-fault driver for damages. According to the Supreme Court decision, “*The trial judge found that the ... accident caused S[aadati] psychological injuries, including personality change and cognitive difficulties. ...and awarded S[aadati] \$100,000 for non-pecuniary damages.*” The trial decision was appealed to the BC Court of Appeal where the trial’s \$100,000 non-pecuniary award was dismissed. The Supreme Court upheld the \$100,000 non-pecuniary award, determining:

- *“A finding of legally compensable mental injury need not rest, in whole or in part, on the claimant proving a recognized psychiatric injury.”*
- *“...a trier of fact adjudicating a claim of mental injury is not concerned with diagnosis, but with symptoms and their effects.”*
- *“Expert evidence can assist in determining whether or not a mental injury has been shown, but where psychiatric diagnosis is unavailable, it remains open to a trier of fact to find on other evidence adduced by the claimant that he or she has proven on a balance of probabilities the occurrence of mental injury.”*

At the current time, no adjustments have been made to our valuation estimates or views based on the judgment as rendered, and at this point we do not believe this judgment will have a further impact on our valuation results.

#### **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](mailto:sdoherty@facilityassociation.com) if you need further information.

#### **1.5 Ontario RSP Bodily Injury Case Reserve summary**

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

With the most recent (September 30, 2018) valuation, the impact of recent Ontario Court of Appeal decisions in relation to the application of changes to the prejudgment interest rate on general damages for non-pecuniary loss was reviewed and the nominal valuation adjustment included with the prior valuation (June 30, 2018) impacting accident years 2014 and prior, was fully unwound. Further discussion was provided in the “Actuarial Highlights – Quarterly Valuation” report which was posted to the FA website in January 2019.

As indicated in the previous section, reform adjustments, specifically related to changes in the non-pecuniary prejudgment interest provisions in **Ontario Bill 15** and the changes in the tort threshold and deductibles in **Ontario Bill 91** impacting the third party liability - bodily injury coverage for accident year 2015 and subsequent, was included with the updated Ontario Private Passenger Vehicle industry trend analysis (completed using industry data as at December 31, 2017).

In the **Ontario Court of Appeal** decisions in **El-Khodr v Lackie** (September 19, 2017; 2017 ONCA 716) and **Cobb v Long Estate** (September 19, 2017; 2017 ONCA 717), the court of appeal ruled that the change to prejudgment interest for non-pecuniary<sup>2</sup> losses from a set level of 5% to the level that

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<sup>2</sup>**Pecuniary** awards are defined on the Ontario Attorney General's website as “Damages that can be measured in money (i.e., special damages)” with special damages further defined as “Damages intended to compensate a plaintiff for a quantifiable monetary loss. Examples of such losses include: lost earnings, medical bills, and repair costs.” In contrast, **non-pecuniary** awards defined as “Damages

applies to pecuniary losses were implemented to achieve particular policy objectives and therefore should have retrospective application (i.e. to be applied to all settlements on or after January 1, 2015). The Ontario Court of Appeal ruling in **El-Khodr v Lackie** was appealed to the **Supreme Court of Canada**; on June 7, 2018, the Supreme Court of Canada dismissed the application for leave to appeal from the judgment of the Court of Appeal for Ontario.

During the **most recent valuation** (September 30, 2018), the reform adjustment in relation to the **application of changes to the prejudgement interest rate on general damages for non-pecuniary loss**, initially introduced with the September 30, 2017 valuation, has been fully unwound (that is, no adjustment is carried for accident years 2014 and prior). As such, we are assuming the impact of this product reform change is fully reflected in outstanding case reserves with the September 30, 2018 valuation (that is, as this adjustment was unwinding, it was anticipated that member settlement and case adjustment activity would occur simultaneously, neutralizing the adjustment unwind).

In addition to the above, in the **Ontario Court of Appeal** decisions in **El-Khodr v Lackie** (September 19, 2017; 2017 ONCA 716) and **Cobb v Long Estate** (September 19, 2017; 2017 ONCA 717), the court of appeal ruled that the changes to the tort deductible and monetary threshold were implemented to achieve particular policy objectives and therefore should have retrospective application (i.e. to be applied to all settlements on or after January 1, 2015). The Facility Association view, consistent with these decisions, is that the changes to the bodily injury tort threshold and deductibles are on a settlement date basis. With the **most recent valuation** (September 30, 2018), no additional reform adjustment was included as we have assumed the retroactive impact of this product reform change has been fully reflected in outstanding case reserves.

Recognizing that individual members may interpret these results differently, we have included a table at the top of the next page displaying the levels of Ontario RSP Third Party Liability – Bodily Injury Case Reserves (as at December 31, 2017<sup>3</sup>) by accident year as well as projected average duration, from accident date to projected settlement date, from the December 31, 2017 valuation paid emergence projection model. No attempt has been made to distinguish case reserves held for pecuniary versus non-pecuniary losses, nor in estimating the amount of prejudgment interest, if any, is included in the case reserve estimates.

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that cannot be measured in money, but nevertheless are compensated for with money (i.e., general damages)” with general damages further defined as “Damages for non-monetary losses suffered by a plaintiff. These damages are not capable of exact quantification. Examples of such losses suffered include pain, suffering, and disfigurement.”

<sup>3</sup>As we anticipate the full impact of the reforms will be accounted for in case reserves by December 31, 2018 and therefore with the 2018 Q4 valuation, we anticipated being able to remove this section when that valuation is implemented with the March 2019 Operational Report.

