



# **NEW BRUNSWICK RISK SHARING POOL**

## **APRIL 2020 OPERATIONAL REPORT**

# **ACTUARIAL HIGHLIGHTS**

Related Bulletin: [F2020-034 New Brunswick RSP April 2020 Operational Report](#)

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**ACTUARIAL HIGHLIGHTS**

**RSP NEW BRUNSWICK**

**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 table below summarizes the valuation implementations scheduled for fiscal year 2020.

<b>NEW BRUNSWICK 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)	1.43% mfad 25 bp	Oct. 2019	updated valuation (roll forward) : accident year 2019 loss ratio <u>increased</u> 0.6 points to 74.2%; discount rate <u>increased</u> 2 basis points; no change to selected margins for adverse deviations
Dec. 31, 2019	1.62% mfad 25 bp	Mar. 2020	update valuation: 2019 loss ratio <u>increased</u> 3.5 points to 77.7%; accident year 2020 loss ratio <u>increased</u> 2.4 points to 75.4 %; discount rate <u>increased</u> 19 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.

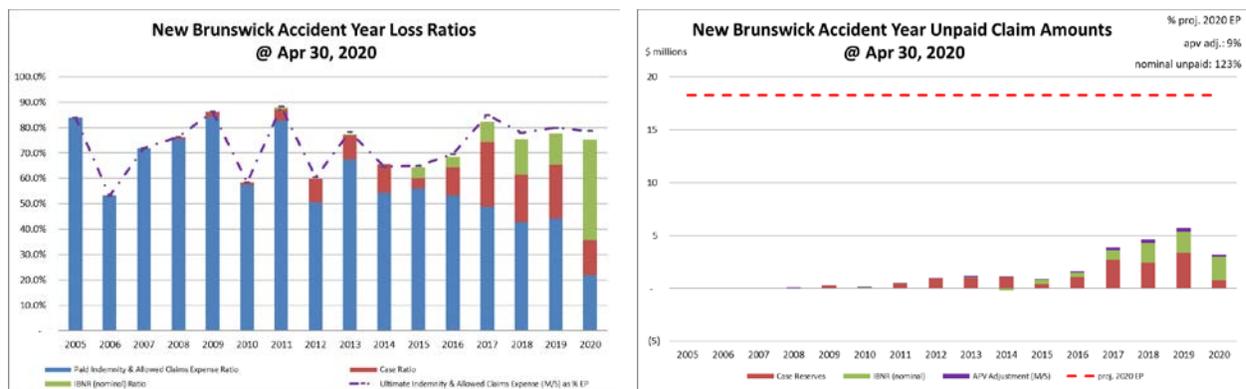
### 1.3 Consideration of Recent Legal Decisions and Changes in Legislation / Regulation<sup>1</sup>

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. At the current time, there are no specific recent (i.e. within the last five years) decisions or changes for inclusion here.

### 1.4 Current Provision Summary

The following charts show the current levels of claim liabilities<sup>2</sup> booked by accident 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 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 balance (\$1.6 million – see the following table) represents 9% of the earned premium projected for the full year 2020 (see the upper right corner of

<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>.

<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.

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	14,651	61.0%
ibnr	7,768	32.3%
M/S apv adjust.	1,613	6.7%
M/S total	24,032	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 55% of the IBNR balance relates to accident years 2019 and 2020 (see Exhibit B). Approximately 79% 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 2% 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.

premium liabilities (\$000s)

	amt	%
unearned prem	8,099	121.1%
prem def/(dpac)	(1,765)	(26.4%)
M/S apv adjust.	352	5.3%
M/S total	6,686	100.0%

policy liabilities (\$000s)

	amt	%
claim	22,419	73.0%
premium	6,334	20.6%
M/S apv adjust.	1,965	6.4%
M/S total	30,718	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>3</sup>.

