

# ONTARIO RISK SHARING POOL AUGUST 2018 OPERATIONAL REPORT ACTUARIAL HIGHLIGHTS

Related Bulletin: F18-072 Ontario RSP August 2018 Operational Report

For your convenience, bookmarks have been added to this document. To view them, please click on the BOOKMARK tab at the left.

Should you require any further information, please call Shawn Doherty, Senior Vice President Actuarial & CFO at (416) 644-4968.



## **ACTUARIAL HIGHLIGHTS**

#### **RSP ONTARIO**

# OPERATIONAL REPORT AUGUST 2018

# TABLE OF CONTENTS

1	Sun	ımary	2
	1.1	Valuation Schedule (Fiscal Year 2018)	
	1.2	New Valuation	
	1.3	Appointed Actuary and Hybrid Actuarial Services Model	4
	1.4	Consideration of Recent Legal Decisions and Changes in Legislation / Regulation	
	1.5	Ontario RSP Bodily Injury Case Reserve summary	
	1.6	Current Provision Summary	8
2	Acti	ivity During the Month of August 2018	10
	2.1	Recorded Premium and Claims Activity	10
		2.1.a Actual vs. Projected (AvsP): Earned Premium	10
		2.1.b AvsP: Recorded Indemnity & Allowed Claims Expense	
		2.1.c AvsP: Paid Indemnity & Allowed Claims Expense	16
	2.2	Actuarial Provisions	19
3	Ulti	mate Loss Ratio Matching Method	20
4	Cale	endar Year-to-Date Results	20
5	Cur	rent Operational Report – Additional Exhibits	21
6	EXI	HIBITS	22



#### 1 Summary

#### 1.1 Valuation Schedule (Fiscal Year 2018)

The August 2018 Operational Report incorporates the results of an updated valuation (as at June 30, 2018) – the impact of the implementation of the valuation is discussed in section 1.2. 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)	- '		updated valuation (roll forward): accident year 2017 loss ratio increased 1.4 points to 121.3%; discount rate increased 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 increased 3.4 points to 125.9%; discount rate decreased 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 decreased 0.2 points to 125.7%; discount rate increased 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 increased 0.8 points to 126.5%; discount rate decreased by 6 basis points; selected margins for adverse deviations were updated					
Sep. 30, 2018		Oct. 2018	update valuation (roll forward):					

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 New Valuation

A valuation of the Ontario Risk Sharing Pool ("RSP") as at June 30, 2018 has been completed since last month's Operational Report and the results of that valuation have been incorporated into this month's Report. The valuation was completed by the Facility Association's internal actuarial group in conjunction with, and approved by, the Appointed Actuary, under the hybrid model for actuarial services. Additional detail will be provided in an "Actuarial Highlights – Quarterly Valuation" report which we anticipate will be posted to the FA website later in the fall.

The valuation implementation impact is summarized in the tables on the next page.



Summary of Impact (\$000s) of Implementing Result of Valuation as at June 30, 2018<sup>1</sup>

Ontario	unfav / (fav) for the month and ytd					
	IMPACT in \$000s from changes in:					
	ults & payout patterns			dsct rate	margins	
	Nominal apv adj. sub-tot a		apv adj.	apv adj.	TOTAL	
	[1]	[2]	[3]	[4]	[5]	[6]
PAYs	(10,601)	(99)	(10,700)	1,282	(22,537)	(31,955)
CAY	1,892	289	2,181	480	(4,391)	(1,730)
Prem Def	434	273	707	262	(3,495)	(2,526)
TOTAL	(8,275)	463	(7,812)	2,024	(30,423)	(36,211)

As indicated in the table above, the incorporation of the new valuation had an estimated \$36.2 million favourable impact on the month's net result from operations, subtracting an estimated 15.4 points (see table immediately below) from the year-to-date Combined Operating Ratio to end at 143.6%.

Summary of Impact (% YTD EP) of Implementing Result of Valuation as at June 30, 2018

Ontario	ytd EP	235,670	(actual)			
	IM	PACT unfav	/ (fav) as %	6 ytd EP fro	m changes i	in:
	ults & payout patterns			dsct rate	margins	
	Nominal	apv adj.	sub-tot	apv adj.	apv adj.	TOTAL
	[1]	[2]	[3]	[4]	[5]	[6]
PAYs	(4.5%)	-	(4.5%)	0.5%	(9.6%)	(13.6%)
CAY	0.8%	0.1%	0.9%	0.2%	(1.9%)	(0.7%)
Prem Def	0.2%	0.1%	0.3%	0.1%	(1.5%)	(1.1%)
TOTAL	(3.5%)	0.2%	(3.3%)	0.9%	(12.9%)	(15.4%)

The impact of the nominal changes is shown in column [1] of the two preceding summary tables. The change in the selected nominal ultimates was favourable by \$8.3 million overall. This reflects the impact attributable to the changes in the selected ultimate loss ratios (i.e. for each accident year, it is the product of life-to-date earned premium for the accident year and the change in the selected ultimate loss ratio).

The prior accident years overall showed a \$10.6 million favourable nominal variance, which is attributed to favourable claims development, particularly for BI recorded claims activity. This overall favourable prior accident years impact is 1.4% of the prior accident years' nominal unpaid balance of \$770.3 million determined at the end of last month (July 2018).

The current accident year and premium deficiency impacts are a result of the change in the selected

<sup>&</sup>lt;sup>1</sup>In these tables, "PAYs" refers to prior accident years, "CAY" refers to the current accident year, and "Prem Def" refers to the provision for premium deficiency or the deferred policy acquisition asset (as applicable). "Nominal" refers to changes excluding any actuarial present value adjustments, whereas "apv adj." refers to actuarial present value adjustments.

The columns under the heading "ults & payout patterns" reflect the impact of changes in the valuation selected ultimates and claims payment patterns (i.e. based on unchanged selection of discount rates and margins for adverse deviation). The column "dsct rate" reflects the impact of the change in the selected discount rate and the column "margins" reflects the impact of any changes in selected margins for adverse deviations.



loss ratios for accident year **2018** (up 0.8 points from 125.7% to **126.5%**) and **2019** (down 0.4 points from 127.5% to **127.1%**).

The impacts related to actuarial present value ("apv") adjustments are split into the impact prior to any change in the selected discount rate and selected margins for adverse deviations or "MfADs" (at the level they were selected i.e. coverage and accident half-year), the impact of then updating the discount rate, and finally the impact of any changes to the MfADs (at the level they were selected). The changes in actuarial present value adjustments are shown in the summary tables in columns [2], [4], and [5].

Column [2] recognizes that changing the nominal selections also changed the unpaid estimates (including changes to the relative mix by government line, which had an impact on the weighted-average MfADs). It also reflects the fact that we updated the projected emergence of claims payments, resulting in a change in the projected cash flows. These changes generated an unfavourable change of \$0.5 million in the actuarial present value adjustments, prior to any changes in the selected discount rate and/or MfADs. Normally, we would expect this change to be directionally consistent with the nominal change; in this case, the difference in direction is due to more significant-than-usual changes in selected / expected payment patterns.

Updated projected cash flows were reviewed against the selected risk-free yield curve, derived from Government of Canada benchmark bond yields monthly series using values for June 2018. Column [4] accounts for the change in the **discount rate** selected (decreased 6 basis points to **1.83%**), indicating an <u>unfavourable</u> impact of \$2.0 million. The impact *related only to claims liabilities* (i.e. PAYs plus CAY) was \$1.8 million at August 2018 – this compares to the \$2.0 million change one would estimate as the impact by interpolation using the interest rate sensitivity table provided in last month's Actuarial Highlights.

