



**ONTARIO RISK SHARING POOL**

**JANUARY 2020 OPERATIONAL REPORT**

**ACTUARIAL HIGHLIGHTS**

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**ACTUARIAL HIGHLIGHTS**

**RSP ONTARIO**

**OPERATIONAL REPORT**

**JANUARY 2020**

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## 1 Summary

### Key Points

- (a) At its Feb. 18, 2020 meeting, the FA Board appointed Mr. Cosimo Pantaleo of Ernst & Young LLP (EY) for fiscal year-end 2019. Recall that Mr. Pantaleo was Acting Appointing Actuary following the resignation of Mr. Liam McFarlane in October 2019. Mr. Pantaleo’s appointment was approved by FA Members for fiscal year 2020 at the FA Annual General Meeting held on February 20, 2020.
- (b) The month’s claims activities were generally aligned with projections from last month.

### 1.1 Valuation Schedule (Fiscal Year 2020)

The January 2020 Operational Report leverages actuarial assumptions consistent with last month (that is, it does not reflect the results of an updated valuation). The table below summarizes the implemented valuations for fiscal year 2020.

<b>ONTARIO RISK SHARING POOL FISCAL YEAR 2020 – SCHEDULE OF VALUATIONS</b>			
<b>Valuation Date</b>	<b>Discount Rate (per annum)</b>	<b>Operational Report</b>	<b>Description of Changes</b>
Sep. 30, 2019 (completed)	1.41% mfad 25 bp	Oct. 2019	updated valuation (roll forward): accident year 2019 loss ratio <u>de</u> creased 0.7 points to 122.3%; discount rate <u>in</u> creased 1 basis point; no change to selected margins for adverse deviations
Dec. 31, 2019	% mfad -- bp	Mar. 2020	update valuation
Mar. 31, 2020	% mfad -- bp	May 2020	update valuation (roll-forward)
Jun. 30, 2020	% mfad -- bp	Aug. 2020	update valuation
Sep. 30, 2020	% mfad -- bp	Oct. 2020	update valuation (roll-forward)

Under the proposed schedule for fiscal year 2020, the off-half valuation quarters ending March 31, 2020 and September 30, 2020 would not reflect a full valuation update of assumptions, but would rather roll-forward key assumptions from the previous valuation.

### 1.2 Appointed Actuary and Hybrid Actuarial Services Model

Mr. Cosimo Pantaleo of Ernst & Young LLP (EY) was appointed as Actuary by the FA Board at its February 18, 2020 meeting.

Facility Association operates under a hybrid model in relation to the management and provision of actuarial services. Under this model, actuarial services are performed by both Facility Association’s

internal staff and its external actuarial consulting firm. The hybrid model approach maximizes the efficiency of resource allocation while providing access to additional expertise and capacity as needed.

### **1.3 Consideration of Recent Legal Decisions and Changes in Legislation / Regulation<sup>1</sup>**

Reference to Ontario Bill 15 has been removed from this section as no longer recent (i.e. within the last five years). Otherwise, there have been no changes in these descriptions since last month's Highlights, other than clarification that recent refers to events within the last five years.

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 (i.e. within the last five years) are provided below.

**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, 2019), reform adjustments (originally introduced with the September 30, 2015 valuation) specifically related to changes to the SABS impacting the bodily injury and accident benefits coverages, were included with the updated industry trend analysis (completed using industry data as at December 31, 2018), impacting the selection of ultimates.

### **1.4 Harmonized Sales Tax Class Action - Ontario**

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

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

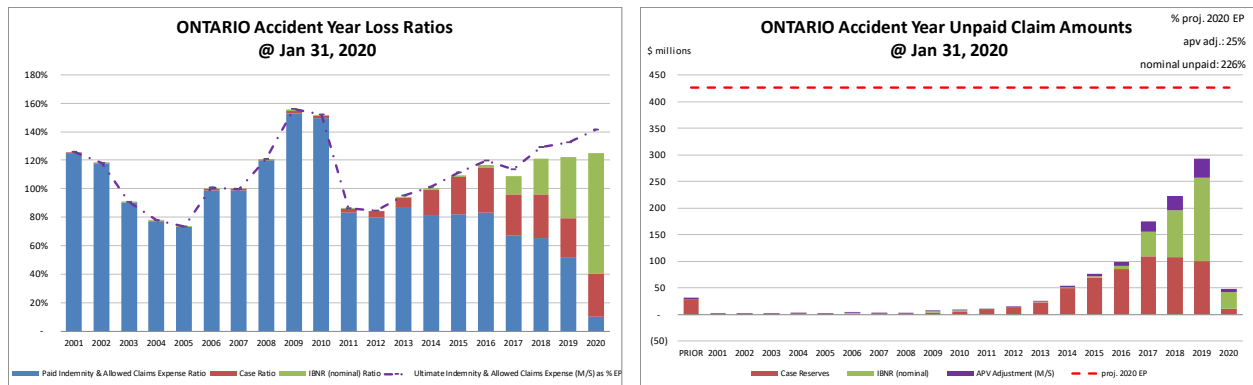
At the current time, no adjustments have been made to our valuation estimates, but in conjunction with FA's Appointed Actuary, FA management continues to review and consider the implications of the potential outcomes related to the class action lawsuits. Please contact Shawn Doherty at [sdoherty@facilityassociation.com](mailto:sdoherty@facilityassociation.com)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

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<sup>1</sup>This url to a pdf is to a helpful guide on how bills become laws: <https://www.ola.org/sites/default/files/common/how-bills-become-law-en.pdf>.