ON RSP (Amounts in \$000s; as at Dec. 31, 2017)

AY	Curr BI Case	avg yrs to Dec 2017	projected avg # yrs to settlement	projected avg duration
[1]	[2]	[5]	[6]	[7]
1993	-	24.5	-	-
1994	-	23.5	-	-
1995	-	22.5	-	-
1996	168	21.5	1.5	23.0
1997	-	20.5	-	-
1998	-	19.5	-	-
1999	-	18.5	-	-
2000	-	17.5	-	-
2001	-	16.5	-	-
2002	-	15.5	-	-
2003	8	14.5	5.0	19.5
2004	-	13.5	-	-
2005	16	12.5	6.3	18.8
2006	25	11.5	6.6	18.1
2007	734	10.5	7.2	17.7
2008	1,770	9.5	3.7	13.2
2009	4,207	8.5	2.0	10.5
2010	8,454	7.5	1.9	9.4
2011	8,745	6.5	2.0	8.5
2012	16,577	5.5	2.1	7.6
2013	27,154	4.5	2.1	6.6
2014	43,100	3.5	2.2	5.7
2015	47,100	2.5	2.5	5.0
2016	46,452	1.5	3.0	4.5
2017	36,601	0.5	3.8	4.3
<b>TOTAL</b>	<b>241,111</b>	<b>3.1</b>	<b>2.6</b>	<b>5.8</b>

In the table above, the column referenced as [7] (“projected avg duration”) is an estimate of the number of years from claim occurrence<sup>4</sup> to claim settlement, via summing the average number of years from claim occurrence to December 31, 2017 (column [5]) and from December 31, 2017 to settlement (column [6]).

## 1.6 Current Provision Summary

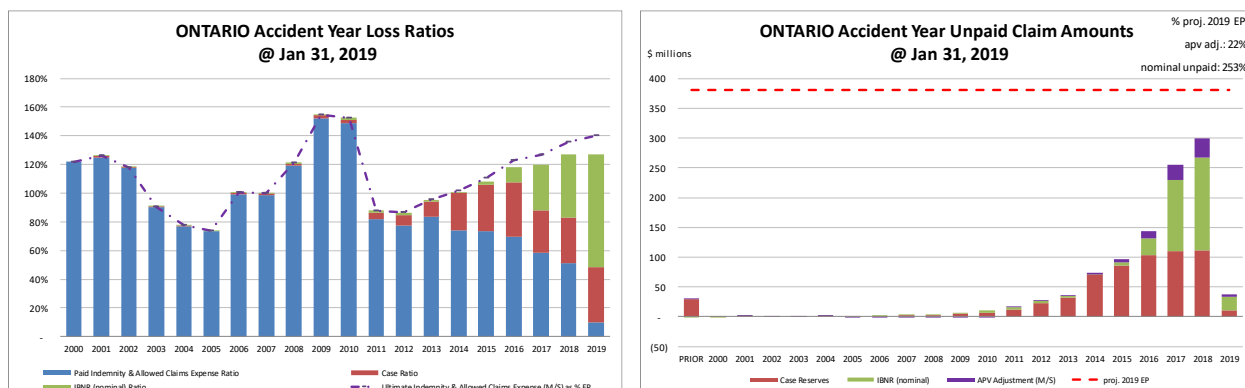
The charts at the top of the next page show the current levels of claim liabilities<sup>5</sup> booked by accident

<sup>4</sup>Prejudgment interest in Ontario applies to the period from the date the claim is reported, not from the time of occurrence. We have provided the latter to allow actuarial judgment to be applied in estimating the lag between occurrence and reporting.

<sup>5</sup>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.



year<sup>6</sup>. 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 (\$85.0 million – see table immediately below) represents 22% 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	610,495	58.2%
ibnr	353,130	33.7%
M/S apv adjust.	84,972	8.1%
M/S total	1,048,597	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 51% of the IBNR balance relates to accident years 2018 and 2019 (see Exhibit B). Approximately 80% 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).

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

premium liabilities (\$000s)

	amt	%
unearned prem	163,471	72.4%
prem def/(dpac)	44,688	19.8%
M/S apv adjust.	17,587	7.8%
M/S total	225,746	100.0%

policy liabilities (\$000s)

	amt	%
claim	963,625	75.6%
premium	208,159	16.3%
M/S apv adjust.	102,559	8.0%
M/S total	1,274,343	100.0%

<sup>6</sup>The 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".



## 2 Activity During the Month of January 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 Report<sup>7</sup>.

*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	(50)	(50)	9,301	(2,583)	(6,694)	2,276	2,607	(307)
2017	(122)	(122)	3,438	(1,232)	(601)	(2,076)	2,837	(3,308)
2018	433	433	16,628	5,273	(3,418)	(7,244)	13,210	(1,971)
2019	29,046	(403)	2,878	(678)	11,178	885	14,056	207
TOTAL	29,306	(142)	32,246	781	465	(6,159)	32,711	(5,378)

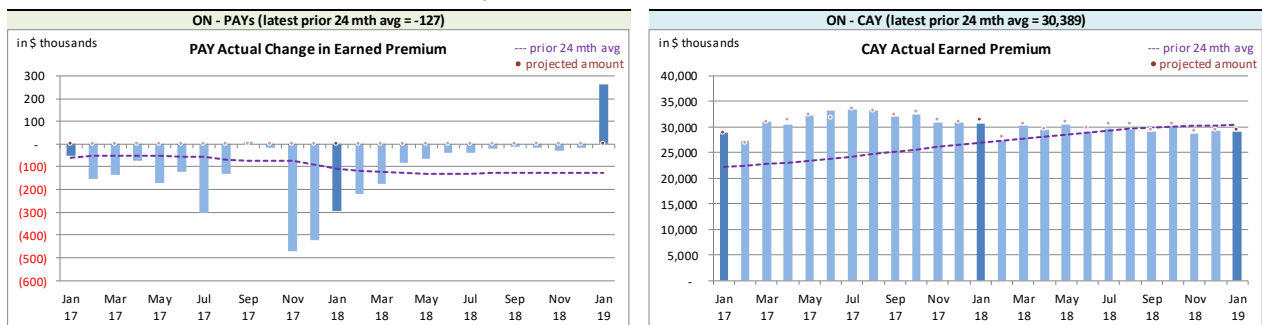
(Recorded transaction amounts exclude IBNR & other actuarial provisions)

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

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

The charts immediately below show actual **earned premium**<sup>8</sup> 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.

*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.