*New Brunswick 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	-	-	201	19	18	134	219	153
2018	(3)	(3)	17	(26)	86	82	103	56
2019	(12)	(12)	67	(95)	82	222	148	126
2020	1,398	(55)	216	(229)	(89)	(340)	127	(569)
TOTAL	1,384	(70)	500	(332)	97	98	597	(234)

(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), and this is particularly true where volumes are low as found in this RSP. 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

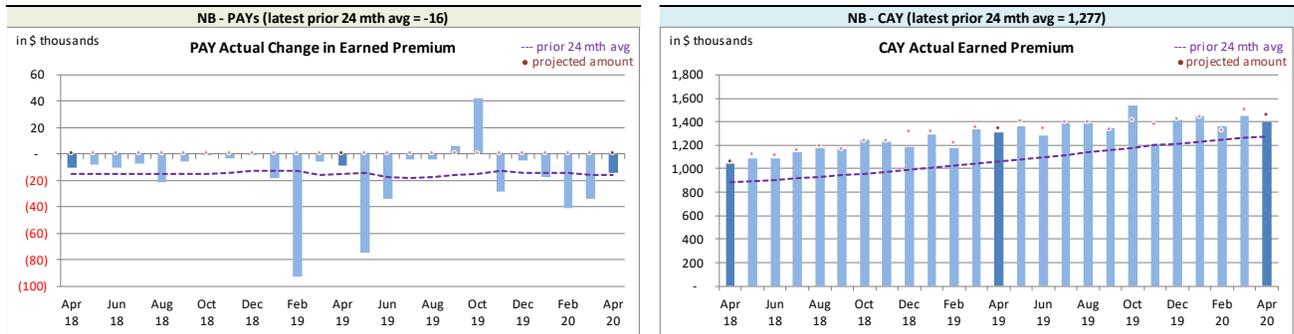
<sup>3</sup>There may be rounding differences in values in this document compared with the associated Bulletin and/or Operational Report.

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>4</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.

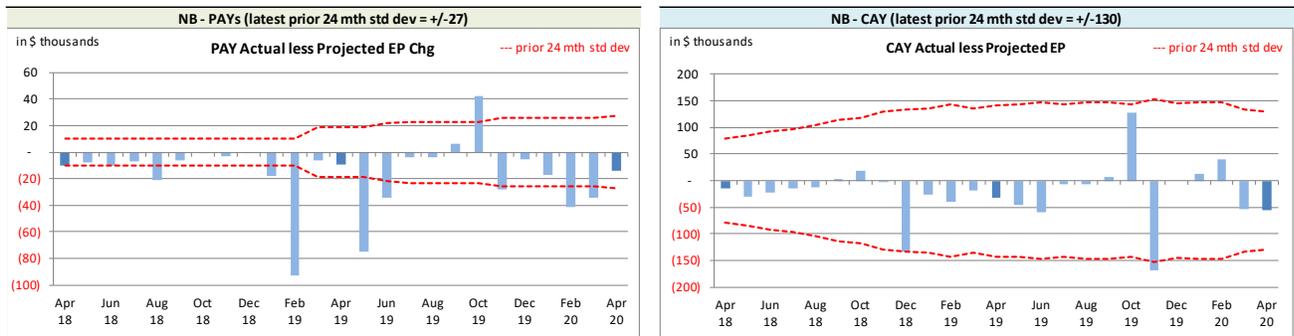
New Brunswick RSP Actual **Earned Premium** by Calendar Month



**Earned premium** changes during a given calendar month in relation to prior accident years tend to be at modest levels, 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 following charts. **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.

New Brunswick RSP Actual vs. Projected Summary: **Earned Premium** Variances by Calendar Month



<sup>4</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.

On Latest \$ thousands		
Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(16)	1,277
std dev	27	130
A-P <> std dev	9	1
% <> std dev	36.0%	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 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>5</sup>, with actuals generally lower than our projections, although the magnitude is not high relative to monthly premium. In addition to the PAYs' bias,

