



ONTARIO RISK SHARING POOL

NOVEMBER 2018 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

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ACTUARIAL HIGHLIGHTS**RSP ONTARIO****OPERATIONAL REPORT****NOVEMBER 2018**

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1 Summary

1.1 Valuation Schedule (Fiscal Year 2018)

The November 2018 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 2018.

ONTARIO RISK SHARING POOL FISCAL YEAR 2018 – SCHEDULE OF VALUATIONS			
Valuation Date	Discount Rate (per annum)	Operational Report	Description of Changes
Sep. 30, 2017 (completed)	1.75% mfad: 25 bp	Oct. 2017	updated valuation (roll forward): accident year 2017 loss ratio <u>increased</u> 1.4 points to 121.3%; discount rate <u>increased</u> by 52 basis points; no change to selected margins for adverse deviations
Dec. 31, 2017 (completed)	1.73% mfad 25 bp	Mar. 2018	updated valuation: accident year 2018 loss ratio <u>increased</u> 3.4 points to 125.9%; discount rate <u>decreased</u> by 2 basis points; no change to selected margins for adverse deviations
Mar. 31, 2018 (completed)	1.89% mfad 25 bp	May 2018	update valuation (roll forward): accident year 2018 loss ratio <u>decreased</u> 0.2 points to 125.7%; discount rate <u>increased</u> by 16 basis points; no change to selected margins for adverse deviations
Jun. 30, 2018 (completed)	1.83% mfad 25 bp	Aug. 2018	updated valuation: accident year 2018 loss ratio <u>increased</u> 0.8 points to 126.5%; discount rate <u>decreased</u> by 6 basis points; selected margins for adverse deviations were updated
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

Under the proposed schedule for fiscal year 2018, the “off-half” valuation quarters ending March 31, 2018 and September 30, 2018 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. 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 prejudgement 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

¹How 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>.

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 Jun 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 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 prejudgement 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 will be provided in the “Actuarial Highlights – Quarterly Valuation” report which is to be posted to the FA website later in December.

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-pecuniary² losses from a set level of 5% to the level that 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 prejudgment 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, 2017³) 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,

²**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 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."

³As 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.

is included in the case reserve estimates.

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
TOTAL	241,111	3.1	2.6	5.8

In the table above, the column referenced as [7] (“projected avg duration”) is an estimate of the number of years from claim occurrence⁴ 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]).

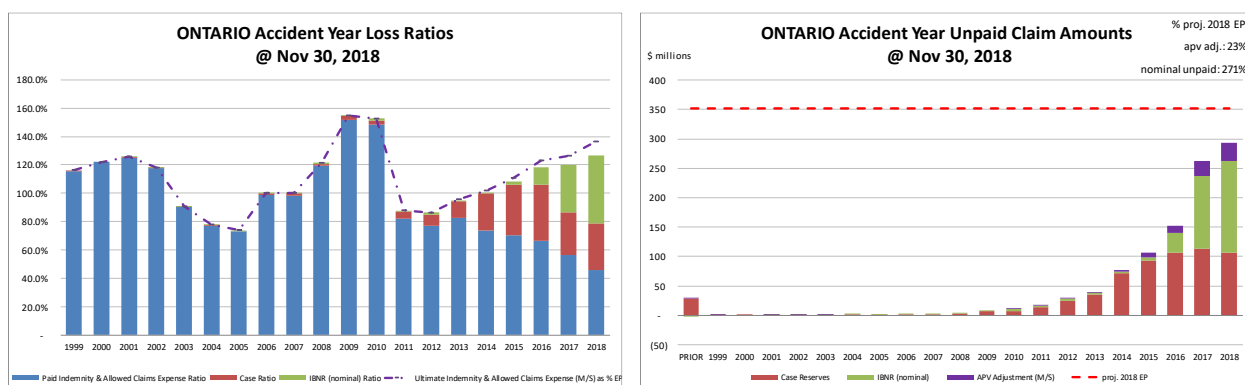
1.6 Current Provision Summary

The charts at the top of the next page show the current levels of claim liabilities⁵ booked by accident

⁴Prejudgment 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.

⁵Claim 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.

year⁶. 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 2018 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 (\$81.1 million – see table immediately below) represents 23% of the earned premium projected for the full year 2018 (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	619,730	59.7%
ibnr	336,534	32.4%
M/S apv adjust.	81,065	7.8%
M/S total	1,037,329	100.0%

The table to the left breaks down the Member Statement (M/S) claim liabilities total into component parts, indicating case reserves represent the largest portion. Approximately 83% of the IBNR balance relates to accident years 2017 and 2018 (see Exhibit B). Approximately 86% of the M/S total claim

liabilities are related to accident years 2014-2018 inclusive (i.e. the most recent 5 accident years), and approximately 4% is related to accident years 2008 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	174,728	72.4%
prem def/(dpac)	47,713	19.8%
M/S apv adjust.	18,792	7.8%
M/S total	241,233	100.0%

policy liabilities (\$000s)

	amt	%
claim	956,264	74.8%
premium	222,441	17.4%
M/S apv adjust.	99,857	7.8%
M/S total	1,278,562	100.0%

⁶The 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 November 2018

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 Report⁷.