### 1.5 Current Provision Summary

The charts below show the current levels of claim liabilities<sup>2</sup> booked by accident year<sup>3</sup>. The left chart displays life-to-date payments, case reserves, IBNR, and the total including actuarial present value adjustments against accident year earned premium. The right chart shows the associated dollar amounts for the components of the claim liabilities and the current projected amount of 2020 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 (\$108.0 million – see table below) represents 25% of the earned premium projected for the full year 2020 (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	617,520	57.7%
ibnr	343,894	32.2%
M/S apv adjust.	107,988	10.1%
<b>M/S total</b>	<b>1,069,402</b>	<b>100.0%</b>

The table to the left breaks down the Member Statement (M/S) claim liabilities total into component parts, showing that the majority of the claim liabilities for this RSP is in case reserves. Approximately 54% of the IBNR balance relates to accident years 2019 and 2020 (see Exhibit B). Approximately 78% of the M/S total claim

liabilities are related to accident years 2016-2020 inclusive (i.e. the most recent 5 accident years), and approximately 5% is related to accident years 2010 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>2</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.

<sup>3</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	228,219	72.3%	claim	961,414	69.4%
prem def/(dpac)	58,010	18.4%	premium	286,229	20.7%
M/S apv adjust.	29,589	9.4%	M/S apv adjust.	137,577	9.9%
M/S total	315,818	100.0%	M/S total	1,385,220	100.0%

## 2 Activity During the Month of January 2020

### 2.1 Recorded Premium and Claims Activity

The table 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>4</sup>.

*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	151	151	7,528	(5,148)	(4,338)	4,191	3,190	(957)
2018	95	95	2,043	(3,876)	1,343	3,617	3,386	(259)
2019	(145)	(145)	18,542	10,286	(2,983)	(6,728)	15,559	3,558
2020	36,400	(132)	3,669	(905)	10,959	(1,847)	14,628	(2,752)
TOTAL	36,501	(31)	31,783	358	4,980	(768)	36,763	(410)

(Recorded transaction amounts exclude IBNR & other actuarial provisions)

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

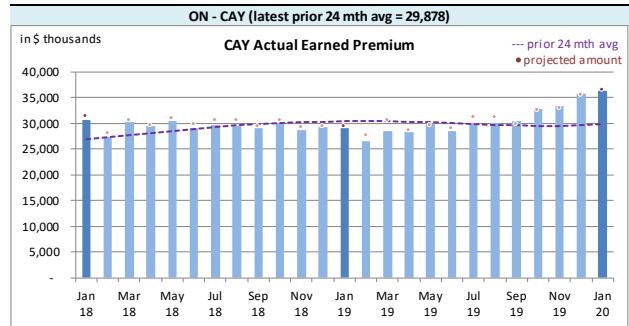
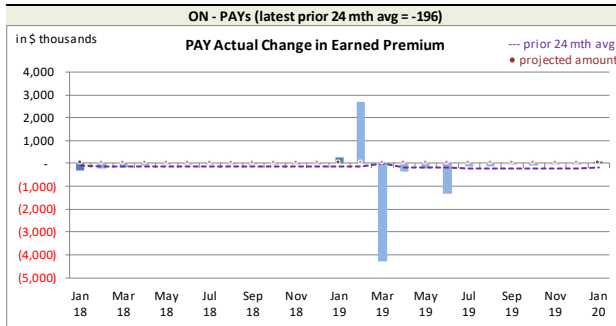
Claims transaction activity is generally volatile and changes from one month to the next are anticipated due to this natural “process variance” (i.e. random variation). Each month, the projection variances are reviewed for signs of projection bias and to identify potential ways to reduce the level of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

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

The charts at the top of the next page show actual **earned premium**<sup>5</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.

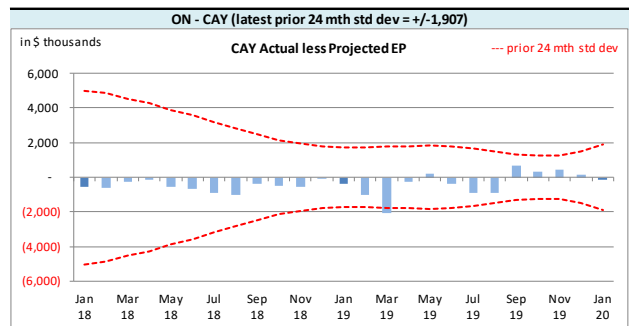
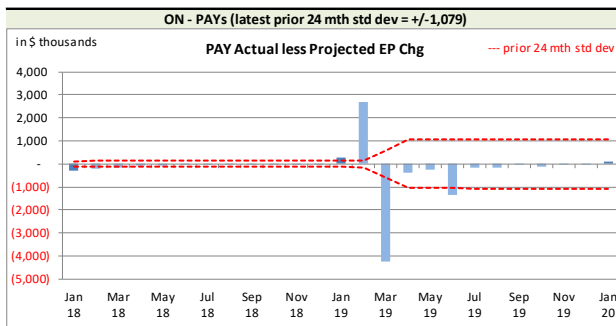
<sup>4</sup>There may be rounding differences in values in this document compared with the associated Bulletin and/or Operational Report.

<sup>5</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.