We have noted and are investigating the unusually high level of PAYs earned premium activity this

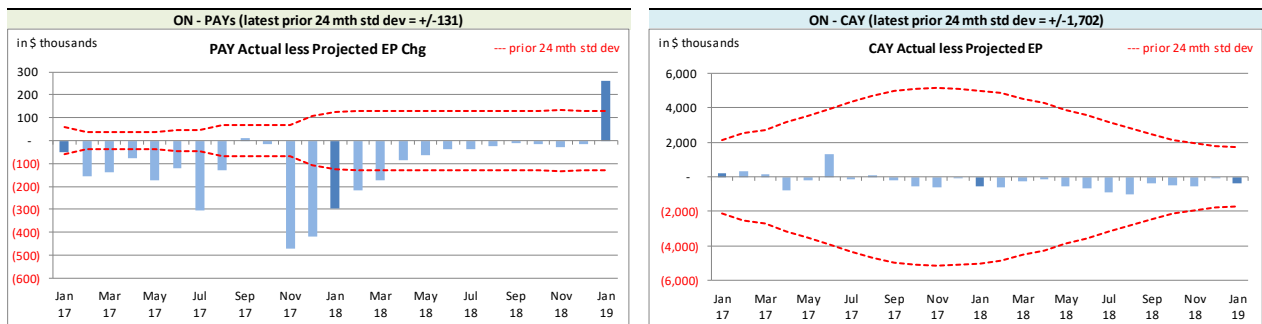
<sup>7</sup>There may be rounding differences in values in this document compared with the associated Bulletin and/or Operational Report.

<sup>8</sup>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.

month, particularly with respect to one member.

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			
	<b>Earned Premium</b>	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(127)	30,389	
std dev	131	1,702	
A-P <> std dev	13	-	
% <> std dev	52.0%	0.0%	
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) bias<sup>9</sup>, with actuals generally lower than projected, although the magnitude is not high relative to monthly

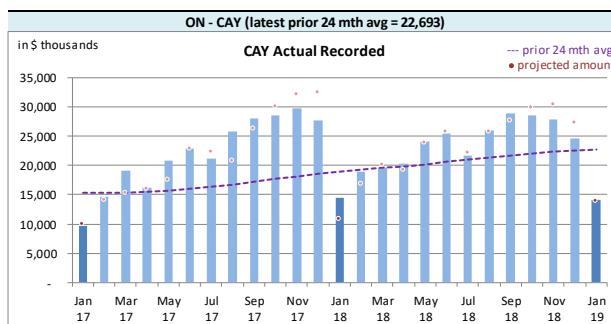
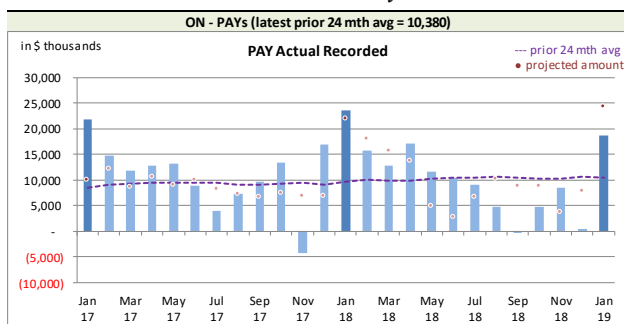
premium. Over time, we may consider other projection approaches to narrow monthly variance levels further, but it is not currently deemed a priority. Readers will also note the significant widening then tapering of the CAY standard deviation band, reflecting significant volume changes and the impact as those changes were earned.

## 2.1.b AvsP: Recorded Indemnity & Allowed Claims Expense

The charts at the top of the next page 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.

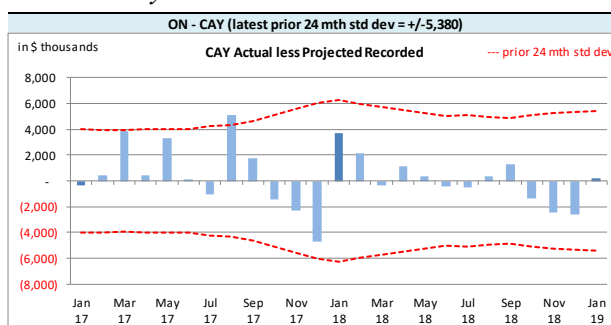
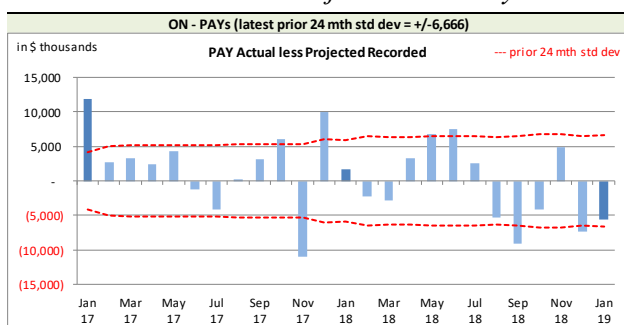
<sup>9</sup>The PAYs’ variances will show bias as the projection upload forces all earned premium projections to be attributed to the CAY.

### 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			
	<b>Recorded</b>	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	10,380	22,693	
std dev	6,666	5,380	
A-P <> std dev	8	1	
% <> std dev	32.0%	4.0%	
norm <> std dev	31.7%	31.7%	

With respect to **recorded** indemnity & allowed claims expense, 32% 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. Up until May 2018, there did appear to be evidence of some bias at the 95% confidence level. We modified our projection processes in response to these findings and the modifications appear to have had the desired effect.

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 on the next page. 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 Jan) provides the January 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, one month into 2019 has the highest **recorded** ratio since 2009 while the **paid** ratio is the second highest in the last 10 years (January 2018 had the highest **paid** ratio). 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