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

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	(6)	(6)	10,958	4,413	(9,182)	(3,030)	1,776	1,383
2016	(11)	(11)	3,095	241	100	2,227	3,195	2,468
2017	(13)	(13)	3,754	(1,071)	(210)	2,056	3,544	985
2018	28,719	(525)	19,179	494	8,700	(2,974)	27,879	(2,480)
TOTAL	28,690	(554)	36,987	4,078	(592)	(1,721)	36,395	2,357

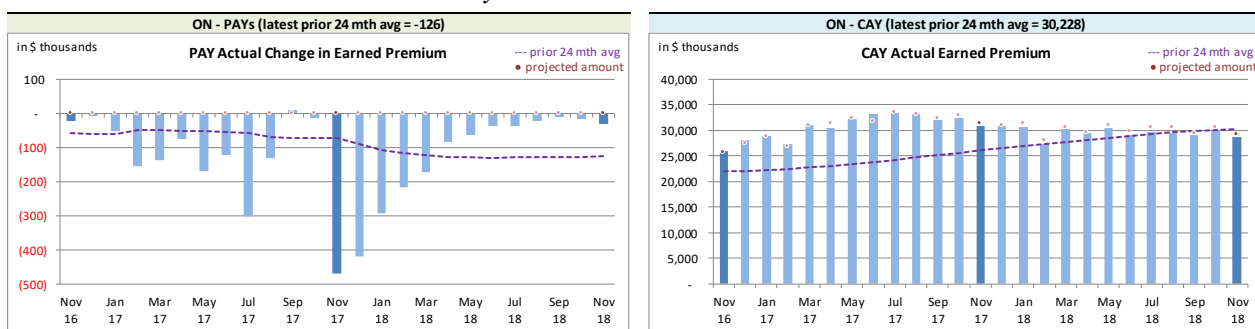
(Recorded transaction amounts exclude IBNR & other actuarial provisions)

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**⁸ 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.

The relatively high levels of PAYs negative earned premium for share months November and

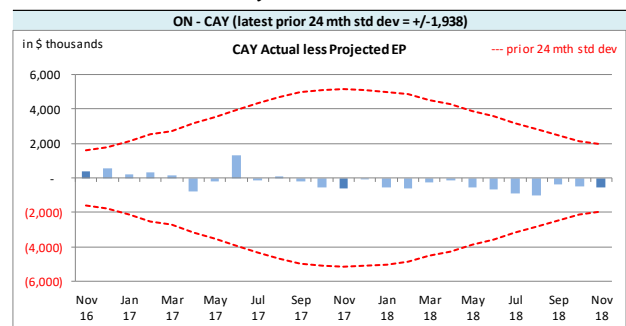
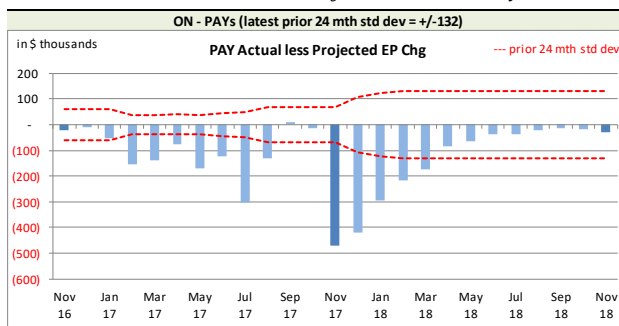
⁷There may be rounding differences in values in this document compared with the associated Bulletin and/or Operational Report.

⁸Premium 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.

December 2017 were related to a member company's removal of ineligible risks as a result of a regular audit by FA internal audit. The high levels of PAY negative earned premium through the first half of 2018 were a result of activity across several member companies. The activity was investigated by FA management and confirmed as valid and correct.

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)	(126)	30,228
std dev	132	1,938
A-P <> std dev	12	-
% <> std dev	48.0%	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) bias⁹, with actuals generally lower than projected, although the magnitude is not high relative to

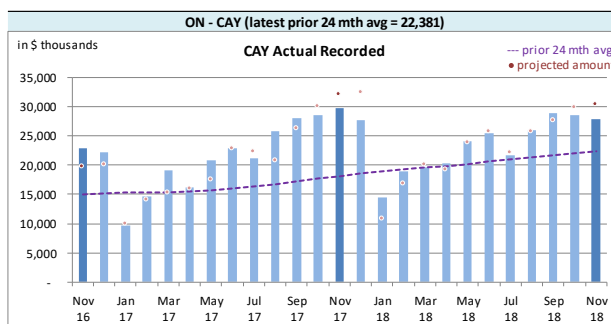
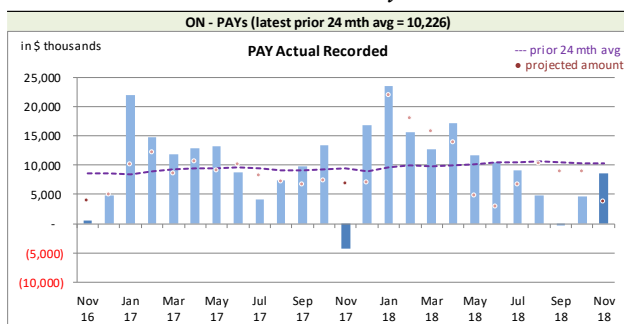
monthly premium. Over time, we may consider other projection approaches to narrow monthly variance levels further, but it is not currently deemed a priority. Readers will also note the significant widening then tapering of the CAY standard deviation band, reflecting significant volume changes and the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

