



**ONTARIO RISK SHARING POOL**

**APRIL 2020 OPERATIONAL REPORT**

**ACTUARIAL HIGHLIGHTS**

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**ACTUARIAL HIGHLIGHTS****RSP ONTARIO****OPERATIONAL REPORT****APRIL 2020**

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## 1 Summary

### Key Points

- (a) The loss ratios being used under our current assumptions do NOT include any incurred impacts of adjustments related to COVID-19; any associated impacts and changes will be initially reflected in our March 31, 2020 valuation which will be implemented in the May 2020 Operational Reports; and
- (b) The month’s Current Accident Year recorded activities were lower than the projections from last month; the activity was reviewed and attributed to a reduction in written premium and physical damage claims experience in the month due to the impact of the COVID-19 pandemic. April’s reported claims projections for the next two months (May 2020 and June 2020) have been adjusted to reflect the impacts: a 30% decrease in Current Accident Year physical damage claim activity, as per discussion with FA’s Appointed Actuary. No adjustment has been made to this month’s premium projections).

### 1.1 Valuation Schedule (Fiscal Year 2020)

The April 2020 Operational Report leverages actuarial assumptions consistent with last month (that is, it does not reflect the results of an updated valuation). The following table summarizes the valuation implementations scheduled 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 (completed)	1.58% mfad 25 bp	Mar. 2020	update valuation: accident year 2019 loss ratio <u>de</u> creased 5.8 points to 116.5%; accident year 2020 loss ratio <u>de</u> creased 5.7 points to 119.5 %; discount rate <u>in</u> creased 17 basis points; no change to selected margins for adverse deviations
Mar. 31, 2020	% mfad -- bp	May 2020	update valuation (partial 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. However, with disruption on

the insurance environment from the COVID-19 pandemic, the valuation quarter ending March 31, 2020 will include partial update of key assumptions to reflect this impact. Other assumptions will continue and be roll-forward 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>**

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

Consideration and assessment of potential impacts of legal decisions and changes in legislation / regulation constitutes a regular part of the valuation process. Descriptions of some of the more recent changes (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 (December 31, 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 June 30, 2019), 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

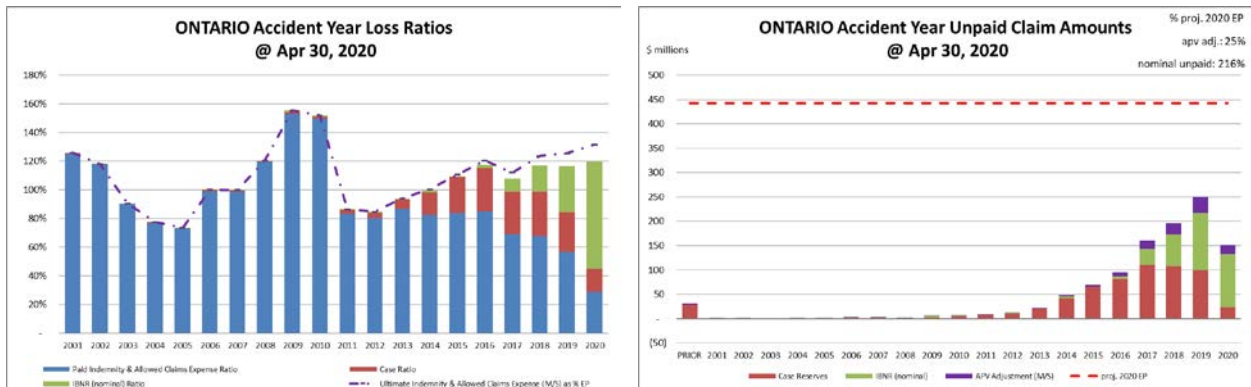
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<sup>1</sup>This url to a pdf is to a helpful guide on how bills become laws: <https://www.ola.org/sites/default/files/common/how-bills-become-law-en.pdf>.

potential outcomes related to the class action lawsuits. Please contact Aidan Chen at [achen@facilityassociation.com](mailto:achen@facilityassociation.com) if you need further information.