Column [5] accounts for any changes to selected MfADs. The selected **investment rate MfAD** was **left unchanged at 25 basis points**. However, as per usual practice with the June 30 valuation, the selected **claims development MfADs** were updated for some accident years and coverages, resulting in an estimated overall favourable impact of \$30.4 million. This significant change resulted from consideration of the temporal distance from more recent product reforms, and the general favourable impact that has so far manifested from those reforms.

Consideration was given to recent legal decisions and changes in legislation / regulation as noted above and outlined in section 1.4.

#### 1.3 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.



# 1.4 Consideration of Recent Legal Decisions and Changes in Legislation / Regulation<sup>2</sup>

There have been no changes in these descriptions since last month's Highlights, other than updated references to the most recent valuation and trend analysis data references.

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 (June 30, 2018), reform adjustments (originally introduced with the June 30, 2015 valuation) specifically related to changes in the nonpecuniary 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 valuation (June 30, 2018), reform adjustments (originally introduced with 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.

<sup>&</sup>lt;sup>2</sup>How bills become laws in Ontario is described in detail in the publication: <a href="http://www.ontla.on.ca/lao/en/media/laointernet/pdf/bills-and-lawmaking-background-documents/how-bills-become-law-en.pdf">http://www.ontla.on.ca/lao/en/media/laointernet/pdf/bills-and-lawmaking-background-documents/how-bills-become-law-en.pdf</a>.



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, but we continue to review and consider the implications of the judgment.

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

There have been no changes in these descriptions since last month's Highlights except for updated references to the most recent valuation, updated references related to industry data used in trend analyses and the anticipated timing of the release of the Quarterly Valuation Highlights.

With the <u>most recent</u> (June 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 a nominal valuation adjustment was included impacting accident years 2014 and prior, further discussion will be provided in the "Actuarial Highlights – Quarterly Valuation" report which is to be posted to the FA website later in the fall.

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>3</sup> losses from a set level of 5% to the level that applies to pecuniary losses were implemented to achieve particular policy objectives and

<sup>&</sup>lt;sup>3</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 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."



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 <u>most recent</u> valuation (June 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, was decreased from 1.0% to 0.5%. The reform adjustment applied retroactively (using negative IBNR) against bodily injury nominal unpaid claims amounts (outstanding case reserve and selected IBNR) impacting accidents years 2014 and prior, will be reduced at each successive valuation, assuming the impact of this product reform change will be fully reflected in outstanding case reserves by the September 30, 2018 valuation (that is, as this adjustment is unwound, it is anticipated that member settlement and case adjustment activity will 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** (June 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>4</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.

<sup>&</sup>lt;sup>4</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.



unts in	S000s: as	at Dec.	31.	201/)
	unts in	unts in S000s: as	unts in S000s; as at Dec.	unts in \$000s; as at Dec. 31.

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 occurrence<sup>5</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

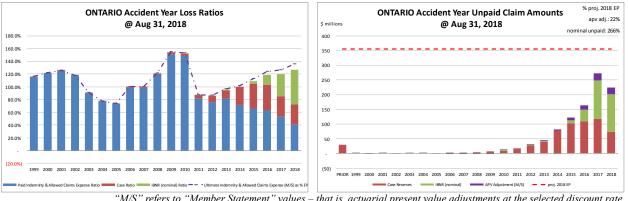
The charts at the top of the next page show the current levels of claim liabilities<sup>6</sup> booked by accident

<sup>&</sup>lt;sup>5</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>&</sup>lt;sup>6</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'. 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 (\$78.9 million – see table immediately below) represents 22% 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.

The significant reduction in the level of actuarial present value adjustments provisions from last month's \$121.7 million (32% of projected full year premium) is due to the valuation implementation, where margins for adverse claims development were updated (generally reduced), resulting in a significant one-time reduction in the overall actuarial present value adjustment amount.

claim liabilities (\$000s)		
	amt	%
case	620,455	60.6%
ibnr	324,890	31.7%
M/S apv adjust.	78,925	7.7%
M/S total	1,024,270	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 80% of the IBNR balance relates to accident years 2017 and 2018 (see Exhibit B). Approximately 84% 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 at the top of the next page summarize the premium liabilities and the total policy liabilities.

<sup>&</sup>lt;sup>7</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".



premium liabilities (\$000s)			policy liabilities (\$000s)			
	amt	%		amt	%	
unearned prem	180,764	72.8%	claim	945,345	74.3%	
prem def/(dpac)	48,816	19.7%	premium	229,580	18.0%	
M/S apv adjust.	18,776	7.6%	M/S apv adjust.	97,701	7.7%	
M/S total	248,356	100.0%	M/S total	1,272,626	100.0%	

#### 2 Activity During the Month of August 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 Report<sup>8</sup>.

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

Table 01	Earned Premium		Paid Indemnity &		emnity &	Case increase /		Recorded increase /	
			Allowed Claims Expense		(decrease)		(decrease)		
Accident	Actual	Actual less	Actual	Actual less	Actual	Actual less	Actual	Actual less	
Year	ear Actual Pr	Projected	Actual	Projected	Actual	Projected	Actual	Projected	
Prior	(0)	(0)	11,070	3,142	(10,917)	(4,390)	153	(1,248)	
2016	0	0	2,116	(951)	216	182	2,331	(770)	
2017	(22)	(22)	3,406	(1,805)	(1,048)	(1,487)	2,357	(3,293)	
2018	29,508	(1,028)	15,733	572	10,209	(251)	25,942	321	
TOTAL	29,486	(1,050)	32,324	957	(1,540)	(5,946)	30,784	(4,989)	

(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.

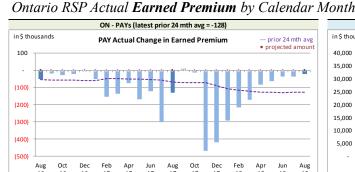
#### 2.1.a Actual vs. Projected (AvsP): Earned Premium

The charts at the top of the next page show actual **earned premium**<sup>9</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.

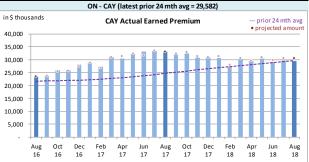
<sup>&</sup>lt;sup>8</sup>There may be rounding differences in values in this document compared with the associated Bulletin and/or Operational Report.

<sup>&</sup>lt;sup>9</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.







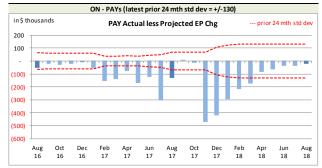


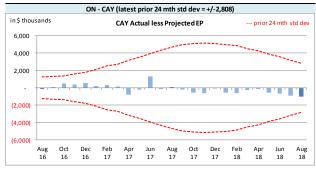
**Earned premium** changes during a given calendar month in relation to prior accident years tend to be at modest levels (note the different scales in the charts above), although relatively high levels generally occur at the beginning of each year.

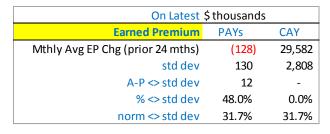
The relatively high level of PAYs negative earned premium for share months November and December 2017 was related to a member company's removal of ineligible risks as a result of a regular audit by FA internal audit. The high level of PAY negative earned premium through 2018 is attributed to activity across several member companies and continues to be investigated by FA management.

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







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>10</sup>, with actuals generally lower than projected, although the magnitude is not high relative to

<sup>&</sup>lt;sup>10</sup>The PAYs' variances will show bias as the projection upload forces all earned premium projections to be attributed to the CAY.