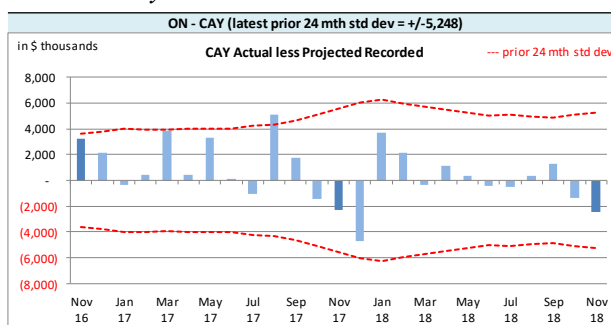
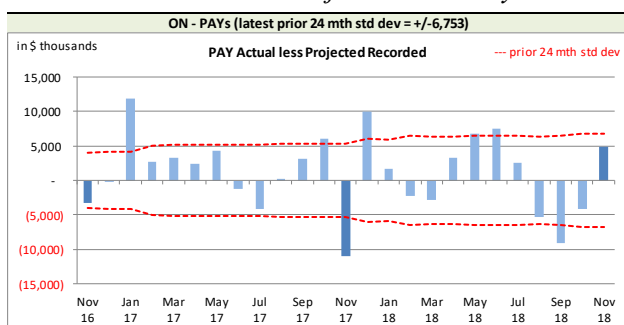
⁹The PAYs' variances will show bias as the projection upload forces all earned premium projections to be attributed to the CAY.

*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			
	Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	10,226	22,381	
std dev	6,753	5,248	
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. Up until May 2018, there did appear to be evidence of some bias at the 95% confidence level. We modified our projections 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 Nov) provides the average of the 11 monthly ratios (i.e. Jan-Nov) for that row's calendar year.

Per the *left* table below (showing average monthly ratios for each calendar year), the 2017 average **recorded** ratio at 14.7% was the second highest ratio since 2010 (2016 was the highest), and the 2017 **paid** ratio at 7.6% tied with 2016 as the highest level since 2010. 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 (average of 11 months to Nov of each year), the 2018 average ratio for **recorded** is at its highest level since 2010 while the **paid** ratio is at its highest level in the last 10 years.