### 1.5 Current Provision Summary

The following charts 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 (\$108.7 million – see the following table) 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	610,454	57.3%
ibnr	346,312	32.5%
M/S apv adjust.	108,689	10.2%
M/S total	1,065,455	100.0%

The table to the left breaks down the Member Statement (M/S) claim liabilities total into component parts, showing that the majority of the claim liabilities for this RSP is in case reserves. Approximately 66% of the IBNR balance relates to accident years 2019 and 2020 (see Exhibit B). Approximately 80% 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 following tables 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	222,828	75.9%	claim	956,766	70.4%
prem def/(dpac)	44,460	15.1%	premium	267,288	19.7%
M/S apv adjust.	26,207	8.9%	M/S apv adjust.	134,896	9.9%
M/S total	293,495	100.0%	M/S total	1,358,950	100.0%

## 2 Activity During the Month of April 2020

### 2.1 Recorded Premium and Claims Activity

The following table 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	43	43	7,082	(4,368)	(3,035)	5,928	4,046	1,559
2018	(27)	(27)	3,111	115	(230)	(1,159)	2,882	(1,043)
2019	(98)	(98)	3,446	(84)	83	(1,954)	3,529	(2,038)
2020	37,504	109	11,055	(200)	916	(6,872)	11,972	(7,072)
TOTAL	37,422	27	24,694	(4,537)	(2,266)	(4,057)	22,428	(8,594)

(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 – although relatively small, we have identified that the prior accident years changes in the month reflects system sweep activity undertaken by a member in responding to audit findings.

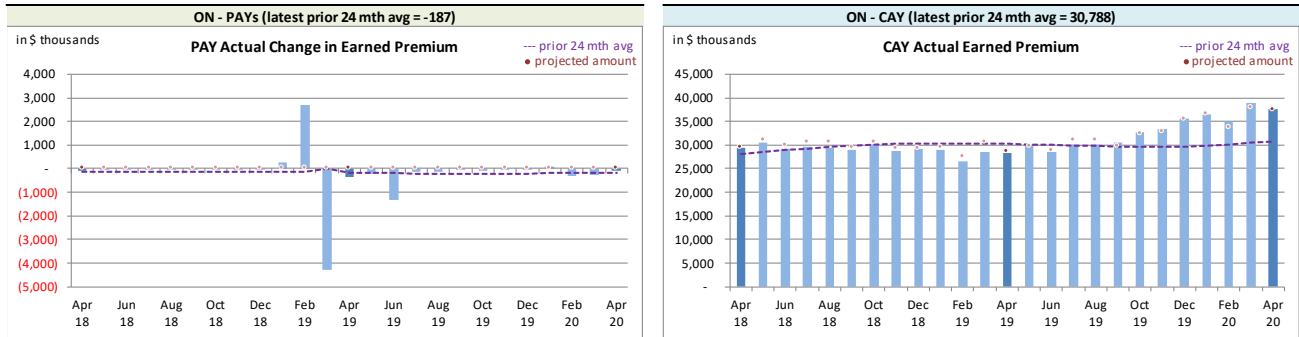
Claims transaction activity is generally volatile and changes from one month to the next are anticipated due to this natural “process variance” (i.e. random variation). Each month, the projection variances are reviewed for signs of projection bias and to identify potential ways to reduce the level of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

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

The following charts 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.

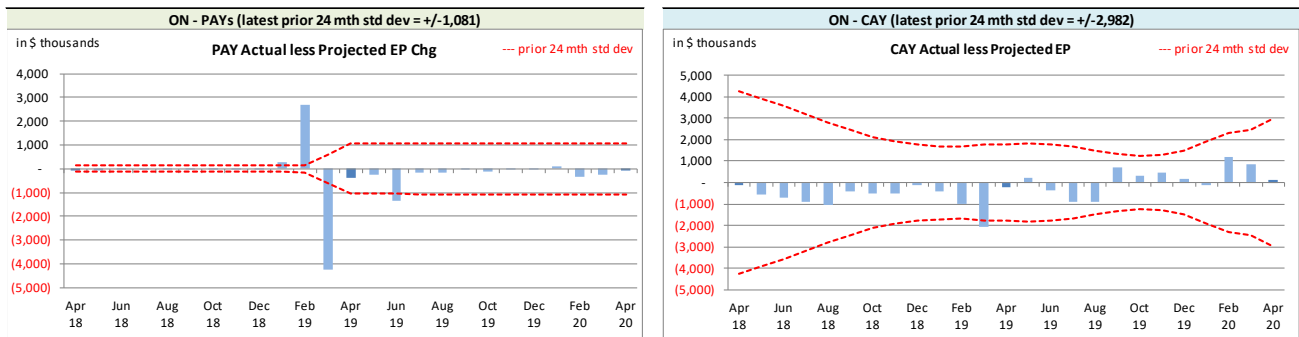
<sup>4</sup>There may be rounding differences in values in this document compared with the associated Bulletin and/or Operational Report.