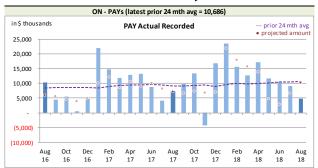


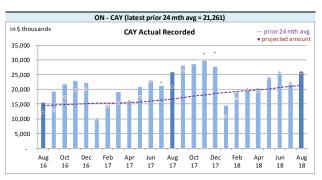
monthly premium. Over time, we may consider other projection approaches to narrow monthly variance levels further, but it is not currently deemed a priority. Readers will also note the significant widening then tapering of the CAY standard deviation band, reflecting recent volume changes and the impact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

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

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

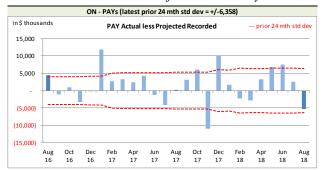
Ontario RSP Actual **Recorded** by Calendar Month





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

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





On Latest \$ thousands					
Recorded	PAYs	CAY			
Mthly Avg Recorded (prior 24 mths)	10,686	21,261			
std dev	6,358	4,968			
A-P <> std dev	7	4			
% <> std dev	28.0%	16.0%			
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.

As first noted in the May 2018 Actuarial Highlights, the PAY projected recorded activity was



adjusted for the months of May and June 2018 to account for a member correction in recorded case reserve overstatement. The May and June 2018 PAY **recorded** variances were outside of one standard deviation driven by adjustments made to the recorded projection, as FA expected corrections in recorded case reserve overstatement to happen during these months, as previously advised by the member (see following sections for more details). As the corrections did not go through as expected, the PAY **recorded** activity was higher than the projected by more than one standard deviation. The member is still engaged in a process to correct the reported levels.

The current accident year (CAY) **recorded** variances fell outside of one standard deviation 16% of the time over the last 25 calendar months (see table at the bottom of the prior page), suggesting that the projection process has performed better than simply projecting the prior 24-month average amount. Up until May 2018, there does appear to be evidence of some bias at the 95% confidence level as 18<sup>11</sup> times in the past 24 months (June 2016 to May 2018), actuals were higher than our projections for the CAY **recorded** amount. Among the 18 months in the past 24 where actuals were higher than our projections, 5 variances were outside the one standard deviation band. We modified our projections processes in response to these findings and continue to monitor.

The averages of monthly ratios for **recorded** and **paid** to year-to-date earned premium have been on the rise generally since 2012, as is evident in the tables below. These tables show, in each row, the average monthly ratio for each calendar year. That is, each row in the <u>left</u> 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 <u>right</u> table (as at Aug) provides the average of the 8 monthly ratios (i.e. Jan-Aug) for that row's calendar year.

Per the <u>left</u> 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 <u>right</u> table below (average of 8 months to Aug 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 o	f mthl	y ratios	for yr
-----------	--------	----------	--------

	Rec'd	yr-on-yr	Paid	yr-on-yr
as at	nec u	chg	Palu	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

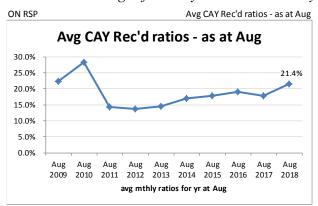
as at	Rec'd	yr-on-yr chg	Paid	yr-on-yr chg
Aug 2009	22.3%		7.9%	
Aug 2010	28.3%	6.0%	8.8%	0.9%
Aug 2011	14.3%	(14.0%)	5.9%	(2.9%)
Aug 2012	13.7%	(0.6%)	5.5%	(0.4%)
Aug 2013	14.6%	0.9%	6.0%	0.5%
Aug 2014	16.9%	2.3%	7.1%	1.1%
Aug 2015	17.7%	0.8%	7.7%	0.6%
Aug 2016	19.1%	1.4%	8.9%	1.2%
Aug 2017	17.7%	(1.4%)	8.8%	(0.1%)
Aug 2018	21.4%	3.7%	10.8%	2.0%

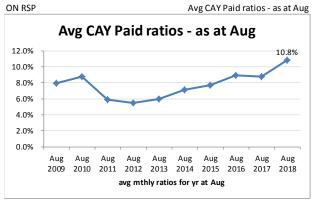
<sup>&</sup>lt;sup>11</sup>For the binomial distribution with 24 trials and an assumed 50% success probability, the 95% confidence range is 7 to 17.

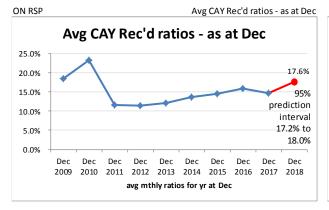


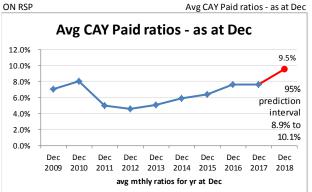
There has been strong (over 95%) correlation between the ytd monthly average ratios at August each year and the corresponding monthly average ratios at December, suggesting the monthly average ratios for 2018 at August (that is, the average of the 8 monthly ratios Jan 2018 to Aug 2018) are predictive 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 17.6% (95% prediction interval of 17.2% to 18.0%) for **recorded** and 9.5% (95% prediction interval of 8.9% to 10.1%) for **paid**. The results are presented in the charts immediately below.

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.

As noted in the last seven monthly Actuarial Highlights, FA management was notified on January 31, 2018 by a member of a potential recorded case reserve overstatement. Furthermore, during the March 31, 2018 valuation, FA management was advised of an additional and separate recorded case reserve understatement primarily due to incorrect reporting after FA's October 31, 2017 fiscal year end. Management investigated and estimated the overall overstatement for the Ontario RSP as at the latest valuation (June 30, 2018) as indicated in the table at the top of the next page.



Estimated case reserve overstatement as at Jun 30, 2018 overstatement / (understatement)

overstatement / (understatement)						
Accident	Total Case Reserve					
Year	Overstatement (\$'000s)					
2006	227					
2007	201					
2008	264					
2009	1,030					
2010	115					
2011	(115)					
2012	651					
2013	(265)					
2014	602					
2015	1,162					
2016	1,648					
2017	2,989					
Total	8,509					

With the latest valuation (June 30, 2018), prior accident years' ultimates selections have taken into account the member's misstatement of case reserves (both the original amount as notified, and the subsequent amount, with the combination of the two being summarized in the table above). The member is still engaged in a process to correct the reported levels but we currently do not have a timeline on when this issue will be resolved.

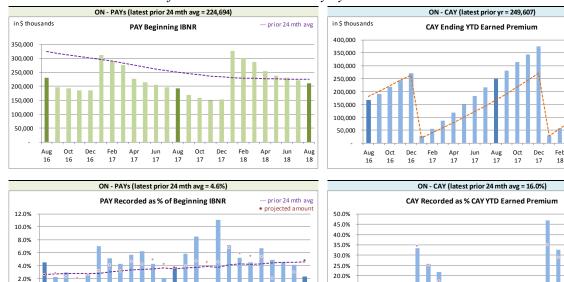
The method for establishing IBNR adjusts automatically for changes in **earned premium** and **recorded** claims activity level (see sections 2.2 and 3).

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).

-- prior 24 mth ave



0.0%



Ontario RSP Levels that influence<sup>12</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:

15.0%

10.0% 5.0%

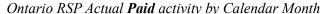
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a current accident year becomes a prior accident year (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of prior accident years' ultimate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

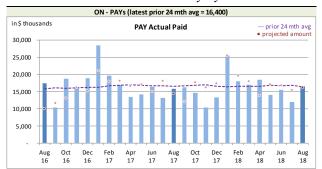
#### 2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

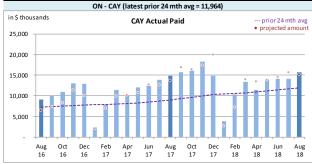
The charts at the top of the next page show actual **paid** activity in each of the most recent 25 calendar months, along with a "prior 24-month average" to show how each month's actual compares with the average amount of the preceding 24 calendar months.

<sup>&</sup>lt;sup>12</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.