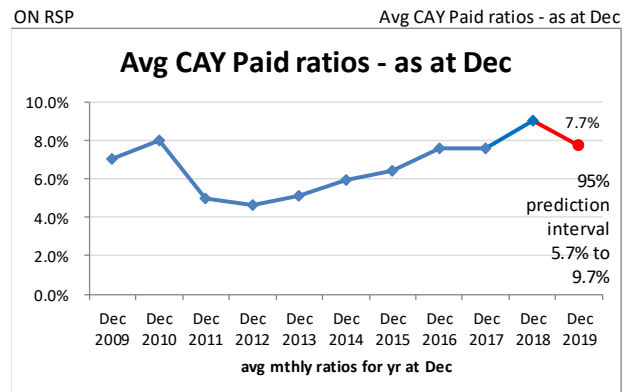
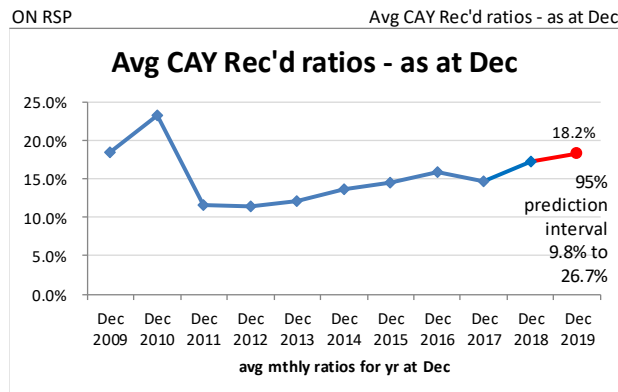
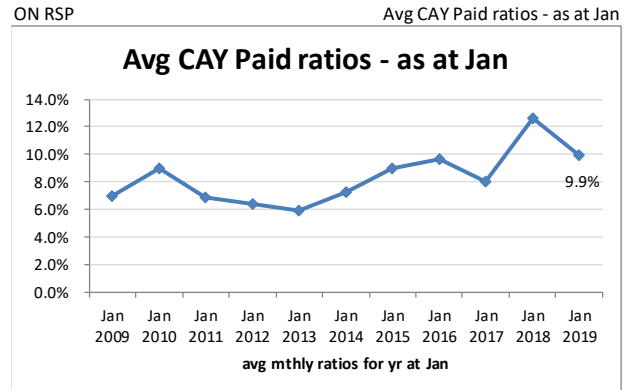
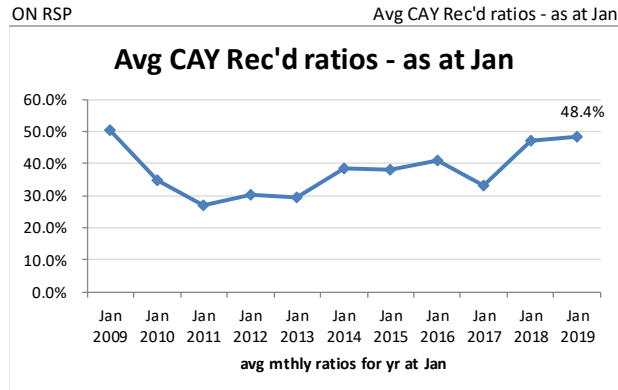
as at	Rec'd	yr-on-yr chg	Paid	yr-on-yr chg
Dec 2009	18.5%		7.0%	
Dec 2010	23.2%	4.7%	8.0%	1.0%
Dec 2011	11.5%	(11.7%)	5.0%	(3.0%)
Dec 2012	11.4%	(0.1%)	4.6%	(0.4%)
Dec 2013	12.0%	0.6%	5.1%	0.5%
Dec 2014	13.7%	1.7%	5.9%	0.8%
Dec 2015	14.4%	0.7%	6.4%	0.5%
Dec 2016	15.8%	1.4%	7.6%	1.2%
Dec 2017	14.7%	(1.1%)	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
Jan 2009	50.3%		7.0%	
Jan 2010	34.8%	(15.5%)	9.0%	2.0%
Jan 2011	26.8%	(8.0%)	6.9%	(2.1%)
Jan 2012	30.3%	3.5%	6.4%	(0.5%)
Jan 2013	29.5%	(0.8%)	5.9%	(0.5%)
Jan 2014	38.4%	8.9%	7.2%	1.3%
Jan 2015	38.2%	(0.2%)	9.0%	1.8%
Jan 2016	40.9%	2.7%	9.6%	0.6%
Jan 2017	33.3%	(7.6%)	8.0%	(1.6%)
Jan 2018	47.0%	13.7%	12.6%	4.6%
Jan 2019	48.4%	1.4%	9.9%	(2.7%)

There has been strong (58%) correlation between the ytd monthly average **recorded** ratios and very strong (87%) correlation between the ytd monthly average **paid** ratios at January each year and the corresponding ytd monthly average ratios at December, suggesting the January **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 January 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 18.2% (95% prediction interval of 9.8% to 26.7%) for **recorded** and 7.7% (95% prediction interval of 5.7% to 9.7%) 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*



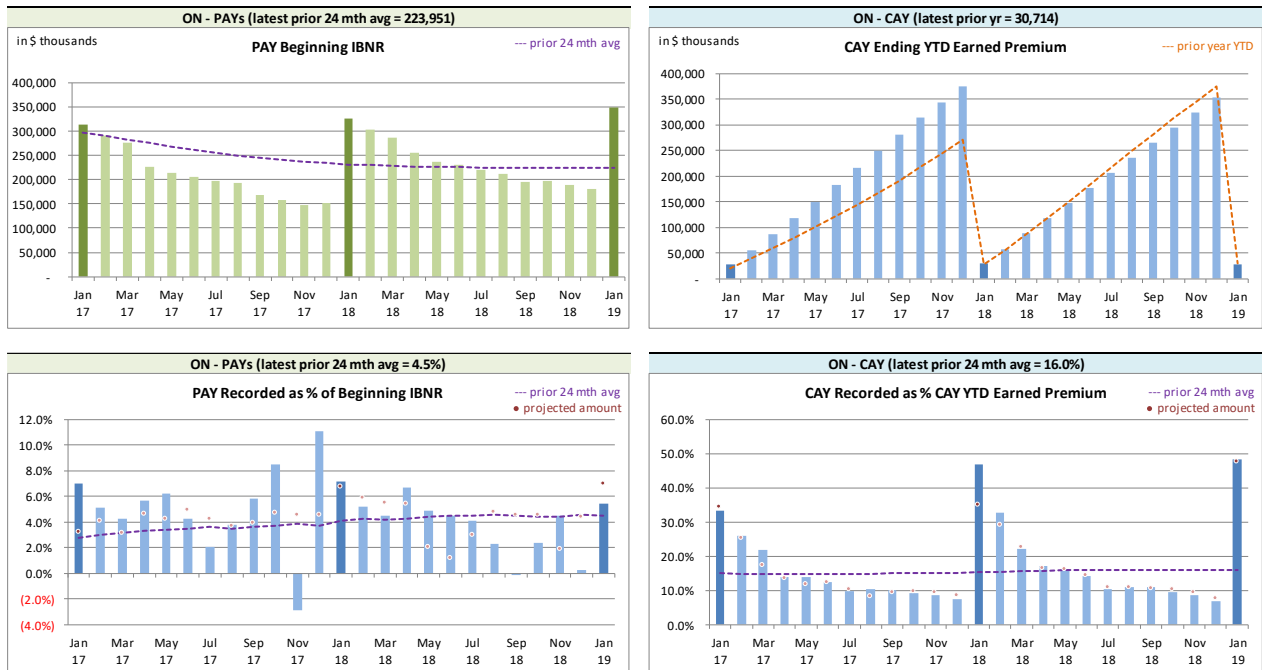
We are taking this information into consideration as part of our projection process.