<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		
<b>Earned Premium</b>	PAYS	CAY
Mthly Avg EP Chg (prior 24 mths)	(187)	30,788
std dev	1,081	2,982
A-P <> std dev	4	1
% <> std dev	16.0%	4.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	better

We project **earned premium** changes from known unearned premium balances 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. With the March 2020 projections we adjusted our written premium projection process and how we project earned premium from written premium projections with a goal of narrowing monthly variances and addressing the bias issue. Readers will also note the significant fluctuations in the CAY standard deviation band, reflecting significant volume

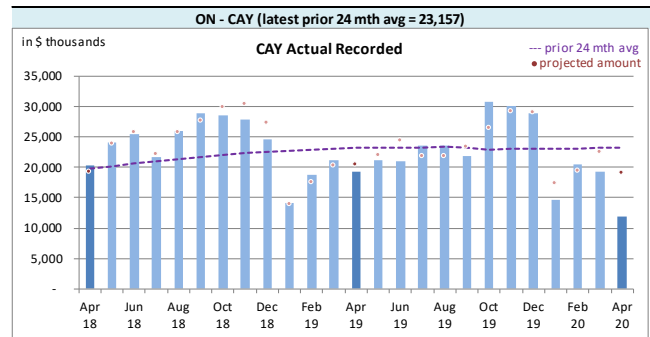
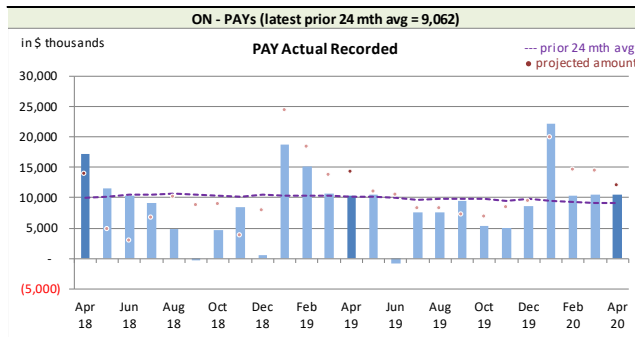
<sup>6</sup>The PAYS' variances will show bias as the projection upload forces all earned premium projections to be attributed to the CAY.

changes and the impact as those changes were earned.

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

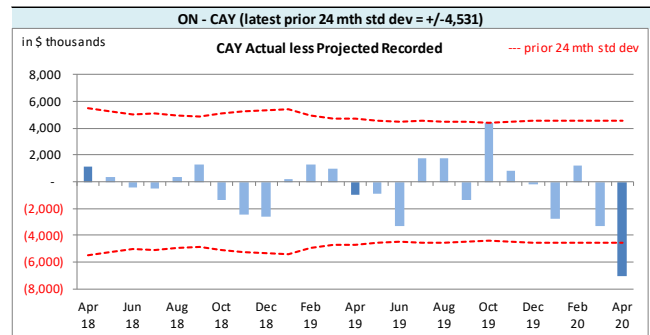
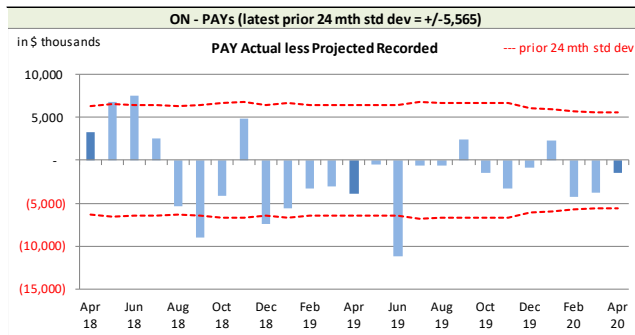
The following charts below show actual **recorded** activity (**paid** and **case reserve** changes), in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

*Ontario RSP Actual Recorded by Calendar Month*



**Recorded** activity variances from the previous month’s projections are shown in the following charts, 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)	9,062	23,157
std dev	5,565	4,531
A-P <> std dev	5	1
% <> std dev	20.0%	4.0%
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<sup>7</sup> has been indicated at a 95% confidence level on a rolling 25-month basis (7 of 25 variances were positive), and 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, but so far without success).

<sup>7</sup> For the binomial distribution with 25 trials and an assumed 50% success probability, the 95% confidence range is 8 to 17 successes. That is, favourable or unfavourable counts of 0 to 7 or 18 to 25 out of 25 outcomes would suggest bias.



The current accident year (CAY) **recorded** variances (right chart above) fell outside of one standard deviation 4% of the time over the last 25 calendar months suggesting that the projection process has performed better than simply projecting the prior 24-month average amount. Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (12 of 25 variances were positive).

The CAY **recorded** variance was outside of the one standard deviation band this month (see preceding chart on the right). The significant lower than projected recorded activity was reviewed, and attributed to a reduction in written premium and physical damage claims experience in the month; this is consistent with discussion with FA’s Appointed Actuary in relation to the COVID-19 pandemic impact. An adjustment has been made to projected CAY recorded claims activity for the next two projection months (May-June 2020).