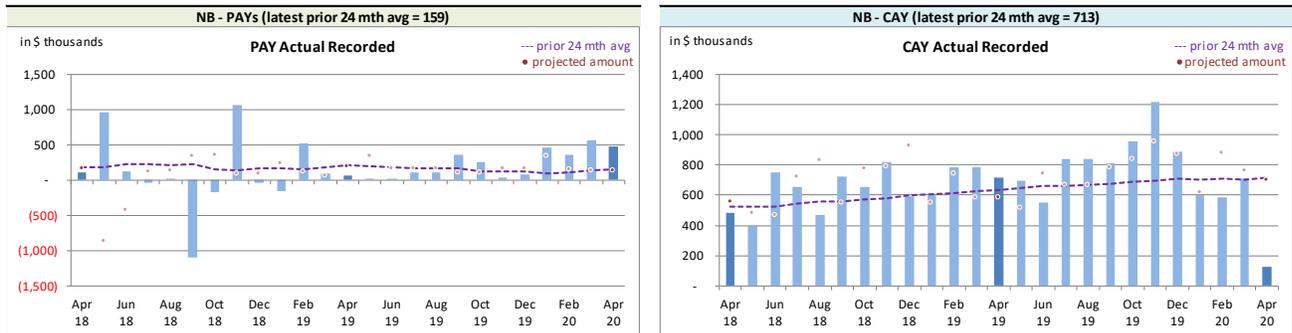
the CAY has also shown bias<sup>6</sup>, with actuals being generally lower than projected. With the March 2020 projections we adjusted our written premium projection process and how we project earned premium from written premium projections with a goal of narrowing monthly variances and addressing the bias issue.

Readers will note the widening of the CAY standard deviation band, reflecting the recent and sustained volume increases and the impact as those increases are earned.

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

The following charts 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.

*New Brunswick RSP Actual Recorded by Calendar Month*

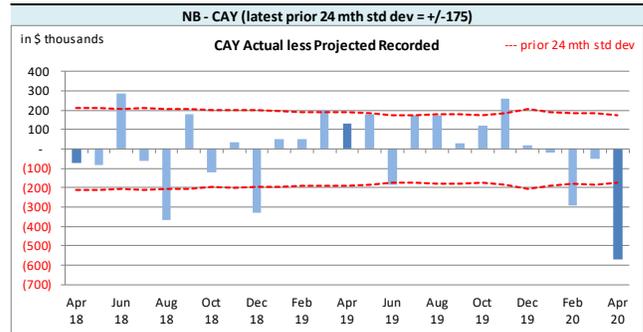
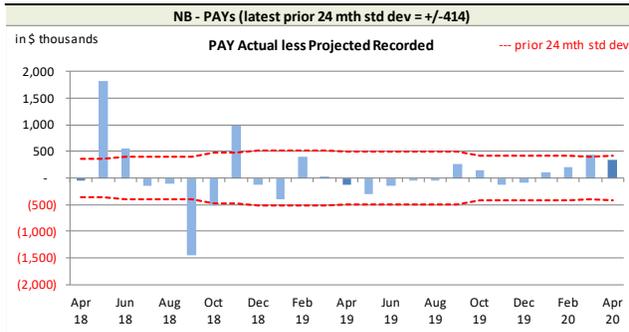


**Recorded** activity variances from the previous month’s projections are shown in the following charts, including the “prior 24-month standard deviation” levels to show how the variances from projection compare with historical standard deviations.

<sup>5</sup>The PAYs’ variances will show bias as the projection upload forces all earned premium projections to be attributed to the CAY.

<sup>6</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 April 2020 has only 6 months where the actual was higher than projected, and as the 95% confidence range is 8 to 17, bias continues to be indicated.

New Brunswick RSP Actual vs Projected Summary: **Recorded** Variances by Calendar Month



On Latest \$ thousands		
	Recorded	PAYs
Mthly Avg Recorded (prior 24 mths)	159	713
std dev	414	175
A-P <> std dev	6	8
% <> std dev	24.0%	32.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	no better

With respect to **recorded** indemnity & allowed claims expense activity, caution must be exercised in reviewing the variances as this is a small pool and single claim transactions that are normal course for the business may look unusual and generate relatively significant variances that in nominal value terms are not that significant in relative or overall terms. That said, 24% of the prior accident