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 influence<sup>10</sup> 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:

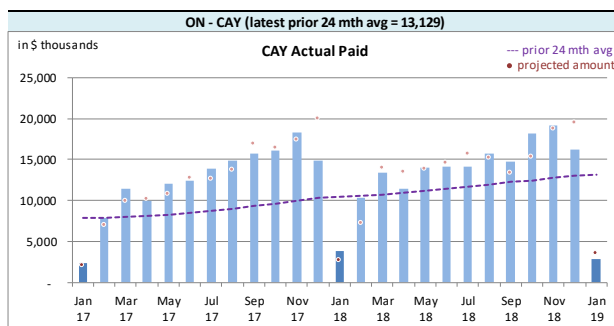
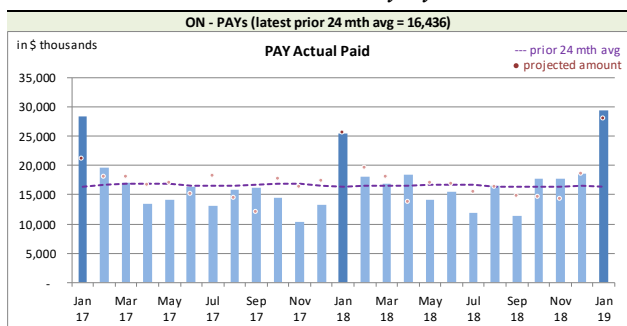
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a current accident year becomes a prior accident year (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of prior accident years' ultimate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

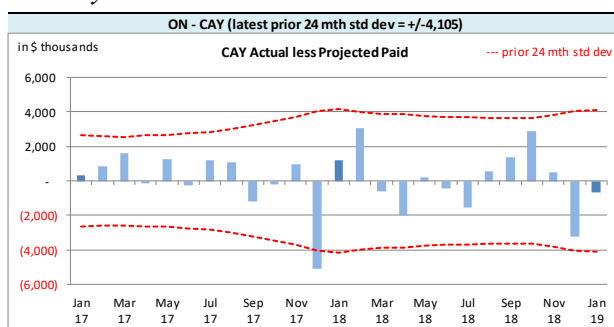
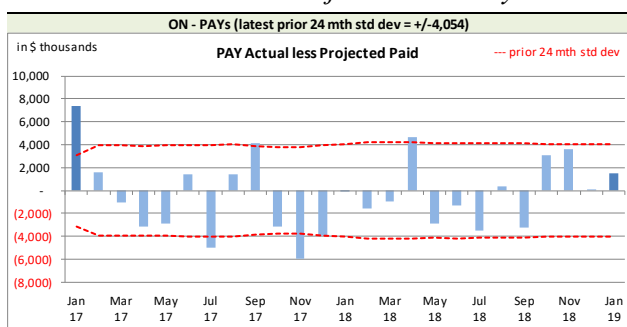
<sup>10</sup>Our recorded activity projections for the prior accident years are based on selected ratios of recorded activity to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date IBNR to year-to-date selected ultimate (i.e. selected 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.

### 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			
	<b>Paid</b>	PAYS	CAY
Mthly Avg Paid (prior 24 mths)	16,436	16,436	13,129
std dev	4,054	4,054	4,105
A-P <> std dev	5	5	1
% <> std dev	20.0%	20.0%	4.0%
norm <> std dev	31.7%	31.7%	31.7%

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) **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 had been indicated at a 95% confidence level on a lagging 24-month basis<sup>11</sup> up until March 2018, as 18 times in the 24 months to that point (i.e. April 2016 to March 2018), actuals were higher than our projections for the CAY **paid** amount. We modified our projections processes in response to these findings and continue to monitor.

The *bottom right* chart on the next page shows that the rolling 24-month ratio of CAY **paid** to ytd **earned premium** has been increasing, which adds to the difficulty in projecting **paid** activity. We have made adjustments to our assumption selections in an attempt to account for these issues, but