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 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:

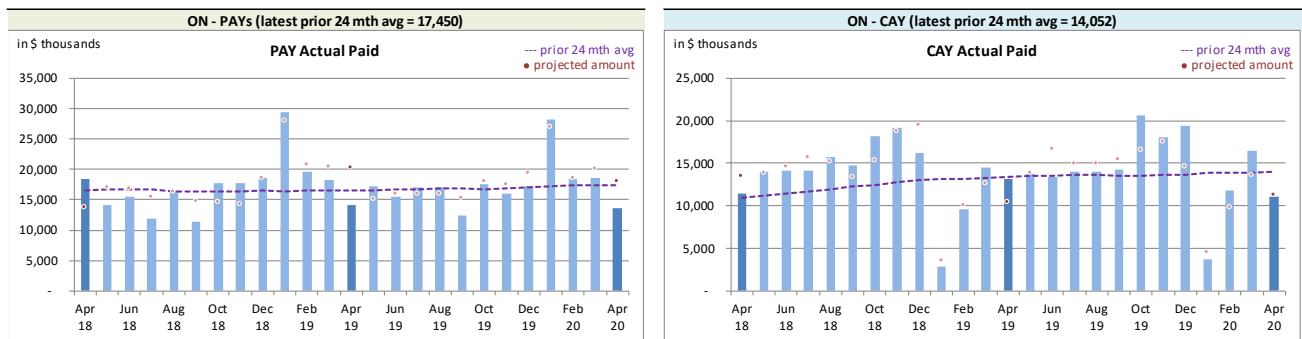
<sup>8</sup>Our recorded activity projections for the prior accident years are based on selected ratios of recorded activity to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date IBNR to year-to-date selected ultimate (i.e. selected LR 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.

- 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).

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

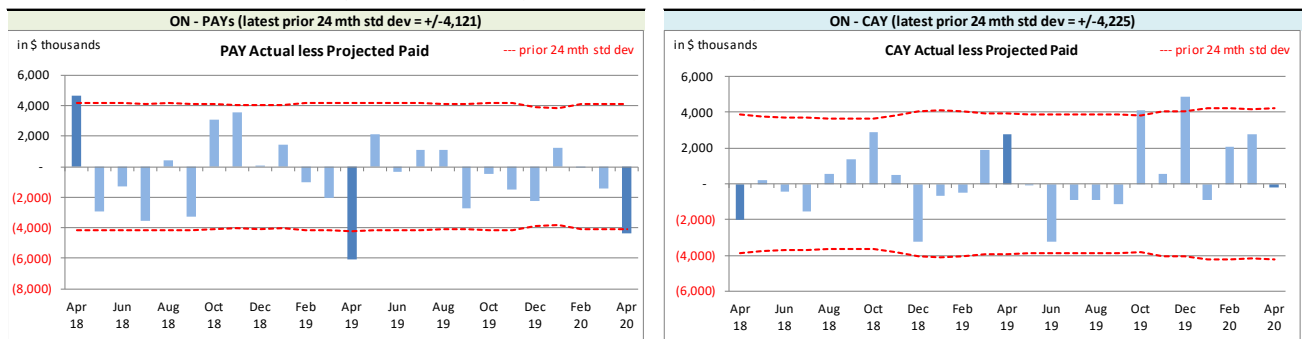
The following charts show actual **paid** activity in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

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		
	PAYs	CAY
<b>Paid</b>		
Mthly Avg Paid (prior 24 mths)	17,450	14,052
std dev	4,121	4,225
A-P <> std dev	3	2
% <> std dev	12.0%	8.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	better

With respect to **paid** indemnity & allowed claims expense, 12% 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).