**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 associated variance between the actual changes and the projections from the previous month are shown in the charts 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)	(196)	29,878
std dev	1,079	1,907
A-P <> std dev	7	1
% <> std dev	28.0%	4.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	no better	better

We project **earned premium** changes from known unearned premium and projected written premium levels, but upload the total projections as current accident year (CAY). This process has generated prior accident years' (PAYs) bias<sup>6</sup>, with actuals generally lower than projected, although the magnitude is not high relative to monthly premium. In addition to the PAYs' bias, the CAY

has also shown bias<sup>7</sup>, with actuals being generally lower than projected, and while we modified our

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

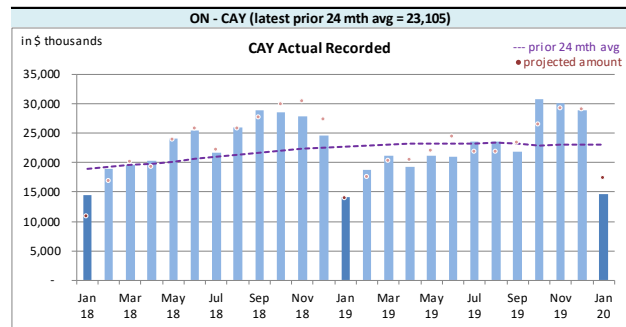
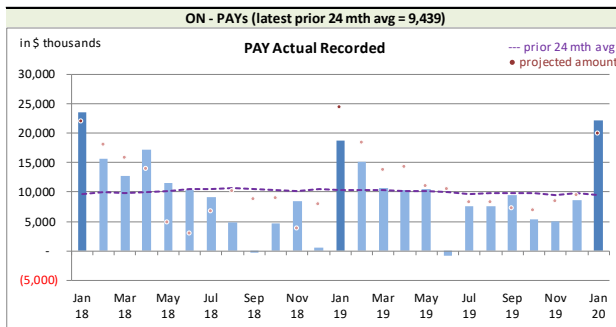
<sup>7</sup>We measure bias based on a 95% confidence range for a binominal distribution with trials based on the range being considered (25 in this case) and 50% probability of success. The rolling 25-month CAY variances at January 2020 has only 5 months where the actuals were higher than projected, and as the 95% confidence range is 8 to 17, bias continues to be indicated.

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

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

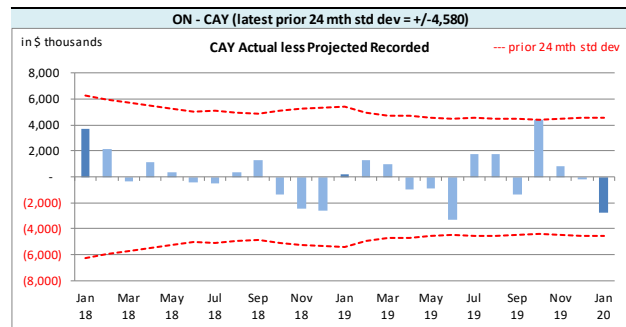
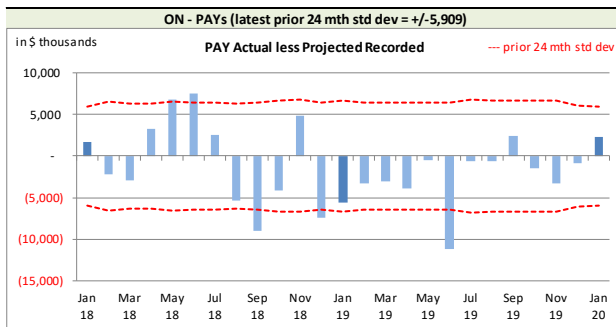
The charts below show actual **recorded** activity (**paid** and **case reserve** changes), in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

*Ontario RSP Actual Recorded by Calendar Month*



**Recorded** activity variances from the previous month’s projections are shown in the charts 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)		9,439	23,105
std dev		5,909	4,580
A-P <> std dev		5	-
% <> std dev		20.0%	0.0%
norm <> std dev		31.7%	31.7%
performance vs 24-mth avg:		better	better

With respect to **recorded** indemnity & allowed claims expense, 20% of the prior accident years’ (PAYs) variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **recorded** amounts (see table on left), suggesting the projection process has performed better than simply projecting the prior 24-month average amount (assuming it follows a normal

distribution). Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (8 of 25 variances were positive), but on a lagging 12-month basis, bias is indicated (2 of latest 12 variances have been positive; we have made some adjustments to address this).