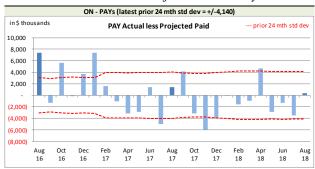


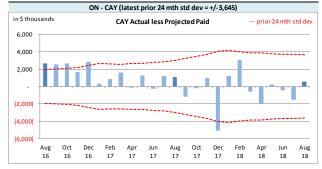




**Paid** activity variances from the previous month's projections are shown in the charts immediately below, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

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





On Latest \$ thousands							
Paid	PAYs	CAY					
Mthly Avg Paid (prior 24 mths)	16,400	11,964					
std dev	4,140	3,645					
A-P <> std dev	8	5					
% <> std dev	32.0%	20.0%					
norm <> std dev	31.7%	31.7%					

With respect to **paid** 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 **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 20% of the time over the last 25 calendar months (see table above), suggesting the projection process has performed better than simply projecting the prior 24-month average amount. Bias has been indicated at a 95% confidence level on a lagging 24-month basis <sup>13</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.

In addition, among the 18 months in the most recent past 25 where actuals were higher than our projections, 4 variances were outside the one standard deviation band. We made adjustments to our

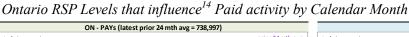
<sup>&</sup>lt;sup>13</sup>For the binomial distribution with 24 trials and an assumed 50% success probability, the 95% confidence range is 7 to 17.



projection process to reflect these findings, and they appear to have been somewhat successful.

The bottom right chart below 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 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.





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).

<sup>&</sup>lt;sup>14</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.



#### 2.2 Actuarial Provisions

An "ultimate loss ratio matching method" (described in section 3) is used to determine the month's IBNR<sup>15</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 the August 2018 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			actua	arial present v	/alue adjustm	ents			
	IDI	VR	Discount	Diagount Amonunt		for Adverse	IBNR + actua	arial present	
	IDI	NI.	Discount Amount		Deviations		ations	value adj	ustments
Accident	Actual	Actual less	Actual	Actual less	Actual	Actual less	Actual	Actual less	
Year	Actual	Projected	Actual	Projected	Actual	Projected	Actual	Projected	
Prior	25,214	510	(18,545)	1,807	37,475	(7,793)	44,144	(5,476)	
2016	40,349	(847)	(7,032)	332	22,000	(3,627)	55,317	(4,142)	
2017	130,608	(4,980)	(13,191)	854	36,626	(12,699)	154,043	(16,825)	
2018	128,719	279	(11,326)	605	32,918	(4,462)	150,311	(3,578)	
TOTAL	324,890	(5,038)	(50,094)	3,598	129,019	(28,581)	403,815	(30,021)	

The IBNR provision is \$5.0 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, and due to the valuation implementation.

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 the August 2018 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 and due to the valuation implementation.

<sup>&</sup>lt;sup>15</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 pr adjust		Premium Deficiency / (DPAC) including actuarial present value adjustments	
		Actual	Actual less	Actual	Actual less	Actual	Actual less
_			Projected		Projected		Projected
	balance:	48,816	(1,408)	18,776	(3,779)	67,592	(5,187)
	balance as % unearned premium:	27.0%	0.2%	10.4%	(1.6%)	37.4%	(1.4%)

actual unearned premium: 180,764 less projected: (6,771)

#### 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>16</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>17</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 127.0% rather than 126.5% (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.)

<sup>&</sup>lt;sup>16</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>&</sup>lt;sup>17</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 Indemni	v & Allowed Claims Exper	ise Summary (\$ thousands)

Table 04	YTD Nominal Values		YTD actuarial present value adjustment		YTD To	tal	Change from Prior Month YTD	
	Amount	% EP	Amount	% EP	Amount	% EP	Amount	LR pts
PAYs	(24,794)	(10.5%)	(37,335)	(15.8%)	(62,129)	(26.4%)	(33,433)	(12.5%)
CAY	299,297	127.0%	21,592	9.2%	320,889	136.2%	38,051	(1.0%)
TOTAL	274,503	116.5%	(15,743)	(6.7%)	258,760	109.8%	4,618	(13.5%)

("% 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 and the valuation implementation.

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 and due to the valuation implementation.

#### 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			Amount	ts in \$000s		
IBNR + M/S actuarial present value adjustments	Accident Year	Actual Jul. 2018	Actual Aug. 2018	Projected Sep. 2018	Projected Oct. 2018	Projected Dec. 2018
varae aajastiiieitis	prior	(3,687)	1,230	1,194	1,157	1,088
	1999	29	58	57	56	53
	2000			~ -		
		(4)	(4)	(4)	(4)	(4)
	2001	63	102	101	98	92
	2002	174	67	66	65 <b>7</b> 06	59
	2003	817	720	713	706	656
	2004	341	239	237	233	217
	2005	473	340	337	334	311
	2006	789	420	417	413	384
	2007	1,086	665	660	653	607
	2008	2,558	1,594	1,579	1,565	1,455
	2009	2,928	1,237	1,226	1,214	1,130
	2010	6,152	3,774	3,730	3,689	3,433
	2011	777	1,345	1,322	1,298	1,212
	2012	2,878	2,749	2,702	2,655	2,481
discount rate	2013	6,247	5,310	5,213	5,119	4,783
1.83%	2014	6,632	3,639	3,619	3,541	3,222
	2015	23,354	20,659	18,878	16,445	14,961
interest rate margin	2016	62,932	55,317	51,790	48,526	41,943
25 basis pts	2017	177,240	154,043	149,890	145,625	137,462
	2018	138,202	150,311	162,478	174,262	194,041
	TOTAL	429,981	403,815	406,205	407,650	409,586
	Change		(26,166)	2,390	1,445	

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



# **EXHIBIT B**

# **IBNR**

TABLE EXHIBIT B				Amount	s in \$000s		
IBNR	Ultimate Loss Ratio	Accident Year	Actual Jul. 2018	Actual Aug. 2018	Projected Sep. 2018	Projected Oct. 2018	Projected Dec. 2018
	LUSS NATIO				·		
	-	prior	(4,638)	5	5	5	5
	116.3%	1999	18	18	18	18	17
	122.0%	2000	(4)	(4)	(4)	(4)	(4)
	126.1%	2001	67	67	66	65	60
	117.9%	2002	177	63	62	61	56
	91.1%	2003	839	696	689	682	634
	77.7%	2004	381	216	214	212	197
	73.7%	2005	496	337	334	331	308
	100.4%	2006	922	430	426	422	393
	100.2%	2007	1,248	697	690	683	635
	121.5%	2008	2,752	1,658	1,641	1,625	1,512
	154.8%	2009	2,873	1,268	1,255	1,242	1,156
	152.7%	2010	5,667	3,478	3,443	3,409	3,172
	87.3%	2011	269	819	811	803	747
	86.2%	2012	1,914	1,773	1,755	1,737	1,617
	95.7%	2013	3,186	3,118	3,087	3,056	2,843
	100.0%	2014	(1,512)	(810)	(697)	(690)	(676)
	109.1%	2015	11,450	11,385	9,791	7,539	6,582
	118.4%	2016	44,297	40,349	37,121	34,151	28,277
	120.0%	2017	141,238	130,608	126,690	122,889	115,626
	126.5%	2018	115,676	128,719	138,332	147,497	162,279
		TOTAL	327,316	324,890	325,729	325,733	325,436
		Change		(2,426)	839	4	