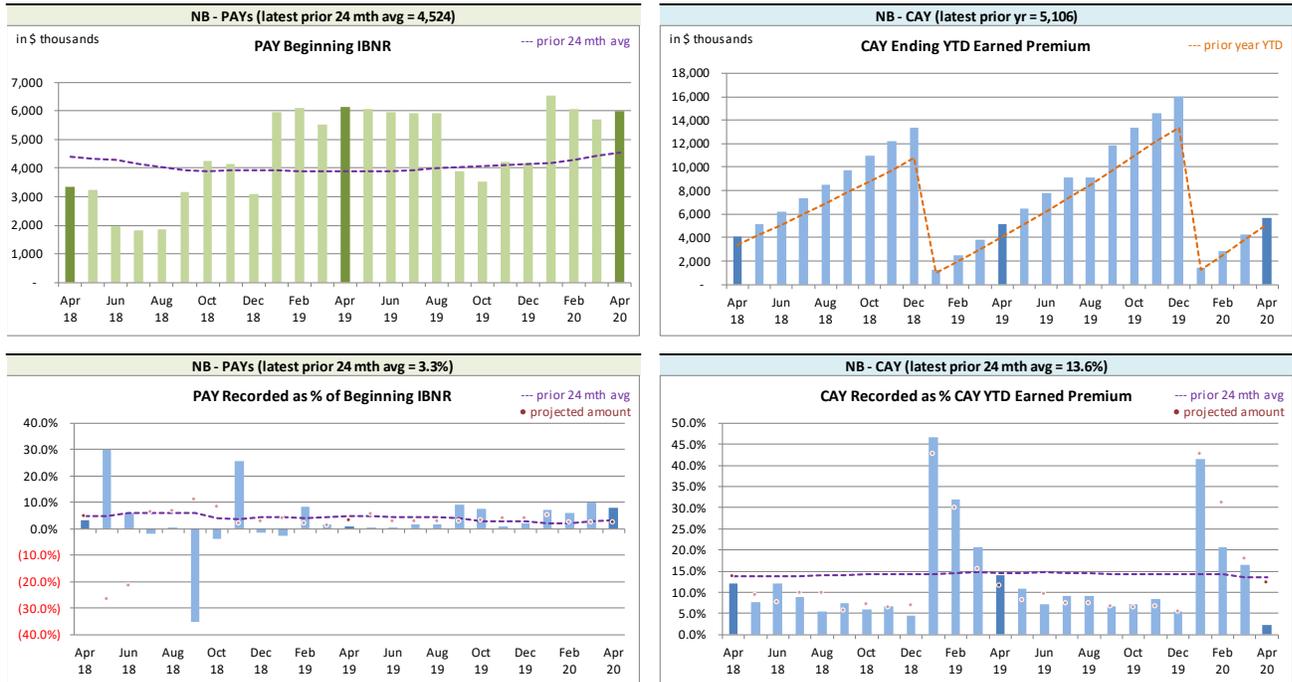
years' (PAYs) **recorded** variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **recorded** amounts (see table above and to the left), suggesting the projection process has performed better than simply projecting the prior 24-month average amount (assuming it follows a normal distribution). Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (11 of 25 variances are positive).

The current accident year (CAY) **recorded** variances fell outside of one standard deviation 32% of the time over the last 25 calendar months (see table above), suggesting the projection process has performed no 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 (14 of 25 variances are 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, the following charts related to levels influencing **recorded** activity. Note in particular the increase in the level of PAY beginning IBNR over the months. Part of this will be 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).

*New Brunswick RSP Levels that influence<sup>7</sup> Recorded activity by Calendar Month*


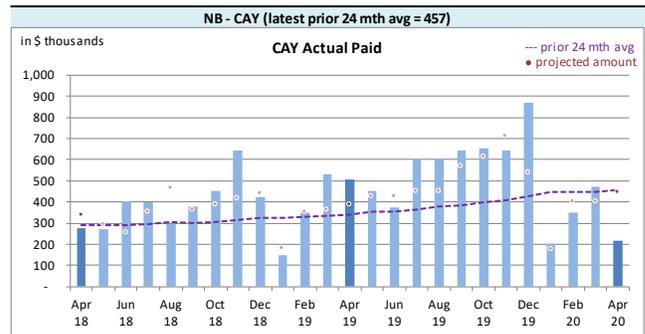
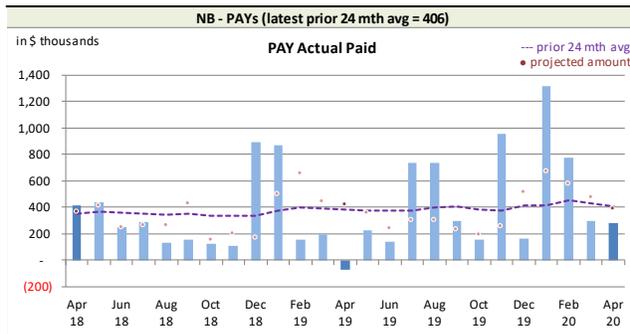
We track PAY beginning IBNR as **recorded** activity comes out of IBNR. Changes in the PAY beginning IBNR (see upper left chart above) occur for several possible reasons:

- 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).

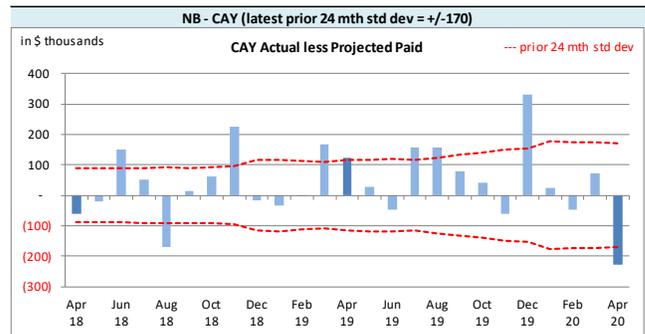
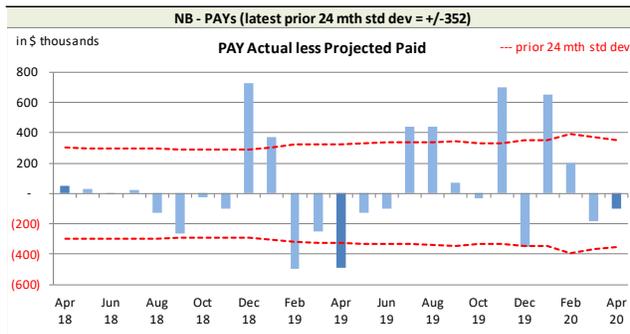
### 2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

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.

<sup>7</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.

*New Brunswick RSP Actual **Paid** activity by Calendar Month*


**Paid** 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.

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


On Latest \$ thousands		
	<b>Paid</b>	CAY
Mthly Avg Paid (prior 24 mths)	406	457
std dev	352	170
A-P <> std dev	9	9
% <> std dev	36.0%	36.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	no better	no better

With respect to **paid** indemnity & allowed claims expense, caution must be exercised in reviewing the variances as this is a small pool, and single claim transactions that are normal course for the business may look unusual and generate relatively significant variances that in nominal value terms are not that significant in relative or overall terms. That said, 36% 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 above), suggesting the projection process has performed no better than simply projecting the prior 24-month average amount (assuming a normal distribution). Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (11 of 25 variances are positive).