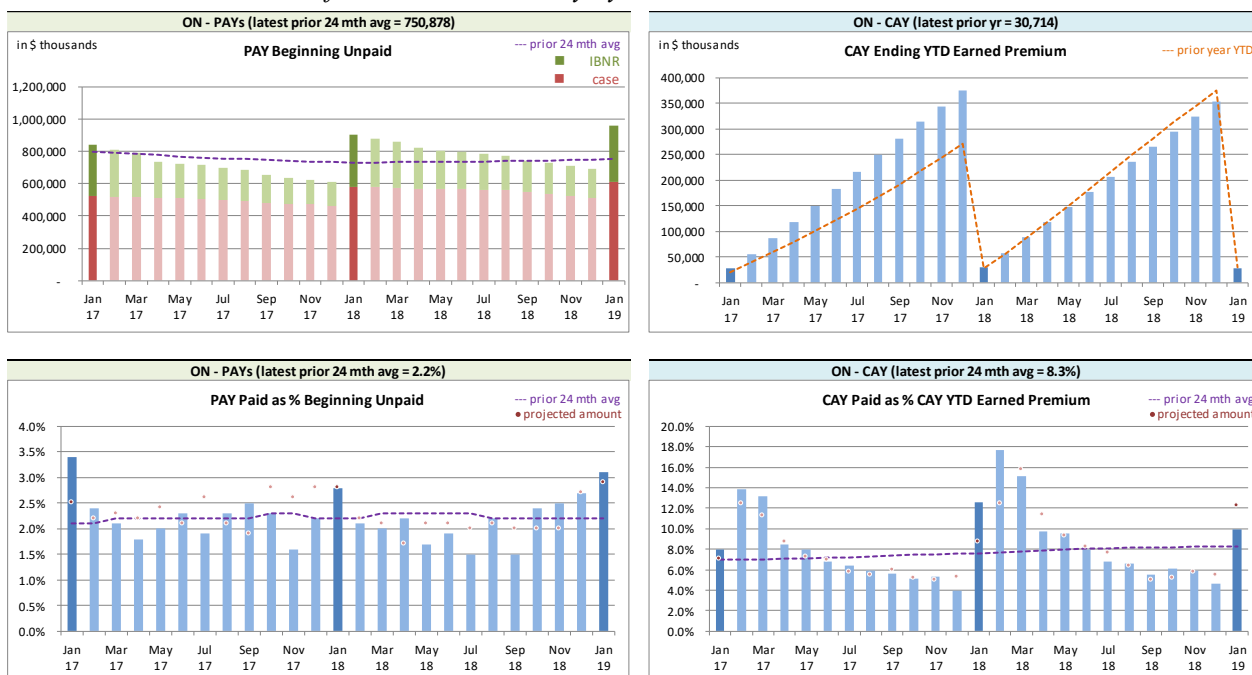
<sup>11</sup>For the binomial distribution with 24 trials and an assumed 50% success probability, the 95% confidence range is 7 to 17.



recognize, as discussed in the previous section, that the results may be signalling a change in paid patterns, a change in claims levels in general, or the impact of rate changes.

We have included, for reference, additional charts immediately below related to levels influencing **paid** activity.

### *Ontario RSP Levels that influence<sup>12</sup> 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

<sup>12</sup>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.

IBNR<sup>13</sup>, 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 immediately below summarizes variances in provisions included in this month's Operational Report and the associated one-month projections from last month's Report.

*Ontario 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	54,335	250	(27,934)	(240)	51,584	207	77,985	217
2017	119,919	3,161	(12,875)	(61)	38,926	183	145,970	3,283
2018	156,014	2,520	(16,871)	297	48,278	(851)	187,421	1,966
2019	22,862	(719)	(2,281)	(11)	6,145	29	26,726	(701)
TOTAL	353,130	5,212	(59,961)	(15)	144,933	(432)	438,102	4,765

The IBNR provision is \$5.2 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 at the top of the next page 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.

<sup>13</sup>For ease of discussion, "IBNR" is used in place of "provisions for incurred but not recorded (IBNR) and development".

*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:	44,688	(623)	17,587	(232)	62,275	(855)
balance as % unearned premium:	27.3%	(0.1%)	10.8%	0.1%	38.1%	-
actual unearned premium:	163,471					
less projected:	(2,174)					

### 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<sup>14</sup> 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 at the top of the next page summarizes the calendar year-to-date results for indemnity & allowed claims expenses<sup>15</sup>, 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 126.0% 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.)

<sup>14</sup>“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).

<sup>15</sup>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.

*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	346	1.2%	(1,015)	(3.5%)	(669)	(2.3%)	#N/A	#N/A
CAY	36,918	126.0%	3,864	13.2%	40,782	139.2%	#N/A	#N/A
TOTAL	37,264	127.2%	2,849	9.7%	40,113	136.9%	#N/A	#N/A

("% 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 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  
 2.22%

 interest rate margin  
 25 basis pts

Amounts in \$000s					
Accident Year	Actual Dec. 2018	Actual Jan. 2019	Projected Feb. 2019	Projected Mar. 2019	Projected Dec. 2019
prior	(939)	(807)	(818)	(756)	(614)
2000	(4)	(4)	(4)	(4)	(4)
2001	180	201	199	189	149
2002	65	66	65	62	49
2003	127	131	130	124	99
2004	219	232	230	219	173
2005	432	438	434	411	327
2006	606	639	633	600	476
2007	809	770	762	723	574
2008	1,349	1,757	1,743	1,653	1,311
2009	1,135	1,096	1,089	1,030	819
2010	4,243	4,341	4,302	4,081	3,235
2011	3,851	4,051	4,007	3,809	3,013
2012	5,264	5,015	4,954	4,716	3,726
2013	3,722	3,477	3,429	3,271	2,579
2014	5,391	3,702	3,611	3,483	2,718
2015	12,760	11,475	10,946	9,902	6,449
2016	43,142	41,405	40,006	38,383	22,775
2017	147,444	145,970	138,255	133,235	84,634
2018	200,904	187,421	177,432	169,482	125,425
2019	-	26,726	47,063	68,530	214,724
<b>TOTAL</b>	<b>430,700</b>	<b>438,102</b>	<b>438,468</b>	<b>443,143</b>	<b>472,637</b>
Change		7,402	366	4,675	

*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	Dec. 2018	Jan. 2019	Feb. 2019	Mar. 2019	Dec. 2019
	-	prior	(1,819)	(1,955)	(1,935)	(1,838)	(1,456)
	122.0%	2000	(4)	(4)	(4)	(4)	(4)
	126.0%	2001	160	169	167	159	126
	117.9%	2002	63	63	62	59	47
	90.7%	2003	125	125	124	118	94
	77.7%	2004	225	225	223	212	167
	73.7%	2005	440	440	436	414	329
	100.4%	2006	677	678	671	637	504
	100.2%	2007	914	854	845	803	635
	121.4%	2008	1,518	1,915	1,896	1,801	1,426
	155.0%	2009	1,327	1,352	1,338	1,271	1,006
	152.6%	2010	4,180	4,637	4,591	4,361	3,451
	87.9%	2011	3,579	3,960	3,920	3,724	2,947
	86.3%	2012	4,770	4,555	4,509	4,284	3,391
	95.1%	2013	2,306	2,846	2,818	2,677	2,118
	100.7%	2014	1,925	919	910	864	685
	108.0%	2015	5,863	4,984	4,585	3,668	1,856
	118.2%	2016	30,750	28,572	27,429	26,058	12,811
	119.8%	2017	122,903	119,919	112,724	108,215	63,986
	127.0%	2018	168,675	156,014	146,653	139,320	99,499
	127.1%	2019	-	22,862	40,364	59,198	179,247
		TOTAL	348,577	353,130	352,326	356,001	372,865
		Change		4,553	(804)	3,675	