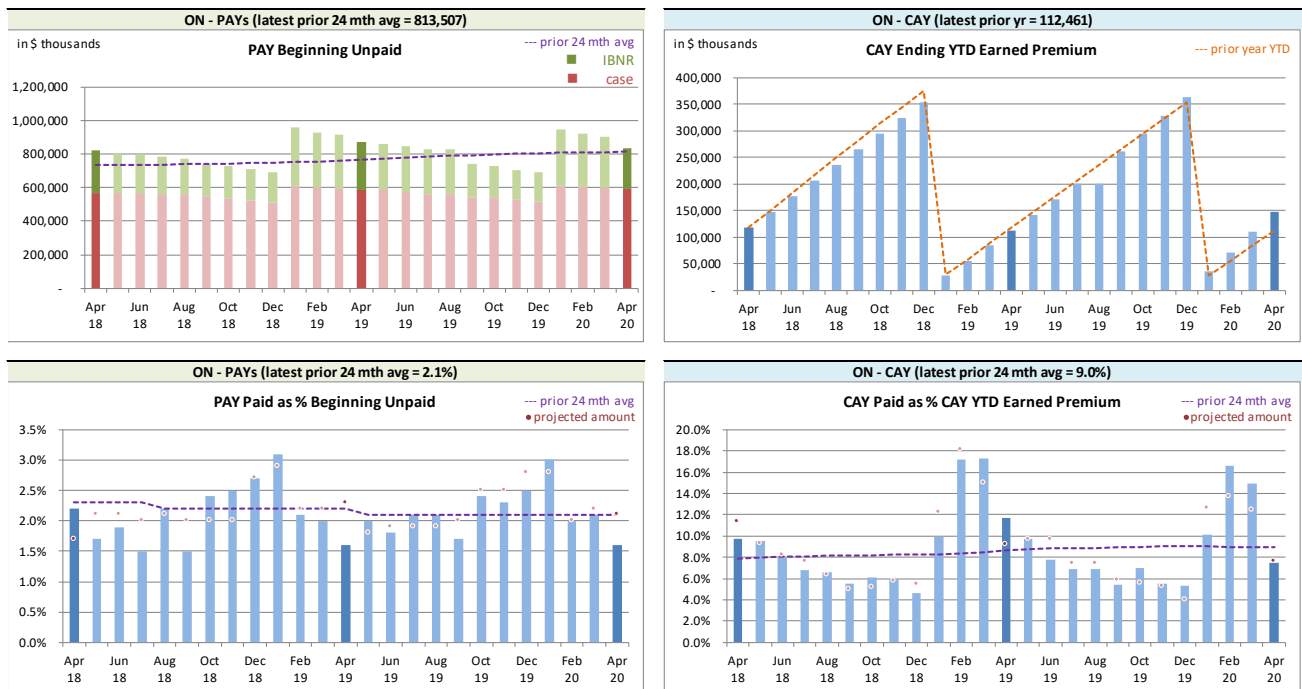
The PAY **paid** variance was outside of the one standard deviation band this month (see preceding chart on the right). The activity was reviewed and confirmed, and attributed to process variance.

The current accident year (CAY) **paid** variances fell outside of one standard deviation 8% of the time over the last 25 calendar months (right chart 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).

As discussed with respect to CAY recorded claims activity in relation to the COVID-19 pandemic impact, an adjustment has been made to projected CAY paid claims activity for the next two projection months (May-June 2020).

We have included, for reference, the following charts 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

<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.

- 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.

The following table 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	53,979	(1,514)	(18,385)	(221)	53,200	516	88,794	(1,219)
2018	64,766	1,012	(6,924)	6	30,119	(24)	87,961	994
2019	117,374	1,924	(9,984)	1	42,724	(7)	150,114	1,918
2020	110,193	7,202	(6,273)	(15)	24,212	59	128,132	7,246
TOTAL	346,312	8,624	(41,566)	(229)	150,255	544	455,001	8,939

The IBNR provision is \$8.6 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 following table 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

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

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:	44,460	(692)	26,207	(419)	70,667	(1,111)
balance as % unearned premium:	20.0%	0.1%	11.8%	(0.1%)	31.7%	-
actual unearned premium:	222,828					
less projected:	(3,580)					

### 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 following table 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 119.9% rather than 119.5% (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	(45,396)	(30.9%)	(14,201)	(9.7%)	(59,597)	(40.5%)	(1,694)	12.3%
CAY	176,484	119.9%	17,939	12.2%	194,423	132.1%	49,356	(0.1%)
TOTAL	131,088	89.1%	3,738	2.5%	134,826	91.6%	47,661	12.2%

(“% EP” based on 2020 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 Mar. 2020	Actual Apr. 2020	Projected May. 2020	Projected Jun. 2020	Projected Dec. 2020
	prior	1,798	1,744	1,700	1,661	1,412
	2001	48	48	48	47	40
	2002	70	70	66	64	54
	2003	15	15	14	13	11
	2004	108	108	104	101	85
	2005	135	135	130	125	106
	2006	424	423	406	391	336
	2007	434	431	415	399	342
	2008	835	828	796	765	657
	2009	2,469	2,405	2,309	2,217	1,901
	2010	2,183	2,164	2,079	1,996	1,712
	2011	725	708	683	660	566
	2012	1,579	2,829	2,722	2,620	2,244
	2013	906	1,889	1,826	1,767	1,511
	2014	6,503	6,423	6,201	5,991	5,126
discount rate	2015	5,403	4,398	4,281	4,176	3,558
1.58%	2016	14,479	13,400	12,936	12,480	10,093
	2017	55,317	50,776	49,041	47,371	37,696
interest rate margin	2018	91,295	87,961	84,952	82,032	65,967
25 basis pts	2019	154,294	150,114	144,862	139,309	115,968
	2020	90,748	128,132	159,374	189,216	245,388
	<b>TOTAL</b>	<b>429,768</b>	<b>455,001</b>	<b>474,945</b>	<b>493,401</b>	<b>494,773</b>
	Change		25,233	19,944	18,456	