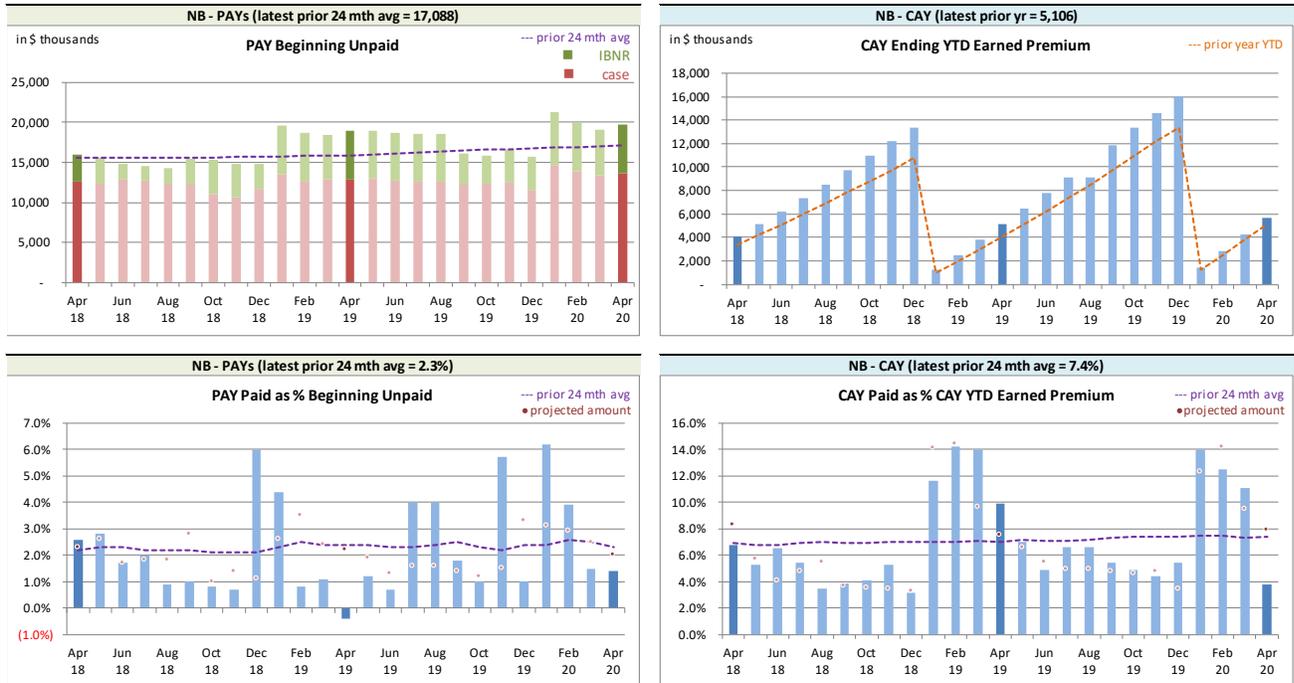
The current accident year (CAY) **paid** variances fell outside of one standard deviation 36% of the time over the last 25 calendar months (see table above), suggesting that the projection process has performed no better than simply projecting the prior 24-month average amount. Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (15 of 25 variances are positive).

The CAY **paid** variance was outside of the one standard deviation band this month (see preceding chart on the right). The activity was reviewed, and as discussed with respect to CAY recorded claims activity attributed 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.

*New Brunswick RSP Levels that influence<sup>8</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) was used to determine the month's IBNR<sup>9</sup>, and factors were 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 current

<sup>8</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>9</sup>For ease of discussion, "IBNR" is used in place of "provisions for incurred but not recorded (IBNR) and development".

month’s provisions and projections 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.

*New Brunswick 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	1,664	(152)	(334)	-	1,069	(2)	2,399	(154)
2018	1,866	(58)	(202)	(1)	527	3	2,191	(56)
2019	1,992	(136)	(288)	(4)	654	10	2,358	(130)
2020	2,246	527	(169)	(10)	356	22	2,433	539
<b>TOTAL</b>	<b>7,768</b>	<b>181</b>	<b>(993)</b>	<b>(15)</b>	<b>2,606</b>	<b>33</b>	<b>9,381</b>	<b>199</b>

The IBNR provision is \$0.2 million higher than projected from last month, counterbalancing the recorded claims activity and adjusting for the earned premium variance impacts indicated in section 2.1.

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

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

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

The 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 deferred policy acquisition cost asset position (shown as a negative amount) prior to and after actuarial present value adjustments. Actuarial present value adjustments decrease the asset 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.

*New Brunswick 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:	(1,765)	141	352	(30)	(1,413)	111
balance as % unearned premium:	(21.8%)	-	4.3%	-	(17.4%)	-
actual unearned premium:	8,099					
less projected:	(660)					

### 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>10</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>11</sup>, including IBNR.

In calculating the amounts as percentages of earned premium, the calendar year-to-date earned premium has been used, which includes not only the 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 76.8% rather than 75.4% (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 New Brunswick RSP Summary of Operations due to rounding.)

<sup>10</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>11</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.