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

**EXHIBIT C**
**Premium Liabilities**
**TABLE EXHIBIT C**

	Amounts in \$000s				
	Actual Dec. 2018	Actual Jan. 2019	Projected Feb. 2019	Projected Mar. 2019	Projected Dec. 2019
Premium Liabilities					
(1) unearned premium (UP)	170,112	163,471	159,739	167,381	231,466
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	138.1%	138.1%	138.1%	138.3%	141.3%
(3) expected future costs {(1) x (2)}	234,884	225,746	220,671	231,447	327,133
(4) premium deficiency / (deferred policy acquisition cost)	64,772	62,275	60,932	64,066	95,667
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	127.3%	127.3%	127.4%	127.5%	130.3%
(6) expected future costs {(1) x (5)}	216,586	208,159	203,480	213,415	301,646
(7) premium deficiency / (deferred policy acquisition cost)	46,474	44,688	43,741	46,034	70,180



## 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 ending 2019		Projected Balances as at Dec. 31, 2019 (\$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
prior	21,363	(1,456)	19,907	(1,171)	138	1,991	(116)	1,875	842
2000	15	(4)	11	(1)	-	1	-	1	-
2001	489	126	615	(39)	4	62	(4)	58	23
2002	44	47	91	(7)	1	9	(1)	8	2
2003	235	94	329	(28)	3	33	(3)	30	5
2004	802	167	969	(92)	10	97	(9)	88	6
2005	39	329	368	(39)	4	37	(4)	33	(2)
2006	1,341	504	1,845	(214)	22	185	(21)	164	(28)
2007	1,584	635	2,219	(284)	29	222	(28)	194	(61)
2008	1,915	1,426	3,341	(451)	47	334	(45)	289	(115)
2009	4,090	1,006	5,096	(698)	71	510	(70)	440	(187)
2010	4,666	3,451	8,117	(1,031)	106	812	(103)	709	(216)
2011	8,871	2,947	11,818	(1,111)	106	1,182	(111)	1,071	66
2012	16,701	3,391	20,092	(1,668)	161	2,009	(167)	1,842	335
2013	23,764	2,118	25,882	(2,122)	207	2,588	(212)	2,376	461
2014	51,566	685	52,251	(3,187)	314	5,225	(319)	4,906	2,033
2015	62,395	1,856	64,251	(3,341)	321	8,031	(418)	7,613	4,593
2016	89,390	12,811	102,201	(5,110)	511	15,330	(767)	14,563	9,964
2017	118,232	63,986	182,218	(10,204)	1,093	31,524	(1,765)	29,759	20,648
2018	121,560	99,499	221,059	(13,927)	1,326	41,117	(2,590)	38,527	25,926
PAYs (sub-total):	529,062	193,618	722,680	(44,725)	4,474	111,299	(6,753)	104,546	64,295
CAY (2019)	133,225	179,247	312,472	(20,936)	2,187	58,120	(3,894)	54,226	35,477
claims liabilities:	662,287	372,865	1,035,152	(65,661)	6,661	169,419	(10,647)	158,772	99,772
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs
premium liabilities:	231,466	70,180	301,646	(15,960)	1,807	41,858	(2,218)	39,640	25,487
*Total may not be sum of parts, as apvs apply to future costs within UPR									
policy liabilities:			1,336,798	(81,621)	8,468	211,277	(12,865)	198,412	125,259

## 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, 2018 from the valuation), followed by the selected discount rate and the associated margin for investment income.

Selected Claims Development MfADs (Sep. 30, 2018)

Accident Year	Third Party Liability Margins	Accident Benefits Margins	Other Coverages Margins	Total 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	10.0%	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%	9.9%	10.0%
2012	10.0%	10.0%	8.7%	10.0%
2013	10.0%	10.0%	9.5%	10.0%
2014	10.0%	10.0%	9.1%	10.0%
2015	12.5%	12.5%	11.9%	12.5%
2016	15.0%	15.0%	12.9%	15.0%
2017	17.4%	17.5%	9.5%	17.3%
2018	18.4%	20.0%	6.2%	18.6%
2019	13.6%	20.0%	5.2%	13.9%
prem liab	13.6%	20.0%	5.2%	13.9%