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



# EXHIBIT C

# **Premium Liabilities**

TABLE EXHIBIT C					
Premium Liabilities	Actual	Actual	Projected	Projected	Projected
	Jul. 2018	Aug. 2018	Sep. 2018	Oct. 2018	Dec. 2018
(1) unearned premium (UP)	178,027	180,764	184,871	184,761	185,358
FOR MEMBER SHARING  (2) expected future costs ratio {% of (1)}  (3) expected future costs {(1) x (2)}  (4) premium deficiency / (deferred policy acquisition cost)	138.6%	137.4%	137.5%	137.6%	137.8%
	246,705	248,356	254,156	254,163	255,339
	68,678	67,592	69,285	69,402	69,981
Excluding Actuarial Present Value Adjustments (5) expected future costs ratio {% of (1)} (6) expected future costs {(1) x (5)} (7) premium deficiency / (deferred policy acquisition cost)	126.6%	127.0%	127.1%	127.2%	127.3%
	225,330	229,580	234,943	234,948	236,035
	47,303	48,816	50,072	50,187	50,677



# 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	24,425	5	24,430	(1,397)	178	2,443	(141)	2,302	1,083	25,513	
1999	606	17	623	(27)	4	62	(3)	59	36	659	
2000	15	(4)	11	(1)	-	1	-	1	-	11	
2001	759	60	819	(52)	7	82	(5)	77	32	851	
2002	54	56	110	(8)	1	11	(1)	10	3	113	
2003	268	634	902	(69)	8	90	(7)	83	22	924	
2004	1,012	197	1,209	(104)	13	121	(10)	111	20	1,229	
2005	157	308	465	(45)	6	46	(4)	42	3	468	
2006	1,860	393	2,253	(239)	29	225	(24)	201	(9)	2,244	
2007	2,073	635	2,708	(309)	41	271	(31)	240	(28)	2,680	
2008	3,002	1,512	4,514	(519)	63	451	(52)	399	(57)	4,457	
2009	6,282	1,156	7,438	(788)	97	744	(79)	665	(26)	7,412	
2010	8,171	3,172	11,343	(896)	113	1,134	(90)	1,044	261	11,604	
2011	13,806	747	14,553	(1,019)	131	1,455	(102)	1,353	465	15,018	
2012	25,394	1,617	27,011	(1,891)	243	2,701	(189)	2,512	864	27,875	
2013	35,197	2,843	38,040	(1,902)	228	3,804	(190)	3,614	1,940	39,980	
2014	68,227	(676)	67,551	(2,905)	338	6,755	(290)	6,465	3,898	71,449	
2015	95,868	6,582	102,450	(4,303)	512	12,704	(534)	12,170	8,379	110,829	
2016	108,315	28,277	136,592	(6,420)	820	20,216	(950)	19,266	13,666	150,258	
2017	116,284	115,626	231,910	(12,291)	1,623	34,323	(1,819)	32,504	21,836	253,746	
PAYs (sub-total):	511,775	163,157	674,932	(35,185)	4,455	87,639	(4,521)	83,118	52,388	727,320	
CAY (2018)	135,233	162,279	297,512	(16,661)	2,083	49,089	(2,749)	46,340	31,762	329,274	
claims liabilities:	647,008	325,436	972,444	(51,846)	6,538	136,728	(7,270)	129,458	84,150	1,056,594	
	Unearned Premium	Premium Defiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*	
premium liabilities:	185,358	50,677	236,035	(11,073)	1,414	30,391	(1,428)	28,963	19,304	255,339	
							Total may not be s	um of parts, as ap	vs apply to future	costs within UPR	
policy liabilities:			1,208,479	(62,919)	7,952	167,119	(8,698)	158,421	103,454	1,311,933	



#### **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 (Jun. 30, 2018)

Accident	Third Party	Accident	Other	Total	
Year	Liability	Benefits	Coverages	Total	
	Margins	Margins	Margins	Margins	
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	8.6%	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%	9.8%	10.0%	
2012	10.0%	10.0%	9.0%	10.0%	
2013	10.0%	10.0%	9.7%	10.0%	
2014	10.0%	10.0%	8.4%	10.0%	
2015	12.4%	12.5%	9.8%	12.4%	
2016	14.9%	15.0%	9.9%	14.8%	
2017	14.8%	15.0%	7.9%	14.8%	
2018	16.4%	17.5%	6.0%	16.5%	
2019	12.5%	17.5%	5.1%	12.9%	
prem liab	12.5%	17.5%	5.1%	12.9%	

discount rate: 1.83%

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 (1.83%), the prior valuation assumption (1.89%) 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.