CAY avg of mthly ratios for yr

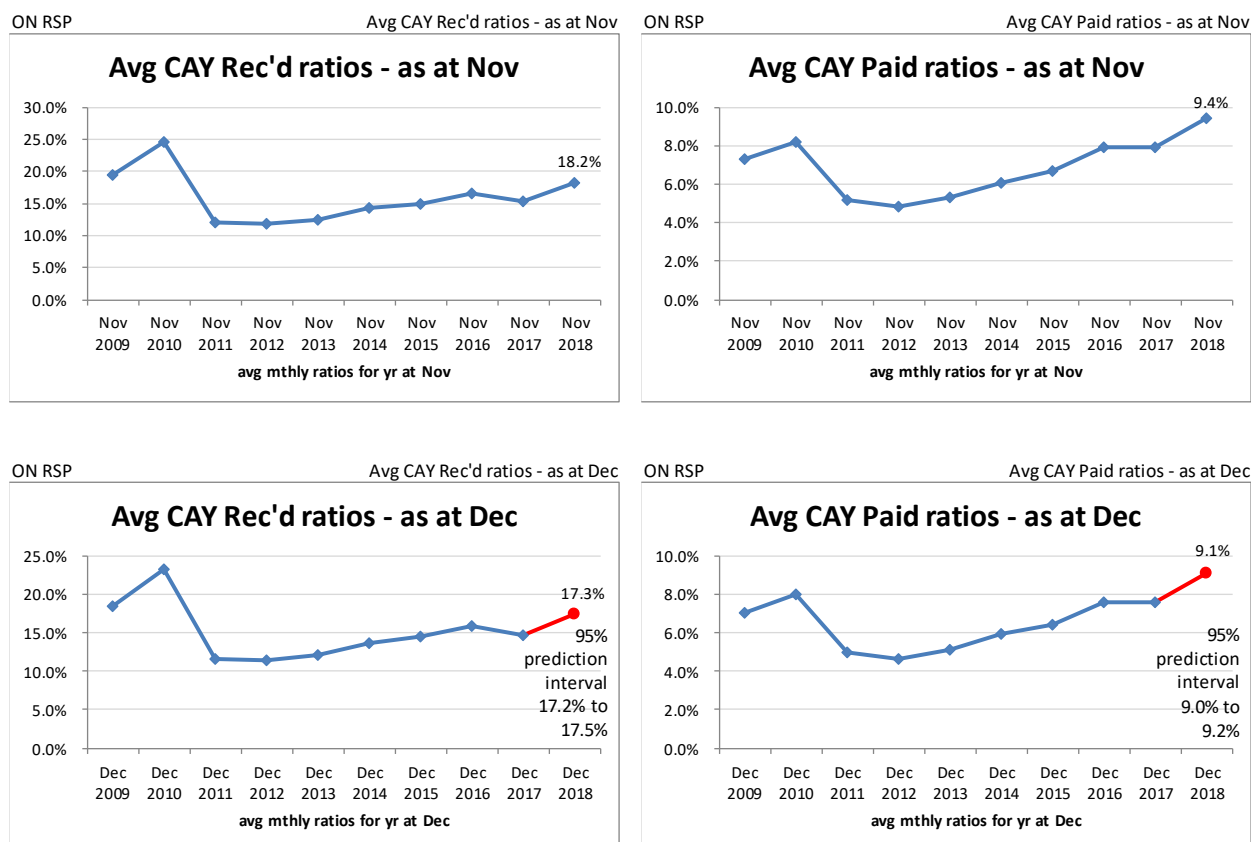
as at	Rec'd	yr-on-yr chg	Paid	yr-on-yr chg
Dec 2009	18.5%		7.0%	
Dec 2010	23.2%	4.7%	8.0%	1.0%
Dec 2011	11.5%	(11.7%)	5.0%	(3.0%)
Dec 2012	11.4%	(0.1%)	4.6%	(0.4%)
Dec 2013	12.0%	0.6%	5.1%	0.5%
Dec 2014	13.7%	1.7%	5.9%	0.8%
Dec 2015	14.4%	0.7%	6.4%	0.5%
Dec 2016	15.8%	1.4%	7.6%	1.2%
Dec 2017	14.7%	(1.1%)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

CAY avg of mthly ratios for yr

as at	Rec'd	yr-on-yr chg	Paid	yr-on-yr chg
Nov 2009	19.4%		7.3%	
Nov 2010	24.5%	5.1%	8.2%	0.9%
Nov 2011	12.0%	(12.5%)	5.2%	(3.0%)
Nov 2012	11.9%	(0.1%)	4.8%	(0.4%)
Nov 2013	12.4%	0.5%	5.3%	0.5%
Nov 2014	14.3%	1.9%	6.1%	0.8%
Nov 2015	15.0%	0.7%	6.7%	0.6%
Nov 2016	16.5%	1.5%	7.9%	1.2%
Nov 2017	15.4%	(1.1%)	7.9%	0.0%
Nov 2018	18.2%	2.8%	9.4%	1.5%

There has been strong (100%) correlation between the ytd monthly average ratios at November each year and the corresponding monthly average ratios at December, suggesting the monthly average ratios for 2018 at November (that is, the average of the 11 monthly ratios Jan 2018 to Nov 2018) are predictive of where the 2018 monthly average ratios will be at year-end (that is, the 12 monthly ratios Jan 2018 – Dec 2018). Using simple regression, we forecast the average of the 12 monthly ratios for calendar year 2018 (i.e. the average of the monthly ratios for Jan 2018 – Dec 2018) will be 17.3% (95% prediction interval of 17.2% to 17.5%) for **recorded** and 9.1% (95% prediction interval of 9.0% to 9.2%) for **paid**. The results are presented in the charts at the top of the next page.