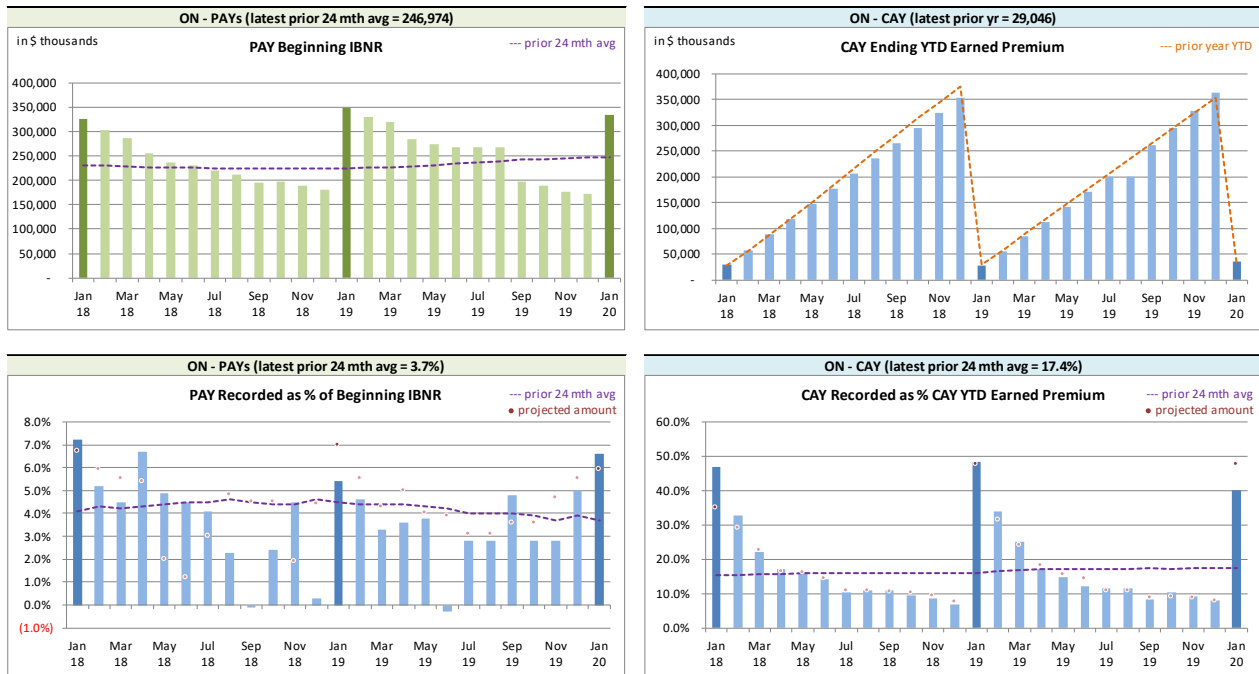


The current accident year (CAY) **recorded** variances (right lower chart at the bottom of the previous page) fell outside of one standard deviation 0% of the time over the last 25 calendar months suggesting that the projection process has performed better than simply projecting the prior 24-month average amount. Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (13 of 25 variances were positive).

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 below 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 a valuation is implemented (i.e. April, June, September, and November).

*Ontario RSP Levels that influence<sup>8</sup> Recorded activity by Calendar Month*



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

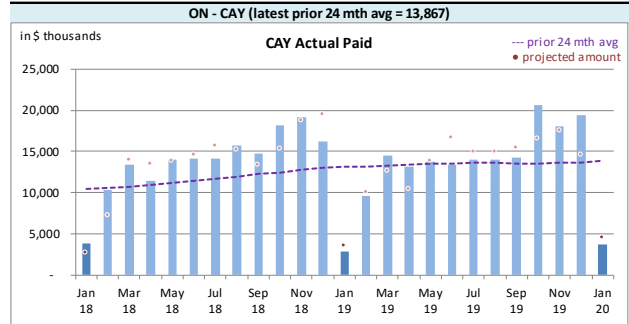
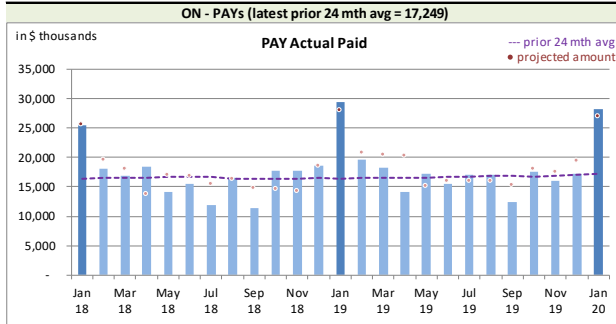
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a CAY becomes a PAY (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of PAYS’ ultimates (will show up as a beginning IBNR change one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

<sup>8</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.

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

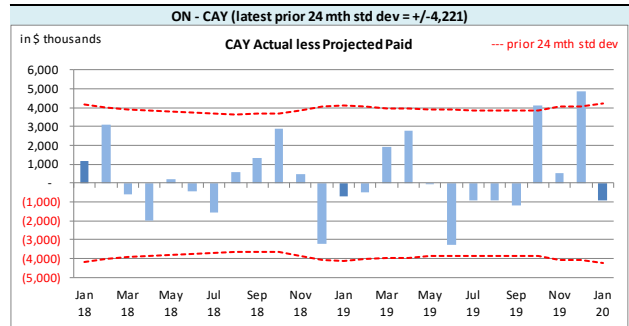
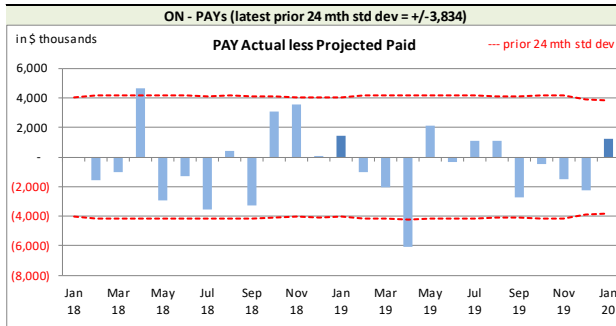
The charts below show actual **paid** activity in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

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



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

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



On Latest \$ thousands			
<b>Paid</b>	PAYs	CAY	
Mthly Avg Paid (prior 24 mths)	17,249	13,867	
std dev	3,834	4,221	
A-P <> std dev	2	2	
% <> std dev	8.0%	8.0%	
norm <> std dev	31.7%	31.7%	
performance vs 24-mth avg:	better	better	

With respect to **paid** indemnity & allowed claims expense, 8% of the prior accident years’ (PAYs) variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **paid** amounts (see table on left), suggesting the projection process has performed better than simply projecting the prior 24-month average amount (assuming it follows a normal

distribution). Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (10 of 25 variances are positive).

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 has not been indicated at a 95% confidence level on a rolling 25-month basis (12 of 25 variances are positive).

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

*Ontario RSP Levels that influence<sup>9</sup> Paid activity by Calendar Month*



We track the PAY beginning unpaid balance (case and IBNR) as **paid** activity comes out of the unpaid balance. Changes in the PAY beginning unpaid balance (see upper left chart above) occur for several possible reasons:

- to offset actual **paid** activity (may reduce case or IBNR or both);
- the annual switchover as a CAY becomes a PAY (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of PAYs’ ultimates (will show up as a beginning unpaid balance change one month after the valuation is implemented, i.e. the change will generally show in April, June, September, and November).

## 2.2 Actuarial Provisions

An ultimate loss ratio matching method (described in section 3) is used to determine the month’s IBNR<sup>10</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.