	Actual	iai Present va	llue of Provisi	ons at various	Discount Rate	es - Dec. 31, 20	18 projected l	Jnpaid
AY	0.83%	1.33%	1.83%	2.33%	2.83%	3.33%	1.89%	1.75%
2003 &								
prior	30,618	30,121	29,637	29,168	28,707	28,264	29,582	29,717
2004	1,475	1,439	1,404	1,371	1,338	1,307	1,400	1,410
2005	568	552	537	523	509	496	535	539
2006	2,832	2,746	2,664	2,585	2,510	2,438	2,654	2,677
2007	3,306	3,199	3,097	3,000	2,907	2,818	3,085	3,113
2008	5,116	4,947	4,787	4,634	4,489	4,352	4,767	4,812
2009	9,422	9,138	8,868	8,614	8,372	8,142	8,837	8,911
2010	10,866	10,625	10,396	10,179	9,973	9,778	10,369	10,432
2011	17,324	16,984	16,659	16,352	16,059	15,783	16,621	16,710
2012	30,015	29,426	28,866	28,339	27,831	27,353	28,800	28,955
2013	36,684	36,176	35,687	35,223	34,774	34,348	35,631	35,764
2014	70,458	69,609	68,794	68,012	67,261	66,538	68,693	68,919
2015	110,666	109,381	108,134	106,943	105,772	104,664	107,989	108,335
2016	156,715	154,697	152,712	150,830	148,975	147,196	152,487	153,027
2017	264,135	260,259	256,483	252,861	249,328	245,903	256,056	257,076
2018	339,610	334,266	329,110	324,071	319,204	314,538	328,480	329,920
Total	1,089,810	1,073,565	1,057,835	1,042,705	1,028,009	1,013,918	1,055,986	1,060,317
	curr - 100 bp	curr - 50 bp	curr val	curr + 50bp	curr + 100bp	curr + 150bp	prior val	prior fyr end
			assumption				assumption	assumption
			Dollar Imp	oact Relative t	o Valuation A	sumption		
						2.220/	0/	4.750/
AY	0.83%	1.33%	1.83%	2.33%	2.83%	3.33%	1.89%	1.75%
AY Total	0.83% 31,975	1.33% 15,730	1.83%	2.33% (15,130)	(29,826)	(43,917)		1.75% 2,482
			1.83% - curr val					2,482
	31,975	15,730	-	(15,130) curr + 50bp	(29,826)	(43,917)	(1,849)	2,482 prior fyr end
	31,975	15,730	curr val	(15,130) curr + 50bp	(29,826)	(43,917)	(1,849) prior val	2,482 prior fyr end
	31,975	15,730	curr val assumption	(15,130) curr + 50bp	(29,826)	(43,917) curr + 150bp	(1,849) prior val	2,482 prior fyr end
	31,975	15,730	curr val assumption	(15,130) curr + 50bp	(29,826) curr + 100bp	(43,917) curr + 150bp	(1,849) prior val	2,482 prior fyr end assumption
Total	31,975 curr - 100 bp	15,730 curr - 50 bp	curr val assumption Percentage I	(15,130) curr + 50bp mpact Relativ	(29,826) curr + 100bp e to Valuation	(43,917) curr + 150bp Assumption	(1,849) prior val assumption	2,482 prior fyr end assumption
Total	31,975 curr - 100 bp	15,730 curr - 50 bp	curr val assumption Percentage I	(15,130) curr + 50bp mpact Relativ	(29,826) curr + 100bp e to Valuation	(43,917) curr + 150bp Assumption	(1,849) prior val assumption	2,482 prior fyr end assumption 1.75%
AY 2003 &	31,975 curr - 100 bp	15,730 curr - 50 bp	curr val assumption Percentage I	(15,130) curr + 50bp mpact Relativ 2.33%	(29,826) curr + 100bp e to Valuation 2.83%	(43,917) curr + 150bp Assumption 3.33%	(1,849) prior val assumption 1.89%	2,482 prior fyr end assumption 1.75% 0.3%
AY 2003 & prior	31,975 curr - 100 bp 0.83%	15,730 curr - 50 bp 1.33%	curr val assumption Percentage I	(15,130) curr + 50bp mpact Relativ 2.33% (1.6%)	(29,826) curr + 100bp e to Valuation 2.83% (3.1%)	(43,917) curr + 150bp Assumption 3.33% (4.6%)	(1,849) prior val assumption 1.89% (0.2%)	2,482 prior fyr end assumption 1.75% 0.3% 0.4%
AY 2003 & prior 2004	31,975 curr - 100 bp 0.83% 3.3% 5.1%	15,730 curr - 50 bp 1.33% 1.6% 2.5%	curr val assumption Percentage I	(15,130) curr + 50bp  mpact Relativ 2.33% (1.6%) (2.4%)	(29,826) curr + 100bp e to Valuation 2.83% (3.1%) (4.7%)	(43,917) curr + 150bp Assumption 3.33% (4.6%) (6.9%)	(1,849) prior val assumption 1.89% (0.2%) (0.3%)	2,482 prior fyr end assumption 1.75% 0.3% 0.4% 0.4%
AY 2003 & prior 2004 2005	31,975 curr - 100 bp 0.83% 3.3% 5.1% 5.8%	15,730 curr - 50 bp 1.33% 1.6% 2.5% 2.8%	curr val assumption Percentage I	(15,130) curr + 50bp  mpact Relativ 2.33% (1.6%) (2.4%) (2.6%)	(29,826) curr + 100bp e to Valuation 2.83% (3.1%) (4.7%) (5.2%)	(43,917) curr + 150bp Assumption 3.33% (4.6%) (6.9%) (7.6%)	(1,849) prior val assumption 1.89% (0.2%) (0.3%) (0.4%)	2,482 prior fyr end assumption 1.75% 0.3% 0.4% 0.4% 0.5%
AY 2003 & prior 2004 2005 2006	31,975 curr - 100 bp 0.83% 3.3% 5.1% 5.8% 6.3%	15,730 curr - 50 bp 1.33% 1.6% 2.5% 2.8% 3.1%	curr val assumption Percentage I	(15,130) curr + 50bp  mpact Relativ 2.33% (1.6%) (2.4%) (2.6%) (3.0%)	(29,826) curr + 100bp e to Valuation 2.83% (3.1%) (4.7%) (5.2%) (5.8%)	(43,917) curr + 150bp Assumption 3.33% (4.6%) (6.9%) (7.6%) (8.5%)	(1,849) prior val assumption 1.89% (0.2%) (0.3%) (0.4%) (0.4%)	2,482 prior fyr end assumption 1.75% 0.3% 0.4% 0.4% 0.5%
AY 2003 & prior 2004 2005 2006 2007	31,975 curr - 100 bp 0.83% 3.3% 5.1% 5.8% 6.3%	15,730 curr - 50 bp 1.33% 1.6% 2.5% 2.8% 3.1%	curr val assumption Percentage I	(15,130) curr + 50bp  mpact Relativ 2.33% (1.6%) (2.4%) (2.6%) (3.0%) (3.1%)	(29,826) curr + 100bp e to Valuation 2.83% (3.1%) (4.7%) (5.2%) (5.8%)	(43,917) curr + 150bp  Assumption 3.33% (4.6%) (6.9%) (7.6%) (8.5%)	(1,849) prior val assumption 1.89% (0.2%) (0.3%) (0.4%) (0.4%) (0.4%)	2,482 prior fyr end assumption  1.75%  0.3%  0.4%  0.5%  0.5%
AY 2003 & prior 2004 2005 2006 2007 2008	31,975 curr - 100 bp 0.83% 3.3% 5.1% 5.8% 6.3% 6.7% 6.9%	15,730 curr - 50 bp 1.33% 1.6% 2.5% 2.8% 3.1% 3.3% 3.3%	curr val assumption Percentage I	(15,130) curr + 50bp  mpact Relativ 2.33% (1.6%) (2.4%) (2.6%) (3.0%) (3.1%) (3.2%)	(29,826) curr + 100bp e to Valuation 2.83% (3.1%) (4.7%) (5.2%) (6.1%) (6.2%)	(43,917) curr + 150bp  Assumption 3.33% (4.6%) (6.9%) (7.6%) (8.5%) (9.0%) (9.1%)	(1,849) prior val assumption  1.89% (0.2%) (0.3%) (0.4%) (0.4%) (0.4%) (0.4%)	2,482 prior fyr end assumption  1.75%  0.3%  0.4%  0.5%  0.5%  0.5%  0.5%
AY 2003 & prior 2004 2005 2006 2007 2008 2009	31,975 curr - 100 bp 0.83% 0.83% 3.3% 5.1% 5.8% 6.3% 6.7% 6.9% 6.2%	15,730 curr - 50 bp 1.33% 1.6% 2.5% 2.8% 3.1% 3.3% 3.3%	curr val assumption Percentage I	(15,130) curr +50bp  mpact Relativ 2.33% (1.6%) (2.6%) (3.0%) (3.1%) (3.2%) (2.9%)	(29,826) curr + 100bp  e to Valuation 2.83% (3.1%) (4.7%) (5.2%) (6.1%) (6.2%) (5.6%)	(43,917) curr + 150bp  Assumption 3.33% (4.6%) (6.9%) (7.6%) (8.5%) (9.0%) (9.1%) (8.2%)	(1,849) prior val assumption  1.89% (0.2%) (0.3%) (0.4%) (0.4%) (0.4%) (0.3%)	2,482 prior fyr end assumption  1.75%  0.3%  0.4%  0.5%  0.5%  0.5%  0.5%
AY 2003 & prior 2004 2005 2006 2007 2008 2009 2010	31,975 curr - 100 bp 0.83% 3.3% 5.1% 6.3% 6.7% 6.9% 6.2% 4.5%	15,730 curr - 50 bp 1.33% 1.6% 2.5% 3.1% 3.3% 3.3% 3.0% 2.2%	curr val assumption Percentage I	(15,130) curr +50bp  mpact Relativ 2.33% (1.6%) (2.4%) (2.6%) (3.0%) (3.1%) (3.2%) (2.9%) (2.1%)	(29,826) curr + 100bp e to Valuation 2.83% (3.1%) (4.7%) (5.2%) (5.8%) (6.1%) (6.2%) (5.6%) (4.1%)	(43,917) curr + 150bp  Assumption 3.33% (4.6%) (6.9%) (7.6%) (8.5%) (9.0%) (9.1%) (8.2%) (5.9%)	(1,849) prior val assumption  1.89% (0.2%) (0.4%) (0.4%) (0.4%) (0.3%) (0.3%)	2,482 prior fyr end assumption  1.75%  0.3%  0.4%  0.5%  0.5%  0.5%  0.5%  0.3%  0.3%