Ontario RSP average of monthly CAY claims activity ratios to EP



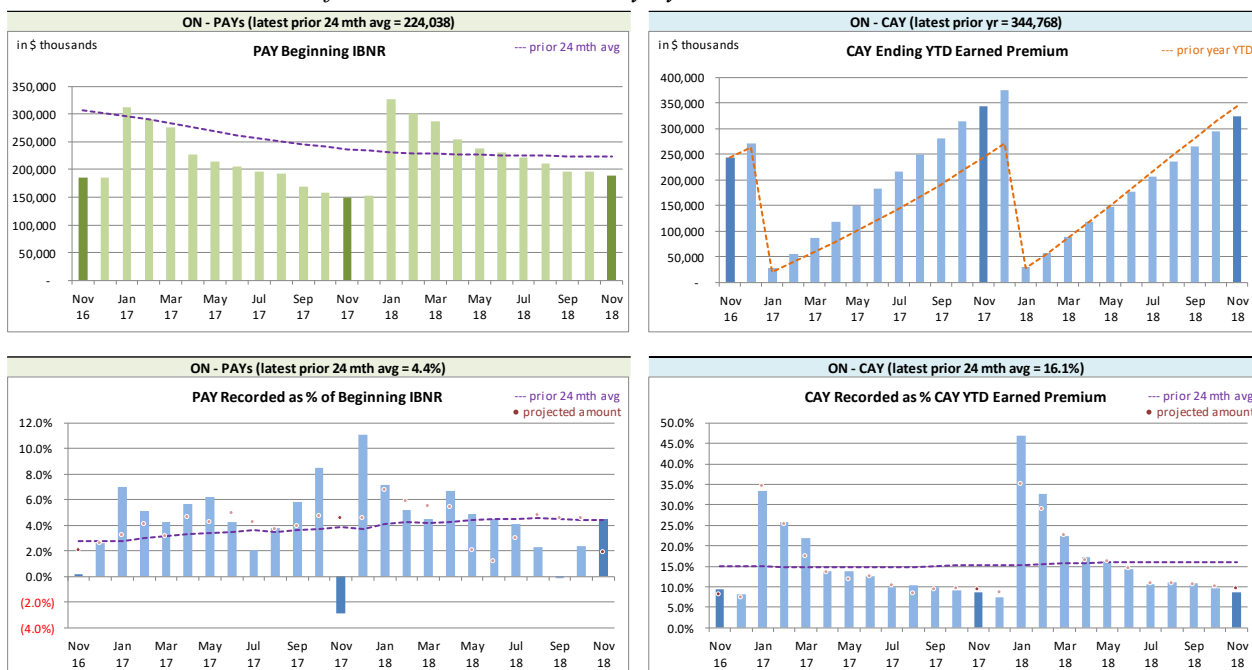
We are taking this information into consideration as part of our projection process.

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 influence¹⁰ 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:

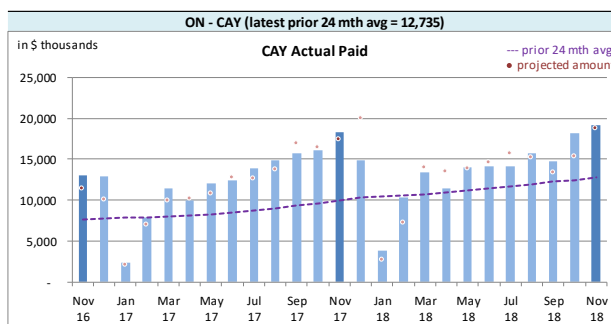
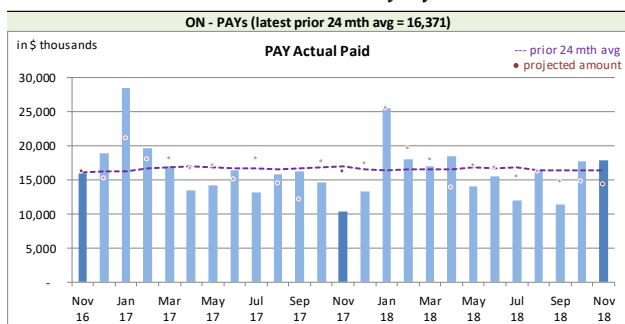
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a current accident year becomes a prior accident year (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of prior accident years' ultimate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

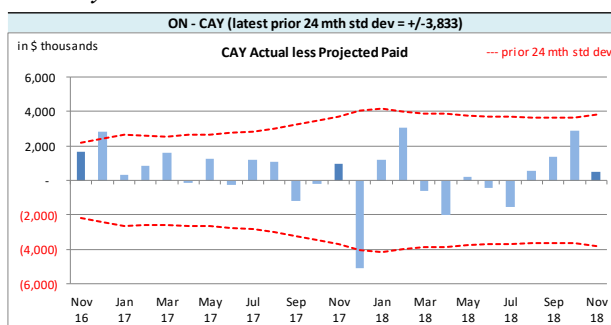
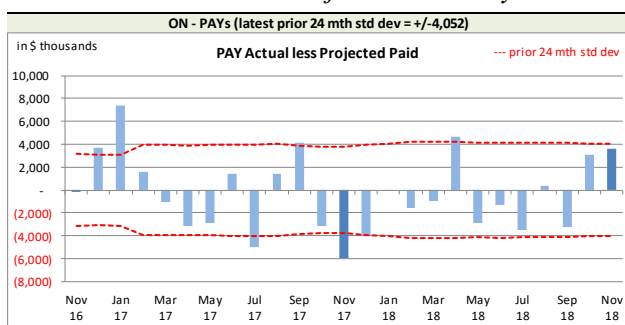
¹⁰Our recorded activity projections for the prior accident years are based on selected ratios of recorded activity to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date IBNR to year-to-date selected ultimate (i.e. selected LR x earned 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)		16,371	12,735
std dev		4,052	3,833
A-P <> std dev		6	2
% <> std dev		24.0%	8.0%
norm <> std dev		31.7%	31.7%

With respect to **paid** indemnity & allowed claims expense, 24% 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 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) **paid** variances fell outside of one standard deviation 8% 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 basis¹¹ 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.