*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 Mar. 2020	Actual Apr. 2020	Projected May. 2020	Projected Jun. 2020	Projected Dec. 2020
	-	prior	(62)	(111)	(107)	(102)	(91)
	125.8%	2001	9	9	9	9	8
	117.9%	2002	63	63	60	58	48
	90.4%	2003	14	14	13	12	10
	77.6%	2004	61	61	59	57	47
	73.5%	2005	129	129	124	119	102
	100.3%	2006	365	365	350	336	289
	99.9%	2007	388	386	371	356	306
	120.5%	2008	813	807	775	744	639
	155.4%	2009	2,435	2,371	2,276	2,185	1,875
	151.9%	2010	2,141	2,123	2,038	1,956	1,679
	86.2%	2011	522	506	486	467	402
	84.6%	2012	1,182	2,412	2,316	2,223	1,906
	93.7%	2013	(10)	983	944	906	777
	99.5%	2014	4,020	3,987	3,828	3,675	3,153
	109.1%	2015	1,079	187	180	173	147
	117.4%	2016	6,348	5,414	5,197	4,989	4,025
	107.7%	2017	38,483	34,273	32,902	31,586	24,456
	117.1%	2018	67,679	64,766	62,175	59,688	46,215
	116.5%	2019	121,017	117,374	112,679	107,608	87,249
	119.5%	2020	77,347	110,193	136,782	162,199	201,255
		<b>TOTAL</b>	<b>324,023</b>	<b>346,312</b>	<b>363,457</b>	<b>379,244</b>	<b>374,497</b>
		Change		22,289	17,145	15,787	

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



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

TABLE EXHIBIT C

	Amounts in \$000s				
	Actual	Actual	Projected	Projected	Projected
	Mar. 2020	Apr. 2020	May. 2020	Jun. 2020	Dec. 2020
Premium Liabilities					
(1) unearned premium (UP)	230,942	222,828	221,922	220,610	212,273
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	131.6%	131.7%	131.9%	132.1%	134.2%
(3) expected future costs {(1) x (2)}	303,885	293,495	292,680	291,402	284,832
(4) premium deficiency / (deferred policy acquisition cost)	72,943	70,667	70,758	70,792	72,559
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	119.8%	120.0%	120.1%	120.3%	122.2%
(6) expected future costs {(1) x (5)}	276,751	267,288	266,544	265,383	259,398
(7) premium deficiency / (deferred policy acquisition cost)	45,809	44,460	44,622	44,773	47,125

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)						
Acc Yr	Case	IBNR	Total Unpaid	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL	
prior	23,255	(91)	23,164	(858)	123	2,324	(86)	2,238	1,503	24,667	
2001	528	8	536	(23)	3	54	(2)	52	32	568	
2002	53	48	101	(5)	1	10	-	10	6	107	
2003	7	10	17	(1)	-	2	-	2	1	18	
2004	830	47	877	(53)	8	88	(5)	83	38	915	
2005	38	102	140	(10)	1	14	(1)	13	4	144	
2006	1,501	289	1,790	(138)	20	179	(14)	165	47	1,837	
2007	1,465	306	1,771	(149)	23	177	(15)	162	36	1,807	
2008	609	639	1,248	(112)	16	125	(11)	114	18	1,266	
2009	2,536	1,875	4,411	(437)	66	441	(44)	397	26	4,437	
2010	3,783	1,679	5,462	(535)	76	546	(54)	492	33	5,495	
2011	6,375	402	6,777	(535)	75	678	(54)	624	164	6,941	
2012	8,340	1,906	10,246	(717)	102	1,025	(72)	953	338	10,584	
2013	16,239	777	17,016	(1,004)	136	1,702	(100)	1,602	734	17,750	
2014	34,011	3,153	37,164	(1,821)	260	3,716	(182)	3,534	1,973	39,137	
2015	52,981	147	53,128	(2,019)	319	5,313	(202)	5,111	3,411	56,539	
2016	62,112	4,025	66,137	(2,249)	331	8,267	(281)	7,986	6,068	72,205	
2017	90,933	24,456	115,389	(4,039)	577	17,308	(606)	16,702	13,240	128,629	
2018	101,189	46,215	147,404	(5,896)	884	25,796	(1,032)	24,764	19,752	167,156	
2019	103,131	87,249	190,380	(8,757)	1,333	37,886	(1,743)	36,143	28,719	219,099	
PAYs (sub-total):	509,916	173,242	683,158	(29,358)	4,354	105,651	(4,504)	101,147	76,143	759,301	
CAY (2020)	127,109	201,255	328,364	(15,433)	2,299	60,091	(2,824)	57,267	44,133	372,497	
claims liabilities:	637,025	374,497	1,011,522	(44,791)	6,653	165,742	(7,328)	158,414	120,276	1,131,798	
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*	
premium liabilities:	212,273	47,125	259,398	(9,323)	1,554	34,443	(1,240)	33,203	25,434	284,832	
*Total may not be sum of parts, as apvs apply to future costs within UPR											
policy liabilities:			1,270,920	(54,114)	8,207	200,185	(8,568)	191,617	145,710	1,416,630	