<sup>9</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.

<sup>10</sup>For ease of discussion, “IBNR” is used in place of “provisions for incurred but not recorded (IBNR) and development”.

The table 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	IBNR		actuarial present value adjustments				IBNR + actuarial present value adjustments	
	Actual	Actual less Projected	Discount Amount		Provisions for Adverse Deviations		Actual	Actual less Projected
			Actual	Actual less Projected	Actual	Actual less Projected		
Prior	69,386	1,121	(19,196)	(475)	57,827	635	108,017	1,281
2018	87,862	374	(7,033)	(143)	33,943	694	114,772	925
2019	155,701	(3,735)	(10,516)	429	47,052	(1,920)	192,237	(5,226)
2020	30,945	2,587	(1,802)	(32)	7,713	136	36,856	2,691
<b>TOTAL</b>	<b>343,894</b>	<b>347</b>	<b>(38,547)</b>	<b>(221)</b>	<b>146,535</b>	<b>(455)</b>	<b>451,882</b>	<b>(329)</b>

The IBNR provision is \$0.3 million higher than projected from last month, counterbalancing the recorded claims activity and adjusting for the earned premium variance impacts indicated in section 2.1.

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

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

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

The table at the top of the next page summarizes the variances in the provisions for premium deficiency liability / (deferred policy acquisition cost asset) included in this month’s Operational Report and the one-month projections from last month’s Report. This RSP is in a premium deficiency position (shown as a positive amount) prior to and after actuarial present value adjustments. Actuarial present value adjustments increase the liability value as the adjustments increase the expected future policy obligations (costs) associated with the unearned premium. The variances noted are mainly driven by the unearned premium variance.

*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:	58,010	1,222	29,589	618	87,599	1,840
balance as % unearned premium:	25.4%	-	13.0%	-	38.4%	-
actual unearned premium:	228,219					
less projected:	4,770					

### 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>11</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>12</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 124.9% rather than 125.2% (the valuation ultimate ratio for accident year 2020), 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>11</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>12</sup>Allowed claims expenses are first party legal and other expenses as listed in the RSP Claims Guide. Claims expenses paid through the member company expense allowance are NOT included in this analysis.

*Ontario RSP Calendar Year-to-Date Indemnity & Allowed Claims Expense Summary (\$ thousands)*

Table 04	YTD Nominal Values		YTD actuarial present value adjustment		YTD Total		Change from Prior Month YTD	
	Amount	% EP	Amount	% EP	Amount	% EP	Amount	LR pts
PAYs	102	0.3%	(2,874)	(7.9%)	(2,772)	(7.6%)	#N/A	#N/A
CAY	45,573	124.9%	5,911	16.2%	51,484	141.0%	#N/A	#N/A
TOTAL	45,675	125.1%	3,037	8.3%	48,712	133.5%	#N/A	#N/A

("EP" based on 2019 calendar year-to-date earned premium; ratios may not total due to rounding)

In general, prior accident years (PAYs) changes from last month are due to the release of the actuarial present value adjustments with claims payments, except when valuations are implemented. The loss ratio change year-to-date in Table 04 reflects not only changes in the prior accident year levels, but also the increase in the calendar year-to-date earned premium with an additional month's earned premium.

For the current accident year (CAY), changes in the year-to-date total reflects the additional month's exposure and regular changes to actuarial present value adjustments as the year ages.

**5 Current Operational Report – Additional Exhibits**

Section 6 provides exhibits pertaining to the actuarial provisions reflected in the current month's Operational Report.

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

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

The ultimate loss ratios presented in section 6, Exhibit B, refer to the estimates derived on the basis of various actuarial methodologies applied to the experience of the Ontario Risk Sharing Pool for the purposes of the most recent quarterly valuation. As discussed in section 3, IBNR in the current month's Operational Report was derived as the difference between the estimated ultimate for the claims amount (i.e. earned premium x ultimate loss ratio) and the associated current recorded amounts (life-to-date payments plus current case reserves).

**6 EXHIBITS**

The exhibits listed below are provided on the pages that follow:

- EXHIBIT A IBNR for Member Sharing – includes Actuarial Present Value Adjustments
- EXHIBIT B IBNR
- EXHIBIT C Premium Liabilities
- EXHIBIT D Projected Year-end Policy Liabilities
- EXHIBIT E Discount Rate & Margins for Adverse Deviations
- EXHIBIT F Interest Rate Sensitivity
- EXHIBIT G Components of IBNR Change During Month

EXHIBIT A

IBNR for Member Sharing – includes Actuarial Present Value Adjustments

TABLE EXHIBIT A

		Amounts in \$000s					
IBNR + M/S actuarial present value adjustments		Accident Year	Actual Dec. 2019	Actual Jan. 2020	Projected Feb. 2020	Projected Mar. 2020	Projected Dec. 2020
		prior	1,755	1,933	1,887	1,828	1,449
		2001	49	52	51	50	40
		2002	70	70	68	67	52
		2003	465	467	453	448	355
		2004	283	289	281	277	221
		2005	304	290	280	276	220
		2006	604	620	602	593	471
		2007	484	495	478	474	373
		2008	1,317	1,346	1,303	1,288	1,018
		2009	1,825	2,743	2,656	2,628	2,082
		2010	2,482	2,388	2,311	2,287	1,810
		2011	1,425	1,260	1,221	1,205	954
		2012	(318)	(246)	(234)	(241)	(190)
		2013	4,217	3,921	3,805	3,745	2,966
		2014	5,422	4,949	4,813	4,715	3,734
discount rate		2015	8,091	7,498	7,295	7,137	5,652
1.41%		2016	14,612	14,096	13,598	13,144	9,530
		2017	69,234	65,846	63,694	60,979	43,179
interest rate margin		2018	117,347	114,772	110,265	105,711	75,471
25 basis pts		2019	210,265	192,237	183,722	175,646	130,927
		2020	-	36,856	64,476	94,002	249,597
		2021	-	-	-	-	-
		<b>TOTAL</b>	<b>439,933</b>	<b>451,882</b>	<b>463,025</b>	<b>476,259</b>	<b>529,911</b>
		Change		11,949	11,143	13,234	