AY 2003 & prior 2004 2005 2006 2007 2008 2009 2010 2011	31,975 curr - 100 bp  0.83%  3.3% 5.1% 6.3% 6.7% 6.9% 4.5% 4.0%	15,730 curr - 50 bp 1.33% 1.6% 2.5% 2.8% 3.1% 3.3% 3.3% 2.2%	curr val assumption Percentage I	(15,130) curr +50bp  mpact Relativ 2.33% (1.6%) (2.4%) (3.0%) (3.1%) (3.2%) (2.9%) (2.1%) (1.8%)	(29,826) curr + 100bp  e to Valuation 2.83% (3.1%) (4.7%) (5.2%) (6.1%) (6.2%) (5.6%) (4.1%) (3.6%)	(43,917) curr + 150bp  Assumption 3.33% (4.6%) (6.9%) (7.6%) (9.0%) (9.1%) (8.2%) (5.9%) (5.3%)	(1,849) prior val assumption  1.89% (0.2%) (0.3%) (0.4%) (0.4%) (0.4%) (0.3%) (0.3%) (0.3%) (0.2%)	2,482 prior fyr end assumption  1.75%  0.3%  0.4%  0.5%  0.5%  0.5%  0.3%  0.3%  0.3%
AY 2003 & prior 2004 2005 2006 2007 2008 2009 2010 2011 2012	31,975 curr - 100 bp  0.83%  3.3% 5.1% 5.8% 6.3% 6.7% 6.9% 4.5% 4.0% 4.0%	15,730 curr - 50 bp 1.33% 1.6% 2.5% 2.8% 3.1% 3.3% 3.3% 2.2% 2.0% 1.9%	curr val assumption Percentage I	(15,130) curr +50bp  mpact Relativ 2.33% (1.6%) (2.4%) (3.0%) (3.1%) (3.2%) (2.9%) (2.1%) (1.8%) (1.8%)	(29,826) curr + 100bp  e to Valuation 2.83% (3.1%) (4.7%) (5.2%) (6.1%) (6.2%) (5.6%) (4.1%) (3.6%) (3.6%)	(43,917) curr + 150bp  Assumption 3.33% (4.6%) (6.9%) (7.6%) (8.5%) (9.1%) (8.2%) (5.9%) (5.3%) (5.2%)	(1,849) prior val assumption  1.89% (0.2%) (0.3%) (0.4%) (0.4%) (0.4%) (0.3%) (0.3%) (0.2%)	2,482 prior fyr end assumption  1.75%  0.3%  0.4%  0.5%  0.5%  0.5%  0.3%  0.3%  0.3%  0.3%
AY 2003 & prior 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013	31,975 curr - 100 bp  0.83%  3.3% 5.1% 5.8% 6.7% 6.9% 4.5% 4.0% 4.0% 2.8%	15,730 curr - 50 bp 1.33% 1.6% 2.5% 2.8% 3.1% 3.3% 3.0% 2.2% 2.0% 1.9%	curr val assumption Percentage I	(15,130) curr + 50bp  mpact Relativ 2.33% (1.6%) (2.4%) (3.0%) (3.1%) (3.2%) (2.9%) (2.1%) (1.8%) (1.8%) (1.3%)	(29,826) curr + 100bp  e to Valuation 2.83% (3.1%) (4.7%) (5.2%) (6.1%) (6.2%) (5.6%) (4.1%) (3.6%) (2.6%)	(43,917) curr + 150bp  Assumption 3.33% (4.6%) (6.9%) (7.6%) (8.5%) (9.1%) (8.2%) (5.9%) (5.3%) (5.2%) (3.8%)	(1,849) prior val assumption  1.89% (0.2%) (0.3%) (0.4%) (0.4%) (0.4%) (0.3%) (0.2%) (0.2%)	2,482 prior fyr end assumption  1.75%  0.3%  0.4%  0.5%  0.5%  0.5%  0.3%  0.3%  0.3%  0.3%  0.3%  0.2%
AY 2003 & prior 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014	31,975 curr - 100 bp  0.83%  3.3% 5.1% 5.8% 6.7% 6.9% 4.5% 4.0% 2.8% 2.4%	15,730 curr - 50 bp 1.33% 1.6% 2.5% 3.1% 3.3% 3.0% 2.2% 2.0% 1.9% 1.4% 1.2%	curr val assumption Percentage I	(15,130) curr +50bp  mpact Relativ 2.33% (1.6%) (2.4%) (3.0%) (3.1%) (2.9%) (2.9%) (2.1%) (1.8%) (1.3%) (1.1%)	(29,826) curr + 100bp  e to Valuation 2.83% (3.1%) (4.7%) (5.2%) (6.1%) (6.2%) (5.6%) (4.1%) (3.6%) (2.6%) (2.2%)	(43,917) curr + 150bp  Assumption 3.33% (4.6%) (6.9%) (7.6%) (8.5%) (9.1%) (8.2%) (5.9%) (5.3%) (5.2%) (3.8%) (3.3%)	(1,849) prior val assumption  1.89% (0.2%) (0.3%) (0.4%) (0.4%) (0.3%) (0.3%) (0.2%) (0.2%) (0.2%) (0.2%) (0.1%)	2,482 prior fyr end assumption  1.75%  0.3%  0.4%  0.5%  0.5%  0.5%  0.3%  0.3%  0.3%  0.2%  0.2%  0.2%
AY 2003 & prior 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015	31,975 curr - 100 bp  0.83%  3.3% 5.1% 5.8% 6.3% 6.7% 6.9% 4.0% 4.0% 2.8% 2.4% 2.3%	15,730 curr - 50 bp 1.33% 1.6% 2.5% 2.8% 3.1% 3.3% 3.3% 2.2% 2.0% 1.9% 1.4% 1.2%	curr val assumption Percentage I	(15,130) curr +50bp  mpact Relativ 2.33% (1.6%) (2.4%) (2.6%) (3.0%) (3.1%) (2.9%) (2.1%) (1.8%) (1.3%) (1.1%) (1.1%)	(29,826) curr + 100bp  e to Valuation 2.83% (3.1%) (4.7%) (5.2%) (5.8%) (6.1%) (5.6%) (4.1%) (3.6%) (2.6%) (2.2%)	(43,917) curr + 150bp  Assumption 3.33% (4.6%) (6.9%) (7.6%) (8.5%) (9.1%) (5.2%) (5.3%) (5.2%) (3.8%) (3.3%) (3.2%)	(1,849) prior val assumption  1.89% (0.2%) (0.3%) (0.4%) (0.4%) (0.3%) (0.3%) (0.2%) (0.2%) (0.2%) (0.1%) (0.1%)	2,482 prior fyr end assumption  1.75%  0.3%  0.4%  0.5%  0.5%  0.5%  0.3%  0.3%  0.2%  0.2%  0.2%  0.2%
AY 2003 & prior 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016	31,975 curr - 100 bp  0.83% 3.3% 5.1% 5.8% 6.3% 6.7% 6.9% 4.0% 4.0% 2.8% 2.4% 2.3% 2.6%	15,730 curr - 50 bp  1.33%  1.6% 2.5% 2.8% 3.1% 3.3% 2.2% 2.0% 1.9% 1.4% 1.2% 1.2% 1.3%	curr val assumption Percentage I	(15,130) curr +50bp  mpact Relativ 2.33% (1.6%) (2.4%) (2.6%) (3.0%) (3.1%) (2.9%) (2.1%) (1.8%) (1.3%) (1.1%) (1.1%) (1.2%)	(29,826) curr + 100bp  e to Valuation 2.83% (3.1%) (4.7%) (5.2%) (5.8%) (6.1%) (5.6%) (3.6%) (2.6%) (2.2%) (2.2%) (2.4%)	(43,917) curr + 150bp  Assumption 3.33% (4.6%) (6.9%) (7.6%) (8.5%) (9.1%) (5.9%) (5.3%) (5.2%) (3.8%) (3.3%) (3.2%) (3.6%)	(1,849) prior val assumption  1.89% (0.2%) (0.3%) (0.4%) (0.4%) (0.3%) (0.2%) (0.2%) (0.2%) (0.1%) (0.1%) (0.1%) (0.2%) (0.2%) (0.1%)	2,482 prior fyr end assumption  1.75%  0.3%  0.4%  0.5%  0.5%  0.5%  0.3%  0.2%  0.2%  0.2%  0.2%  0.2%
AY 2003 & prior 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017	31,975 curr - 100 bp  0.83%  3.3% 5.1% 5.8% 6.3% 6.7% 6.2% 4.0% 4.0% 2.8% 2.4% 2.3% 2.6% 3.0%	15,730 curr - 50 bp  1.33%  1.6% 2.5% 2.8% 3.1% 3.3% 2.0% 2.0% 1.9% 1.4% 1.2% 1.2% 1.3%	curr val assumption Percentage I	(15,130) curr +50bp  mpact Relativ 2.33% (1.6%) (2.4%) (2.6%) (3.1%) (3.2%) (2.9%) (1.8%) (1.8%) (1.1%) (1.1%) (1.2%) (1.4%) (1.5%)	(29,826) curr + 100bp  e to Valuation 2.83% (3.1%) (4.7%) (5.2%) (5.8%) (6.1%) (6.2%) (3.6%) (2.6%) (2.2%) (2.2%) (2.2%) (2.8%) (3.0%)	(43,917) curr + 150bp  Assumption 3.33% (4.6%) (6.9%) (7.6%) (8.5%) (9.0%) (9.1%) (8.2%) (5.3%) (5.2%) (3.3%) (3.2%) (3.6%) (4.1%) (4.4%)	(1,849) prior val assumption  1.89% (0.2%) (0.3%) (0.4%) (0.4%) (0.3%) (0.2%) (0.2%) (0.1%) (0.1%) (0.1%) (0.2%) (0.2%) (0.2%) (0.2%)	2,482 prior fyr end assumption  1.75%  0.3%  0.4%  0.4%  0.5%  0.5%  0.5%  0.3%  0.3%  0.2%  0.2%  0.2%  0.2%  0.2%  0.2%
AY 2003 & prior 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	31,975 curr - 100 bp  0.83%  3.3% 5.1% 5.8% 6.3% 6.7% 6.9% 4.0% 4.0% 4.0% 2.8% 2.4% 2.3% 2.6% 3.0% 3.2%	15,730 curr - 50 bp  1.33%  1.6% 2.5% 2.8% 3.1% 3.3% 3.0% 2.2% 2.0% 1.9% 1.4% 1.2% 1.2% 1.5% 1.5% 1.6%	curr val assumption Percentage I	(15,130) curr +50bp  mpact Relativ 2.33% (1.6%) (2.4%) (2.6%) (3.1%) (3.2%) (2.9%) (2.1%) (1.8%) (1.3%) (1.1%) (1.1%) (1.2%) (1.4%)	(29,826) curr + 100bp  e to Valuation 2.83% (3.1%) (4.7%) (5.2%) (5.8%) (6.1%) (5.6%) (3.6%) (2.6%) (2.2%) (2.2%) (2.2%) (2.8%)	(43,917) curr + 150bp  Assumption 3.33% (4.6%) (6.9%) (7.6%) (8.5%) (9.0%) (9.1%) (5.9%) (5.3%) (5.2%) (3.8%) (3.3%) (3.2%) (4.1%)	(1,849) prior val assumption  1.89% (0.2%) (0.3%) (0.4%) (0.4%) (0.3%) (0.2%) (0.2%) (0.1%) (0.1%) (0.1%) (0.2%) (0.2%) (0.2%) (0.2%)	2,482 prior fyr end assumption  1.75%  0.3%  0.4%  0.4%  0.5%  0.5%  0.5%  0.3%  0.3%  0.2%  0.2%  0.2%  0.2%  0.2%  0.2%  0.2%