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, 2020 from the valuation), followed by the selected discount rate and the associated margin for investment income.

Selected Claims Development MfADs (Dec. 31, 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%	9.8%	10.0%
2015	10.0%	10.0%	9.8%	10.0%
2016	12.5%	12.5%	12.0%	12.5%
2017	15.0%	15.0%	15.0%	15.0%
2018	17.5%	17.5%	16.7%	17.5%
2019	19.9%	20.0%	15.4%	19.9%
2020	18.0%	20.0%	6.1%	18.3%
prem liab	12.5%	20.0%	5.3%	13.3%

discount rate: 1.58%  
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, 2020 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 (1.58%), the prior valuation assumption (1.41%) and the prior fiscal year end valuation assumption (1.41%) 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, 2020 projected Unpaid							
	0.58%	1.08%	1.58%	2.08%	2.58%	3.08%	1.41%	1.41%
2002 & prior	26,630	26,304	25,988	25,679	25,375	25,075	26,095	26,095
2003	73	71	70	69	68	67	71	71
2004	1,137	1,114	1,093	1,072	1,052	1,032	1,100	1,100
2005	243	238	233	228	223	218	234	234
2006	2,183	2,128	2,075	2,024	1,975	1,928	2,093	2,093
2007	2,259	2,197	2,137	2,081	2,026	1,973	2,157	2,157
2009	4,950	4,788	4,634	4,489	4,350	4,217	4,686	4,686
2010	5,519	5,340	5,170	5,009	4,856	4,709	5,227	5,227
2011	7,010	6,827	6,654	6,490	6,335	6,187	6,712	6,712
2012	10,690	10,444	10,211	9,992	9,782	9,583	10,289	10,289
2013	15,025	14,732	14,456	14,194	13,943	13,703	14,547	14,547
2014	29,391	28,915	28,467	28,037	27,630	27,237	28,618	28,618
2015	46,446	45,879	45,332	44,811	44,313	43,831	45,514	45,514
2016	70,070	69,286	68,539	67,819	67,120	66,439	68,787	68,787
2017	131,071	129,556	128,125	126,722	125,370	124,051	128,599	128,599
2018	172,375	170,135	167,989	165,908	163,900	161,937	168,708	168,708
2019	224,772	221,397	218,162	215,022	211,991	209,026	219,259	219,259
2020	374,006	368,287	362,807	357,496	352,369	347,362	364,663	364,663
<b>Total</b>	<b>1,125,452</b>	<b>1,109,193</b>	<b>1,093,652</b>	<b>1,078,608</b>	<b>1,064,103</b>	<b>1,049,960</b>	<b>1,098,884</b>	<b>1,098,884</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							
	0.58%	1.08%	1.58%	2.08%	2.58%	3.08%	1.41%	1.41%
<b>Total</b>	<b>31,800</b>	<b>15,541</b>	<b>-</b>	<b>(15,044)</b>	<b>(29,549)</b>	<b>(43,692)</b>	<b>5,232</b>	<b>5,232</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							
	0.58%	1.08%	1.58%	2.08%	2.58%	3.08%	1.41%	1.41%
2002 & prior	2.5%	1.2%	-	(1.2%)	(2.4%)	(3.5%)	0.4%	0.4%
2003	4.3%	1.4%	-	(1.4%)	(2.9%)	(4.3%)	1.4%	1.4%
2004	4.0%	1.9%	-	(1.9%)	(3.8%)	(5.6%)	0.6%	0.6%
2005	4.3%	2.1%	-	(2.1%)	(4.3%)	(6.4%)	0.4%	0.4%
2006	5.2%	2.6%	-	(2.5%)	(4.8%)	(7.1%)	0.9%	0.9%
2007	5.7%	2.8%	-	(2.6%)	(5.2%)	(7.7%)	0.9%	0.9%
2009	6.8%	3.3%	-	(3.1%)	(6.1%)	(9.0%)	1.1%	1.1%
2010	6.8%	3.3%	-	(3.1%)	(6.1%)	(8.9%)	1.1%	1.1%
2011	5.4%	2.6%	-	(2.5%)	(4.8%)	(7.0%)	0.9%	0.9%
2012	4.7%	2.3%	-	(2.1%)	(4.2%)	(6.2%)	0.8%	0.8%
2013	3.9%	1.9%	-	(1.8%)	(3.5%)	(5.2%)	0.6%	0.6%
2014	3.2%	1.6%	-	(1.5%)	(2.9%)	(4.3%)	0.5%	0.5%
2015	2.5%	1.2%	-	(1.1%)	(2.2%)	(3.3%)	0.4%	0.4%
2016	2.2%	1.1%	-	(1.1%)	(2.1%)	(3.1%)	0.4%	0.4%
2017	2.3%	1.1%	-	(1.1%)	(2.2%)	(3.2%)	0.4%	0.4%
2018	2.6%	1.3%	-	(1.2%)	(2.4%)	(3.6%)	0.4%	0.4%
2019	3.0%	1.5%	-	(1.4%)	(2.8%)	(4.2%)	0.5%	0.5%
2020	3.1%	1.5%	-	(1.5%)	(2.9%)	(4.3%)	0.5%	0.5%
<b>Total</b>	<b>2.9%</b>	<b>1.4%</b>	<b>-</b>	<b>(1.4%)</b>	<b>(2.7%)</b>	<b>(4.0%)</b>	<b>0.5%</b>	<b>0.5%</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