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

EXHIBIT B

IBNR

TABLE EXHIBIT B

Amounts in \$000s

IBNR	Ultimate Loss Ratio	Accident Year	Actual Dec. 2019	Actual Jan. 2020	Projected Feb. 2020	Projected Mar. 2020	Projected Dec. 2020
	-	prior	(73)	(98)	(96)	(96)	(77)
	125.8%	2001	9	9	9	9	8
	117.9%	2002	63	63	61	60	46
	90.7%	2003	442	442	428	424	336
	77.7%	2004	227	227	220	218	173
	73.6%	2005	291	275	266	263	209
	100.4%	2006	533	533	516	511	406
	99.9%	2007	430	429	415	411	324
	120.7%	2008	1,277	1,297	1,255	1,242	982
	155.6%	2009	1,716	2,627	2,543	2,518	1,995
	152.0%	2010	2,296	2,254	2,182	2,160	1,710
	86.3%	2011	1,074	1,028	995	985	780
	84.1%	2012	(882)	(718)	(695)	(688)	(544)
	94.5%	2013	2,927	2,842	2,751	2,723	2,156
	100.5%	2014	2,147	2,303	2,229	2,207	1,747
	109.7%	2015	2,885	2,948	2,854	2,825	2,237
	116.7%	2016	5,881	5,503	5,228	4,967	3,510
	108.7%	2017	51,169	47,422	45,620	43,339	29,379
	121.2%	2018	91,133	87,862	83,732	79,629	53,638
	122.3%	2019	171,437	155,701	147,916	140,520	100,486
	125.2%	2020	-	30,945	53,971	78,766	202,892
	128.7%	2021	-	-	-	-	-
		<b>TOTAL</b>	<b>334,982</b>	<b>343,894</b>	<b>352,400</b>	<b>362,993</b>	<b>402,393</b>
		Change		8,912	8,506	10,593	

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



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

TABLE EXHIBIT C

	Amounts in \$000s				
	Actual Dec. 2019	Actual Jan. 2020	Projected Feb. 2020	Projected Mar. 2020	Projected Dec. 2020
Premium Liabilities					
(1) unearned premium (UP)	230,148	228,219	213,120	211,338	219,754
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	138.4%	138.4%	138.4%	138.5%	142.2%
(3) expected future costs {(1) x (2)}	318,441	315,818	294,991	292,761	312,548
(4) premium deficiency / (deferred policy acquisition cost)	88,293	87,599	81,871	81,423	92,794
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	125.4%	125.4%	125.4%	125.5%	128.9%
(6) expected future costs {(1) x (5)}	288,605	286,229	267,352	265,330	283,263
(7) premium deficiency / (deferred policy acquisition cost)	58,457	58,010	54,232	53,992	63,509

**EXHIBIT D**
**Projected Year-end Policy Liabilities**

The table below presents the projected policy liabilities as at December 31, 2020, broken down by component.

Ontario		Projected Balances as at Dec. 31, 2020 (\$000s)									
ending 2020		nominal values			actuarial present value adjustments (apvs)						TOTAL
Acc Yr	Case	IBNR	Total Unpaid	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL	
prior	21,640	(77)	21,563	(690)	116	2,170	(70)	2,100	1,526	23,089	
2001	492	8	500	(19)	3	50	(2)	48	32	532	
2002	47	46	93	(4)	1	9	-	9	6	99	
2003	1	336	337	(16)	3	34	(2)	32	19	356	
2004	773	173	946	(51)	9	95	(5)	90	48	994	
2005	39	209	248	(15)	3	25	(2)	23	11	259	
2006	1,397	406	1,803	(123)	20	180	(12)	168	65	1,868	
2007	1,361	324	1,685	(128)	22	168	(13)	155	49	1,734	
2008	553	982	1,535	(126)	21	154	(13)	141	36	1,571	
2009	2,507	1,995	4,502	(392)	68	450	(39)	411	87	4,589	
2010	3,786	1,710	5,496	(484)	82	550	(48)	502	100	5,596	
2011	6,212	780	6,992	(566)	98	699	(57)	642	174	7,166	
2012	10,075	(544)	9,531	(648)	114	953	(65)	888	354	9,885	
2013	16,295	2,156	18,451	(1,125)	203	1,845	(113)	1,732	810	19,261	
2014	36,609	1,747	38,356	(1,995)	345	3,836	(199)	3,637	1,987	40,343	
2015	51,885	2,237	54,122	(2,111)	325	5,412	(211)	5,201	3,415	57,537	
2016	59,862	3,510	63,372	(2,028)	380	7,921	(253)	7,668	6,020	69,392	
2017	87,370	29,379	116,749	(3,736)	584	17,512	(560)	16,952	13,800	130,549	
2018	104,876	53,638	158,514	(5,706)	951	27,581	(993)	26,588	21,833	180,347	
2019	113,201	100,486	213,687	(8,761)	1,496	39,318	(1,612)	37,706	30,441	244,128	
PAYs (sub-total):	518,981	199,501	718,482	(28,724)	4,844	108,962	(4,269)	104,693	80,813	799,295	
CAY (2020)	128,141	202,892	331,033	(14,234)	2,648	60,910	(2,619)	58,291	46,705	377,738	
<b>claims liabilities:</b>	<b>647,122</b>	<b>402,393</b>	<b>1,049,515</b>	<b>(42,958)</b>	<b>7,492</b>	<b>169,872</b>	<b>(6,888)</b>	<b>162,984</b>	<b>127,518</b>	<b>1,177,033</b>	
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*	
<b>premium liabilities:</b>	<b>219,754</b>	<b>63,509</b>	<b>283,263</b>	<b>(9,333)</b>	<b>1,697</b>	<b>38,181</b>	<b>(1,260)</b>	<b>36,921</b>	<b>29,285</b>	<b>312,548</b>	
*Total may not be sum of parts, as apvs apply to future costs within UPR											
<b>policy liabilities:</b>			<b>1,332,778</b>	<b>(52,291)</b>	<b>9,189</b>	<b>208,053</b>	<b>(8,148)</b>	<b>199,905</b>	<b>156,803</b>	<b>1,489,581</b>	