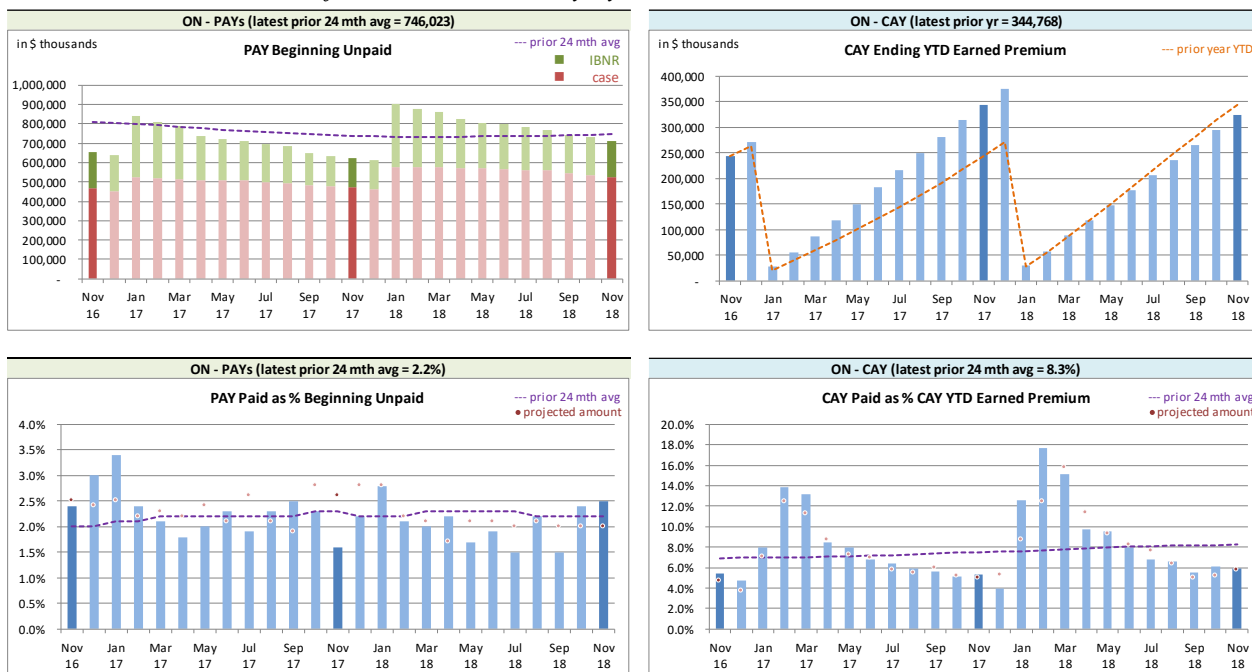
The bottom right chart on the next page shows that the rolling 24-month ratio of CAY **paid** to ytd

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

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 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 influence¹² 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).

¹²Our 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.

2.2 Actuarial Provisions

An “ultimate loss ratio matching method” (described in section 3) is used to determine the month’s IBNR¹³, 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

Accident Year	actuarial present value adjustments							
	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	22,861	(1,389)	(20,499)	254	33,960	(507)	36,322	(1,642)
2016	33,132	(2,481)	(7,818)	15	20,607	(37)	45,921	(2,503)
2017	124,391	(1,001)	(14,962)	(67)	39,922	177	149,351	(891)
2018	156,150	1,813	(17,617)	78	47,472	(210)	186,005	1,681
TOTAL	336,534	(3,058)	(60,896)	280	141,961	(577)	417,599	(3,355)

The IBNR provision is \$3.1 million lower than projected from last month, counterbalancing the recorded claims activity and adjusting for the earned premium variance impacts indicated in section 2.1.

Exhibit G shows the accident year IBNR amount change from last month to this month broken down into:

- (i) the change projected last month;
- (ii) the additional change due to variances in earned premium (because we apply a loss ratio to earned premium in determining ultimate level) and/or recorded claims (as IBNR is calculated as ultimate less recorded) differences; and
- (iii) the additional change due to valuation implementation impacts (as applicable)

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

The table 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.

¹³For 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:	47,713	(2,398)	18,792	(932)	66,505	(3,330)
balance as % unearned premium:	27.3%	-	10.8%	-	38.1%	-
actual unearned premium:	174,728					
less projected:	(8,667)					

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 loss¹⁴ 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 expenses¹⁵, 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 127.4% rather than 127.0% (the valuation ultimate ratio for accident year 2018), 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.)

¹⁴“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).