#### **EXHIBIT G**

Page 1 of 2

Components of Member Statement IBNR (i.e. "Discounted") Change During Month



M/S IBNR - in \$000s

	Values						ı
AccYear	Sum of Prior Month Actual Amount	Sum of Projected Change	Sum of Change Due to AvsP Variances	Sum of Change Due to Valuation Implementation	Sum of Total Change	Sum of % Total Change	Sum of Current Month Final Amount
prior	(3,687)	122	(223)	5,018	4,917	(133.4%)	1,230
1999	29	(2)	1	30	29	100.0%	58
2000	(4)	-	-	-	-	-	(4)
2001	63	(2)	1	40	39	61.9%	102
2002	174	(6)	6	(107)	(107)	(61.5%)	67
2003	817	(24)	24	(97)	(97)	(11.9%)	720
2004	341	(10)	11	(103)	(102)	(29.9%)	239
2005	473	(14)	14	(133)	(133)	(28.1%)	340
2006	789	(25)	27	(371)	(369)	(46.8%)	420
2007	1,086	(33)	26	(414)	(421)	(38.8%)	665
2008	2,558	(79)	57	(942)	(964)	(37.7%)	1,594
2009	2,928	(87)	49	(1,653)	(1,691)	(57.8%)	1,237
2010	6,152	(179)	248	(2,447)	(2,378)	(38.7%)	3,774
2011	777	(18)	(585)	1,171	568	73.1%	1,345
2012	2,878	(75)	156	(210)	(129)	(4.5%)	2,749
2013	6,247	(158)	313	(1,092)	(937)	(15.0%)	5,310
2014	6,632	(244)	365	(3,114)	(2,993)	(45.1%)	3,639
2015	23,354	(1,153)	623	(2,165)	(2,695)	(11.5%)	20,659
2016	62,932	(3,473)	885	(5,027)	(7,615)	(12.1%)	55,317
2017	177,240	(6,372)	3,514	(20,339)	(23,197)	(13.1%)	154,043
2018	138,202	15,687	(1,848)	(1,730)	12,109	8.8%	150,311
<b>Grand Total</b>	429,981	3,855	3,664	(33,685)	(26,166)	(6.1%)	403,815



#### **EXHIBIT G**

Page 2 of 2

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

RSP Ontario AccountCode Desc IBNR - Undisc Inted

IBNR - in \$000s

	Values						ı
AccYear •	Sum of Prior Month Actual Amount	Sum of Projected Change	Sum of Change Due to AvsP Variances	Sum of Change Due to Valuation Implementation	Sum of Total Change	Sum of % Total Change	Sum of Current Month Final Amount
prior	(4,638)	139	(237)	4,741	4,643	(100.1%)	5
1999	18	(1)	1	-	-	-	18
2000	(4)	-	-	-	-	-	(4)
2001	67	(2)	2	-	-	-	67
2002	177	(5)	5	(114)	(114)	(64.4%)	63
2003	839	(25)	25	(143)	(143)	(17.0%)	696
2004	381	(11)	12	(166)	(165)	(43.3%)	216
2005	496	(15)	15	(159)	(159)	(32.1%)	337
2006	922	(28)	28	(492)	(492)	(53.4%)	430
2007	1,248	(37)	29	(543)	(551)	(44.2%)	697
2008	2,752	(83)	61	(1,072)	(1,094)	(39.8%)	1,658
2009	2,873	(86)	49	(1,568)	(1,605)	(55.9%)	1,268
2010	5,667	(170)	256	(2,275)	(2,189)	(38.6%)	3,478
2011	269	(8)	(563)	1,121	550	204.5%	819
2012	1,914	(57)	218	(302)	(141)	(7.4%)	1,773
2013	3,186	(96)	327	(299)	(68)	(2.1%)	3,118
2014	(1,512)	-	431	271	702	(46.4%)	(810)
2015	11,450	(916)	589	262	(65)	(0.6%)	11,385
2016	44,297	(3,101)	770	(1,617)	(3,948)	(8.9%)	40,349
2017	141,238	(5,650)	3,266	(8,246)	(10,630)	(7.5%)	130,608
2018	115,676	12,764	(1,613)	1,892	13,043	11.3%	128,719
<b>Grand Total</b>	327,316	2,612	3,671	(8,709)	(2,426)	(0.7%)	324,890