EXHIBIT E

Discount Rate & Margins for Adverse Deviations

The tables below present selected margins for adverse development by coverage (the total is a weighted average, based on the unpaid claims projection for December 31, 2019 from the valuation), followed by the selected discount rate and the associated margin for investment income.

Selected Claims Development MfADs (Sep. 30, 2019)

Accident Year	Third Party Liability 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%	10.0%	10.0%
2012	10.0%	10.0%	10.0%	10.0%
2013	10.0%	10.0%	10.0%	10.0%
2014	10.0%	10.0%	9.7%	10.0%
2015	10.0%	10.0%	9.9%	10.0%
2016	12.5%	12.5%	11.9%	12.5%
2017	15.0%	15.0%	15.0%	15.0%
2018	17.4%	17.5%	15.1%	17.4%
2019	18.1%	20.0%	6.0%	18.4%
2020	12.9%	20.0%	5.2%	13.5%
prem liab	12.9%	20.0%	5.2%	13.5%

discount rate: 1.41%  
margin (basis points): 25

EXHIBIT F

Interest Rate Sensitivity

The tables below present sensitivity to the member statement claims liability as projected to Dec. 31, 2019 from the latest valuation date (projections in exhibits A to D are to Dec. 31, 2020, and are based on more up-to-date information). We have included the most recent valuation selection (1.41%), the prior valuation assumption (1.40%) and the prior fiscal year end valuation assumption (2.22%) for comparative purposes. A 25 basis point margin for investment return adverse deviation is used in all scenarios presented.

\$ Format: \$000s

AY	Actuarial Present Value of Provisions at Various Discount Rates - Dec. 31, 2019 projected Unpaid							
	0.41%	0.91%	1.41%	1.91%	2.41%	2.91%	1.40%	2.22%
2002 & prior	31,554	31,099	30,655	30,226	29,803	29,394	30,665	29,964
2003	411	402	395	387	380	373	395	382
2004	1,285	1,256	1,229	1,203	1,177	1,152	1,230	1,187
2005	317	309	301	294	287	280	302	290
2006	2,508	2,438	2,372	2,309	2,247	2,188	2,374	2,270
2007	2,481	2,407	2,335	2,268	2,202	2,141	2,337	2,227
2008	2,292	2,219	2,149	2,083	2,020	1,960	2,151	2,044
2009	7,120	6,889	6,670	6,464	6,265	6,079	6,675	6,340
2010	8,342	8,094	7,859	7,638	7,425	7,226	7,865	7,505
2011	9,568	9,329	9,104	8,892	8,690	8,498	9,110	8,765
2012	14,768	14,439	14,127	13,834	13,553	13,288	14,135	13,658
2013	26,901	26,390	25,905	25,449	25,008	24,594	25,918	25,173
2014	51,022	50,284	49,585	48,919	48,278	47,671	49,600	48,516
2015	77,322	76,434	75,583	74,772	73,982	73,234	75,608	74,280
2016	105,083	103,866	102,692	101,558	100,459	99,403	102,717	100,875
2017	179,004	176,706	174,460	172,331	170,217	168,204	174,530	171,023
2018	232,978	229,473	226,114	222,859	219,695	216,647	226,182	220,888
2019	315,108	310,234	305,517	300,998	296,608	292,333	305,661	298,263
<b>Total</b>	<b>1,068,064</b>	<b>1,052,268</b>	<b>1,037,052</b>	<b>1,022,484</b>	<b>1,008,296</b>	<b>994,665</b>	<b>1,037,455</b>	<b>1,013,650</b>
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

AY	Dollar Impact Relative to Valuation Assumption							
	0.41%	0.91%	1.41%	1.91%	2.41%	2.91%	1.40%	2.22%
<b>Total</b>	<b>31,012</b>	<b>15,216</b>	<b>-</b>	<b>(14,568)</b>	<b>(28,756)</b>	<b>(42,387)</b>	<b>403</b>	<b>(23,402)</b>
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