¹⁵Allowed 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	(27,659)	(8.6%)	(43,458)	(13.4%)	(71,117)	(22.0%)	(1,246)	1.7%
CAY	411,999	127.4%	29,855	9.2%	441,854	136.6%	38,437	(0.3%)
TOTAL	384,340	118.8%	(13,603)	(4.2%)	370,737	114.6%	37,191	1.4%

("% EP" based on 2018 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 Oct. 2018	Actual Nov. 2018	Projected Dec. 2018	Projected Jan. 2019	Projected Dec. 2019
prior	(835)	(884)	(804)	(113)	(92)
1999	20	19	20	25	17
2000	(4)	(4)	(4)	(4)	(4)
2001	180	180	170	177	129
2002	65	65	61	61	44
2003	127	127	120	121	90
2004	206	221	206	216	156
2005	416	433	407	405	295
2006	590	609	569	589	429
2007	709	732	686	692	505
2008	1,217	1,255	1,175	1,162	849
2009	2,064	578	537	455	333
2010	4,003	4,202	3,952	3,517	2,566
2011	2,029	2,704	2,550	2,321	1,691
2012	4,524	4,833	4,557	4,433	3,228
2013	3,353	3,314	3,158	2,337	1,699
2014	4,990	5,229	4,951	4,214	3,056
2015	14,980	12,709	12,058	11,336	6,330
2016	49,413	45,921	43,014	41,420	24,952
2017	153,309	149,351	145,120	141,941	84,045
2018	175,447	186,005	198,098	182,543	122,554
2019	-	-	-	29,401	209,912
TOTAL	416,803	417,599	420,601	427,249	462,784
Change		796	3,002	6,648	

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	Oct. 2018	Nov. 2018	Dec. 2018	Jan. 2019	Dec. 2019
	-	prior	(1,692)	(1,735)	(1,631)	(1,597)	(1,164)
	116.3%	1999	(13)	(13)	(12)	(12)	(10)
	122.0%	2000	(4)	(4)	(4)	(4)	(4)
	126.0%	2001	160	160	150	147	108
	117.9%	2002	63	63	59	58	42
	90.7%	2003	125	125	117	115	85
	77.7%	2004	212	226	212	208	151
	73.7%	2005	424	441	415	407	296
	100.4%	2006	661	680	639	626	456
	100.2%	2007	814	836	786	770	561
	121.4%	2008	1,394	1,424	1,339	1,312	957
	155.0%	2009	2,285	791	744	729	531
	152.6%	2010	3,937	4,137	3,889	3,811	2,779
	87.9%	2011	1,733	2,426	2,280	2,234	1,628
	86.3%	2012	4,004	4,328	4,068	3,987	2,906
	95.1%	2013	1,861	1,856	1,745	1,710	1,246
	100.7%	2014	1,340	1,703	1,601	1,569	1,145
	108.0%	2015	7,339	5,417	4,984	4,685	1,721
	118.2%	2016	36,340	33,132	30,481	28,347	14,801
	119.8%	2017	127,951	124,391	120,659	115,833	63,141
	127.0%	2018	147,556	156,150	166,220	151,260	96,466
	127.1%	2019	-	-	-	25,524	176,659
		TOTAL	336,490	336,534	338,741	341,719	364,501
		Change		44	2,207	2,978	

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

EXHIBIT C
Premium Liabilities
TABLE EXHIBIT C

	Amounts in \$000s				
Premium Liabilities	Actual Oct. 2018	Actual Nov. 2018	Projected Dec. 2018	Projected Jan. 2019	Projected Dec. 2019
(1) unearned premium (UP)	179,759	174,728	169,473	164,243	203,689
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	138.0%	138.1%	138.1%	138.1%	141.3%
(3) expected future costs {(1) x (2)}	248,157	241,233	234,037	226,805	287,875
(4) premium deficiency / (deferred policy acquisition cost)	68,398	66,505	64,564	62,562	84,186
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	127.3%	127.3%	127.3%	127.3%	130.3%
(6) expected future costs {(1) x (5)}	228,825	222,441	215,807	209,136	265,447
(7) premium deficiency / (deferred policy acquisition cost)	49,066	47,713	46,334	44,893	61,758

EXHIBIT D

Projected Year-end Policy Liabilities

The table below presents the projected policy liabilities as at December 31, 2018, broken down by component.