discount rate: 2.22%  
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, 2018 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 (2.22%), the prior valuation assumption (1.83%) and the prior fiscal year end valuation assumption (1.75%) 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, 2018 projected Unpaid								
AY	1.22%	1.72%	2.22%	2.72%	3.22%	3.72%	1.83%	1.75%
2003 & prior	30,422	29,934	29,456	28,991	28,544	28,103	29,828	29,903
2004	1,436	1,401	1,366	1,334	1,302	1,272	1,393	1,398
2005	537	522	508	495	482	469	519	521
2006	2,770	2,687	2,606	2,530	2,457	2,387	2,668	2,681
2007	3,298	3,193	3,092	2,997	2,906	2,819	3,170	3,186
2008	4,993	4,831	4,677	4,530	4,391	4,258	4,796	4,821
2009	9,206	8,933	8,671	8,423	8,189	7,966	8,872	8,915
2010	11,332	11,086	10,851	10,629	10,418	10,218	11,033	11,071
2011	17,585	17,250	16,929	16,626	16,337	16,064	17,176	17,229
2012	28,515	27,979	27,462	26,970	26,506	26,062	27,860	27,942
2013	36,699	36,190	35,696	35,227	34,778	34,347	36,077	36,157
2014	74,016	73,146	72,299	71,485	70,709	69,964	72,949	73,089
2015	106,760	105,545	104,367	103,231	102,133	101,063	105,279	105,476
2016	153,390	151,445	149,536	147,708	145,916	144,206	151,004	151,316
2017	265,456	261,608	257,868	254,204	250,730	247,336	260,752	261,357
2018	328,477	323,433	318,533	313,787	309,238	304,796	322,324	323,108
<b>Total</b>	<b>1,074,892</b>	<b>1,059,183</b>	<b>1,043,917</b>	<b>1,029,167</b>	<b>1,015,036</b>	<b>1,001,330</b>	<b>1,055,700</b>	<b>1,058,170</b>
	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	1.22%	1.72%	2.22%	2.72%	3.22%	3.72%	1.83%	1.75%
<b>Total</b>	<b>30,975</b>	<b>15,266</b>	<b>-</b>	<b>(14,750)</b>	<b>(28,881)</b>	<b>(42,587)</b>	<b>11,783</b>	<b>14,253</b>
	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	1.22%	1.72%	2.22%	2.72%	3.22%	3.72%	1.83%	1.75%
2003 & prior	3.3%	1.6%	-	(1.6%)	(3.1%)	(4.6%)	1.3%	1.5%
2004	5.1%	2.6%	-	(2.3%)	(4.7%)	(6.9%)	2.0%	2.3%
2005	5.7%	2.8%	-	(2.6%)	(5.1%)	(7.7%)	2.2%	2.6%
2006	6.3%	3.1%	-	(2.9%)	(5.7%)	(8.4%)	2.4%	2.9%
2007	6.7%	3.3%	-	(3.1%)	(6.0%)	(8.8%)	2.5%	3.0%
2008	6.8%	3.3%	-	(3.1%)	(6.1%)	(9.0%)	2.5%	3.1%
2009	6.2%	3.0%	-	(2.9%)	(5.6%)	(8.1%)	2.3%	2.8%
2010	4.4%	2.2%	-	(2.0%)	(4.0%)	(5.8%)	1.7%	2.0%
2011	3.9%	1.9%	-	(1.8%)	(3.5%)	(5.1%)	1.5%	1.8%
2012	3.8%	1.9%	-	(1.8%)	(3.5%)	(5.1%)	1.4%	1.7%
2013	2.8%	1.4%	-	(1.3%)	(2.6%)	(3.8%)	1.1%	1.3%
2014	2.4%	1.2%	-	(1.1%)	(2.2%)	(3.2%)	0.9%	1.1%
2015	2.3%	1.1%	-	(1.1%)	(2.1%)	(3.2%)	0.9%	1.1%
2016	2.6%	1.3%	-	(1.2%)	(2.4%)	(3.6%)	1.0%	1.2%
2017	2.9%	1.5%	-	(1.4%)	(2.8%)	(4.1%)	1.1%	1.4%
2018	3.1%	1.5%	-	(1.5%)	(2.9%)	(4.3%)	1.2%	1.4%
<b>Total</b>	<b>3.0%</b>	<b>1.5%</b>	<b>-</b>	<b>(1.4%)</b>	<b>(2.8%)</b>	<b>(4.1%)</b>	<b>1.1%</b>	<b>1.4%</b>
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

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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	(939)	299	(167)	-	132	(14.1%)	(807)
2000	(4)	-	-	-	-	-	(4)
2001	180	9	12	-	21	11.7%	201
2002	65	-	1	-	1	1.5%	66
2003	127	1	3	-	4	3.1%	131
2004	219	8	5	-	13	5.9%	232
2005	432	(4)	10	-	6	1.4%	438
2006	606	18	15	-	33	5.4%	639
2007	809	4	(43)	-	(39)	(4.8%)	770
2008	1,349	(15)	423	-	408	30.2%	1,757
2009	1,135	(89)	50	-	(39)	(3.4%)	1,096
2010	4,243	(437)	535	-	98	2.3%	4,341
2011	3,851	(255)	455	-	200	5.2%	4,051
2012	5,264	(140)	(109)	-	(249)	(4.7%)	5,015
2013	3,722	(834)	589	-	(245)	(6.6%)	3,477
2014	5,391	(768)	(921)	-	(1,689)	(31.3%)	3,702
2015	12,760	(762)	(523)	-	(1,285)	(10.1%)	11,475
2016	43,142	(1,619)	(118)	-	(1,737)	(4.0%)	41,405
2017	147,444	(4,757)	3,283	-	(1,474)	(1.0%)	145,970
2018	200,904	(15,449)	1,966	-	(13,483)	(6.7%)	187,421
2019	-	27,427	(701)	-	26,726	100.0%	26,726
<b>Grand Total</b>	<b>430,700</b>	<b>2,637</b>	<b>4,765</b>	<b>-</b>	<b>7,402</b>	<b>1.7%</b>	<b>438,102</b>

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

RSP **Ontario**  
AccountCode Desc **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	(1,819)	37	(173)	-	(136)	7.5%	(1,955)
2000	(4)	-	-	-	-	-	(4)
2001	160	(3)	12	-	9	5.6%	169
2002	63	(1)	1	-	-	-	63
2003	125	(3)	3	-	-	-	125
2004	225	(5)	5	-	-	-	225
2005	440	(9)	9	-	-	-	440
2006	677	(14)	15	-	1	0.1%	678
2007	914	(18)	(42)	-	(60)	(6.6%)	854
2008	1,518	(30)	427	-	397	26.2%	1,915
2009	1,327	(27)	52	-	25	1.9%	1,352
2010	4,180	(84)	541	-	457	10.9%	4,637
2011	3,579	(72)	453	-	381	10.6%	3,960
2012	4,770	(95)	(120)	-	(215)	(4.5%)	4,555
2013	2,306	(46)	586	-	540	23.4%	2,846
2014	1,925	(39)	(967)	-	(1,006)	(52.3%)	919
2015	5,863	(352)	(527)	-	(879)	(15.0%)	4,984
2016	30,750	(2,153)	(25)	-	(2,178)	(7.1%)	28,572
2017	122,903	(6,145)	3,161	-	(2,984)	(2.4%)	119,919
2018	168,675	(15,181)	2,520	-	(12,661)	(7.5%)	156,014
2019	-	23,581	(719)	-	22,862	100.0%	22,862
<b>Grand Total</b>	<b>348,577</b>	<b>(659)</b>	<b>5,212</b>	<b>-</b>	<b>4,553</b>	<b>1.3%</b>	<b>353,130</b>