AY	Percentage Impact Relative to Valuation Assumption							
	0.41%	0.91%	1.41%	1.91%	2.41%	2.91%	1.40%	2.22%
2002 & prior	2.9%	1.4%	-	(1.4%)	(2.8%)	(4.1%)	0.0%	(2.3%)
2003	4.1%	1.8%	-	(2.0%)	(3.8%)	(5.6%)	-	(3.3%)
2004	4.6%	2.2%	-	(2.1%)	(4.2%)	(6.3%)	0.1%	(3.4%)
2005	5.3%	2.7%	-	(2.3%)	(4.7%)	(7.0%)	0.3%	(3.7%)
2006	5.7%	2.8%	-	(2.7%)	(5.3%)	(7.8%)	0.1%	(4.3%)
2007	6.3%	3.1%	-	(2.9%)	(5.7%)	(8.3%)	0.1%	(4.6%)
2008	6.7%	3.3%	-	(3.1%)	(6.0%)	(8.8%)	0.1%	(4.9%)
2009	6.7%	3.3%	-	(3.1%)	(6.1%)	(8.9%)	0.1%	(4.9%)
2010	6.1%	3.0%	-	(2.8%)	(5.5%)	(8.1%)	0.1%	(4.5%)
2011	5.1%	2.5%	-	(2.3%)	(4.5%)	(6.7%)	0.1%	(3.7%)
2012	4.5%	2.2%	-	(2.1%)	(4.1%)	(5.9%)	0.1%	(3.3%)
2013	3.8%	1.9%	-	(1.8%)	(3.5%)	(5.1%)	0.1%	(2.8%)
2014	2.9%	1.4%	-	(1.3%)	(2.6%)	(3.9%)	0.0%	(2.2%)
2015	2.3%	1.1%	-	(1.1%)	(2.1%)	(3.1%)	0.0%	(1.7%)
2016	2.3%	1.1%	-	(1.1%)	(2.2%)	(3.2%)	0.0%	(1.8%)
2017	2.6%	1.3%	-	(1.2%)	(2.4%)	(3.6%)	0.0%	(2.0%)
2018	3.0%	1.5%	-	(1.4%)	(2.8%)	(4.2%)	0.0%	(2.3%)
2019	3.1%	1.5%	-	(1.5%)	(2.9%)	(4.3%)	0.0%	(2.4%)
<b>Total</b>	<b>3.0%</b>	<b>1.5%</b>	<b>-</b>	<b>(1.4%)</b>	<b>(2.8%)</b>	<b>(4.1%)</b>	<b>0.0%</b>	<b>(2.3%)</b>
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

EXHIBIT G

Page 1 of 2

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

RSP **Ontario**  
AccountCode Desc **IBNR - Discounted**

M/S IBNR - in \$000s

AccYear	Values				Sum of Total Change	Sum of % Total Change	Sum of Current Month Final Amount
	Sum of Prior Month Actual Amount	Sum of Projected Change	Sum of Change Due to AvsP Variances	Sum of Change Due to Valuation Implementation			
prior	1,755	374	(196)	-	178	10.1%	1,933
2001	49	2	1	-	3	6.1%	52
2002	70	(1)	1	-	-	-	70
2003	465	(3)	5	-	2	0.4%	467
2004	283	2	4	-	6	2.1%	289
2005	304	(1)	(13)	-	(14)	(4.6%)	290
2006	604	9	7	-	16	2.6%	620
2007	484	5	6	-	11	2.3%	495
2008	1,317	(5)	34	-	29	2.2%	1,346
2009	1,825	(13)	931	-	918	50.3%	2,743
2010	2,482	(77)	(17)	-	(94)	(3.8%)	2,388
2011	1,425	(134)	(31)	-	(165)	(11.6%)	1,260
2012	(318)	(93)	165	-	72	(22.6%)	(246)
2013	4,217	(258)	(38)	-	(296)	(7.0%)	3,921
2014	5,422	(688)	215	-	(473)	(8.7%)	4,949
2015	8,091	(734)	141	-	(593)	(7.3%)	7,498
2016	14,612	(582)	66	-	(516)	(3.5%)	14,096
2017	69,234	(3,388)	-	-	(3,388)	(4.9%)	65,846
2018	117,347	(3,500)	925	-	(2,575)	(2.2%)	114,772
2019	210,265	(12,802)	(5,226)	-	(18,028)	(8.6%)	192,237
2020	-	34,165	2,691	-	36,856	100.0%	36,856
<b>Grand Total</b>	<b>439,933</b>	<b>12,278</b>	<b>(329)</b>	<b>-</b>	<b>11,949</b>	<b>2.7%</b>	<b>451,882</b>

EXHIBIT G

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

RSP		Ontario						IBNR - in \$000s
AccountCode Desc		IBNR - Undiscounted						
AccYear	Values							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	Sum of Total Change	Sum of % Total Change		
prior	(73)	-	(25)	-	(25)	34.2%	(98)	
2001	9	-	-	-	-	-	9	
2002	63	(1)	1	-	-	-	63	
2003	442	(4)	4	-	-	-	442	
2004	227	(2)	2	-	-	-	227	
2005	291	(3)	(13)	-	(16)	(5.5%)	275	
2006	533	(5)	5	-	-	-	533	
2007	430	(4)	3	-	(1)	(0.2%)	429	
2008	1,277	(13)	33	-	20	1.6%	1,297	
2009	1,716	(17)	928	-	911	53.1%	2,627	
2010	2,296	(23)	(19)	-	(42)	(1.8%)	2,254	
2011	1,074	(11)	(35)	-	(46)	(4.3%)	1,028	
2012	(882)	9	155	-	164	(18.6%)	(718)	
2013	2,927	(29)	(56)	-	(85)	(2.9%)	2,842	
2014	2,147	(21)	177	-	156	7.3%	2,303	
2015	2,885	(29)	92	-	63	2.2%	2,948	
2016	5,881	(412)	34	-	(378)	(6.4%)	5,503	
2017	51,169	(3,582)	(165)	-	(3,747)	(7.3%)	47,422	
2018	91,133	(3,645)	374	-	(3,271)	(3.6%)	87,862	
2019	171,437	(12,001)	(3,735)	-	(15,736)	(9.2%)	155,701	
2020	-	28,358	2,587	-	30,945	100.0%	30,945	
<b>Grand Total</b>	<b>334,982</b>	<b>8,565</b>	<b>347</b>	<b>-</b>	<b>8,912</b>	<b>2.7%</b>	<b>343,894</b>	