Ontario	Projected Balances as at Dec. 31, 2018 (\$000s)									
ending 2018	nominal values			actuarial present value adjustments (apvs)						
Acc Yr	Case	IBNR	Total Unpaid	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL
prior	28,038	(1,631)	26,407	(1,831)	201	2,641	(184)	2,457	827	27,234
1999	681	(12)	669	(35)	4	67	(4)	63	32	701
2000	15	(4)	11	(1)	-	1	-	1	-	11
2001	667	150	817	(63)	7	82	(6)	76	20	837
2002	62	59	121	(10)	1	12	(1)	11	2	123
2003	319	117	436	(41)	4	44	(4)	40	3	439
2004	1,084	212	1,296	(136)	14	130	(14)	116	(6)	1,290
2005	78	415	493	(57)	6	49	(6)	43	(8)	485
2006	1,834	639	2,473	(317)	32	247	(32)	215	(70)	2,403
2007	2,132	786	2,918	(394)	41	292	(39)	253	(100)	2,818
2008	3,133	1,339	4,472	(613)	63	447	(61)	386	(164)	4,308
2009	6,970	744	7,714	(980)	100	771	(98)	673	(207)	7,507
2010	7,454	3,889	11,343	(1,066)	102	1,134	(107)	1,027	63	11,406
2011	13,904	2,280	16,184	(1,343)	129	1,618	(134)	1,484	270	16,454
2012	23,477	4,068	27,545	(2,259)	220	2,754	(226)	2,528	489	28,034
2013	34,608	1,745	36,353	(2,218)	218	3,635	(222)	3,413	1,413	37,766
2014	68,493	1,601	70,094	(3,645)	350	7,009	(364)	6,645	3,350	73,444
2015	90,928	4,984	95,912	(4,796)	480	11,989	(599)	11,390	7,074	102,986
2016	106,340	30,481	136,821	(7,662)	821	20,523	(1,149)	19,374	12,533	149,354
2017	112,078	120,659	232,737	(14,662)	1,396	40,264	(2,537)	37,727	24,461	257,198
PAYs (sub-total):	502,295	172,521	674,816	(42,129)	4,189	93,709	(5,787)	87,922	49,982	724,798
CAY (2018)	114,556	166,220	280,776	(18,812)	1,965	52,224	(3,499)	48,725	31,878	312,654
claims liabilities:	616,851	338,741	955,592	(60,941)	6,154	145,933	(9,286)	136,647	81,860	1,037,452
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	169,473	46,334	215,807	(11,416)	1,292	29,941	(1,587)	28,354	18,230	234,037
*Total may not be sum of parts, as apvs apply to future costs within UPR										
policy liabilities:			1,171,399	(72,357)	7,446	175,874	(10,873)	165,001	100,090	1,271,489

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 also to Dec. 31, 2018, but 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
Total	1,074,892	1,059,183	1,043,917	1,029,167	1,015,036	1,001,330	1,055,700	1,058,170
	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%
Total	30,975	15,266	-	(14,750)	(28,881)	(42,587)	11,783	14,253
	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%
Total	3.0%	1.5%	-	(1.4%)	(2.8%)	(4.1%)	1.1%	1.4%
	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 - Discou**

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	(835)	2	(51)	-	(49)	5.9%	(884)
1999	20	(1)	-	-	(1)	(5.0%)	19
2000	(4)	-	-	-	-	-	(4)
2001	180	(2)	2	-	-	-	180
2002	65	(2)	2	-	-	-	65
2003	127	(1)	1	-	-	-	127
2004	206	(3)	18	-	15	7.3%	221
2005	416	(4)	21	-	17	4.1%	433
2006	590	(5)	24	-	19	3.2%	609
2007	709	(5)	28	-	23	3.2%	732
2008	1,217	(11)	49	-	38	3.1%	1,255
2009	2,064	(18)	(1,468)	-	(1,486)	(72.0%)	578
2010	4,003	(40)	239	-	199	5.0%	4,202
2011	2,029	(23)	698	-	675	33.3%	2,704
2012	4,524	(50)	359	-	309	6.8%	4,833
2013	3,353	(49)	10	-	(39)	(1.2%)	3,314
2014	4,990	(86)	325	-	239	4.8%	5,229
2015	14,980	(372)	(1,899)	-	(2,271)	(15.2%)	12,709
2016	49,413	(989)	(2,503)	-	(3,492)	(7.1%)	45,921
2017	153,309	(3,067)	(891)	-	(3,958)	(2.6%)	149,351
2018	175,447	8,877	1,681	-	10,558	6.0%	186,005
Grand Total	416,803	4,151	(3,355)	-	796	0.2%	417,599

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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	(1,692)	17	(60)	-	(43)	2.5%	(1,735)
1999	(13)	-	-	-	-	-	(13)
2000	(4)	-	-	-	-	-	(4)
2001	160	(2)	2	-	-	-	160
2002	63	(1)	1	-	-	-	63
2003	125	(1)	1	-	-	-	125
2004	212	(2)	16	-	14	6.6%	226
2005	424	(4)	21	-	17	4.0%	441
2006	661	(7)	26	-	19	2.9%	680
2007	814	(8)	30	-	22	2.7%	836
2008	1,394	(14)	44	-	30	2.2%	1,424
2009	2,285	(23)	(1,471)	-	(1,494)	(65.4%)	791
2010	3,937	(39)	239	-	200	5.1%	4,137
2011	1,733	(17)	710	-	693	40.0%	2,426
2012	4,004	(40)	364	-	324	8.1%	4,328
2013	1,861	(19)	14	-	(5)	(0.3%)	1,856
2014	1,340	(13)	376	-	363	27.1%	1,703
2015	7,339	(220)	(1,702)	-	(1,922)	(26.2%)	5,417
2016	36,340	(727)	(2,481)	-	(3,208)	(8.8%)	33,132
2017	127,951	(2,559)	(1,001)	-	(3,560)	(2.8%)	124,391
2018	147,556	6,781	1,813	-	8,594	5.8%	156,150
Grand Total	336,490	3,102	(3,058)	-	44	-	336,534