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	1,798	(40)	(14)	-	(54)	(3.0%)	1,744
2001	48	-	-	-	-	-	48
2002	70	(2)	2	-	-	-	70
2003	15	-	-	-	-	-	15
2004	108	(1)	1	-	-	-	108
2005	135	(2)	2	-	-	-	135
2006	424	(9)	8	-	(1)	(0.2%)	423
2007	434	(9)	6	-	(3)	(0.7%)	431
2008	835	(16)	9	-	(7)	(0.8%)	828
2009	2,469	(46)	(18)	-	(64)	(2.6%)	2,405
2010	2,183	(42)	23	-	(19)	(0.9%)	2,164
2011	725	(14)	(3)	-	(17)	(2.3%)	708
2012	1,579	(32)	1,282	-	1,250	79.2%	2,829
2013	906	(22)	1,005	-	983	108.5%	1,889
2014	6,503	(135)	55	-	(80)	(1.2%)	6,423
2015	5,403	(126)	(879)	-	(1,005)	(18.6%)	4,398
2016	14,479	(594)	(485)	-	(1,079)	(7.5%)	13,400
2017	55,317	(2,328)	(2,213)	-	(4,541)	(8.2%)	50,776
2018	91,295	(4,328)	994	-	(3,334)	(3.7%)	87,961
2019	154,294	(6,098)	1,918	-	(4,180)	(2.7%)	150,114
2020	90,748	30,138	7,246	-	37,384	41.2%	128,132
<b>Grand Total</b>	<b>429,768</b>	<b>16,294</b>	<b>8,939</b>	<b>-</b>	<b>25,233</b>	<b>5.9%</b>	<b>455,001</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 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	(62)	3	(52)	-	(49)	79.0%	(111)	
2001	9	-	-	-	-	-	9	
2002	63	(1)	1	-	-	-	63	
2003	14	-	-	-	-	-	14	
2004	61	(1)	1	-	-	-	61	
2005	129	(2)	2	-	-	-	129	
2006	365	(7)	7	-	-	-	365	
2007	388	(7)	5	-	(2)	(0.5%)	386	
2008	813	(15)	9	-	(6)	(0.7%)	807	
2009	2,435	(46)	(18)	-	(64)	(2.6%)	2,371	
2010	2,141	(41)	23	-	(18)	(0.8%)	2,123	
2011	522	(10)	(6)	-	(16)	(3.1%)	506	
2012	1,182	(22)	1,252	-	1,230	104.1%	2,412	
2013	(10)	-	993	-	993	(9,930.0%)	983	
2014	4,020	(76)	43	-	(33)	(0.8%)	3,987	
2015	1,079	(21)	(871)	-	(892)	(82.7%)	187	
2016	6,348	(317)	(617)	-	(934)	(14.7%)	5,414	
2017	38,483	(1,924)	(2,286)	-	(4,210)	(10.9%)	34,273	
2018	67,679	(3,925)	1,012	-	(2,913)	(4.3%)	64,766	
2019	121,017	(5,567)	1,924	-	(3,643)	(3.0%)	117,374	
2020	77,347	25,644	7,202	-	32,846	42.5%	110,193	
<b>Grand Total</b>	<b>324,023</b>	<b>13,665</b>	<b>8,624</b>	<b>-</b>	<b>22,289</b>	<b>6.9%</b>	<b>346,312</b>	