*New Brunswick 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	824	14.8%	(135)	(2.4%)	689	12.4%	(30)	(4.8%)
CAY	4,267	76.8%	187	3.4%	4,454	80.2%	1,106	(0.1%)
TOTAL	5,091	91.7%	52	0.9%	5,143	92.6%	1,076	(4.9%)

(“% 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 detailed in section 6, Exhibit B, refer to the estimates derived on the basis of various actuarial methodologies applied to the experience of the New Brunswick Risk Sharing Pool for the purposes of the most recent quarterly valuation. As discussed in section 3, IBNR reflected 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
	2005	(2)	(2)	(2)	(2)	(2)
	2006	-	-	-	-	-
	2007	(4)	(4)	(4)	(4)	(4)
	2008	11	11	11	11	10
	2009	18	18	17	17	15
	2010	16	15	15	15	14
	2011	91	116	114	111	102
	2012	64	63	61	60	55
	2013	146	142	139	136	125
	2014	93	(95)	(96)	(91)	(84)
discount rate	2015	486	482	472	459	426
1.62%	2016	521	512	499	488	382
	2017	1,191	1,141	1,112	1,103	965
interest rate margin	2018	2,296	2,191	2,132	2,060	1,807
25 basis pts	2019	2,521	2,358	2,326	2,285	1,937
	2020	1,454	2,433	3,097	3,746	3,248
	<b>TOTAL</b>	<b>8,902</b>	<b>9,381</b>	<b>9,893</b>	<b>10,394</b>	<b>8,996</b>
	Change		479	512	501	

*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
	84.0%	2005	(2)	(2)	(2)	(2)	(2)
	53.2%	2006	-	-	-	-	-
	72.0%	2007	(4)	(4)	(4)	(4)	(4)
	76.3%	2008	4	4	4	4	4
	86.1%	2009	(4)	(4)	(4)	(4)	(4)
	58.3%	2010	8	8	8	8	8
	87.9%	2011	51	76	75	73	66
	59.7%	2012	(5)	(6)	(6)	(6)	(6)
	77.6%	2013	63	60	59	57	51
	63.8%	2014	17	(164)	(161)	(156)	(145)
	64.3%	2015	429	425	418	406	374
	68.5%	2016	424	417	404	395	297
	82.3%	2017	901	854	828	820	711
	75.5%	2018	1,971	1,866	1,810	1,741	1,517
	77.7%	2019	2,150	1,992	1,972	1,937	1,651
	75.4%	2020	1,319	2,246	2,863	3,465	2,771
		<b>TOTAL</b>	<b>7,322</b>	<b>7,768</b>	<b>8,264</b>	<b>8,734</b>	<b>7,289</b>
		Change		446	496	470	

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

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

TABLE EXHIBIT C

Premium Liabilities	Amounts in \$000s				
	Actual	Actual	Projected	Projected	Projected
	Mar. 2020	Apr. 2020	May. 2020	Jun. 2020	Dec. 2020
(1) unearned premium (UP)	8,150	8,099	8,805	9,554	11,352
<b>FOR MEMBER SHARING</b>					
(2) expected future costs ratio {% of (1)}	82.5%	82.6%	82.8%	83.0%	84.7%
(3) expected future costs {(1) x (2)}	6,722	6,686	7,288	7,928	9,612
(4) premium deficiency / (deferred policy acquisition cost)	(1,428)	(1,413)	(1,517)	(1,626)	(1,740)
<b>Excluding Actuarial Present Value Adjustments</b>					
(5) expected future costs ratio {% of (1)}	78.1%	78.2%	78.4%	78.6%	80.2%
(6) expected future costs {(1) x (5)}	6,365	6,334	6,903	7,509	9,103
(7) premium deficiency / (deferred policy acquisition cost)	(1,785)	(1,765)	(1,902)	(2,045)	(2,249)

EXHIBIT D

Projected Year-end Policy Liabilities

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

New Brunswick ending 2020		Projected Balances as at Dec. 31, 2020 (\$000s)								
Acc Yr	nominal values			actuarial present value adjustments (apvs)					TOTAL	
	Case	IBNR	Total Unpaid	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD		Total apvs
2005	-	(2)	(2)	-	-	-	-	-	-	(2)
2006	-	-	-	-	-	-	-	-	-	-
2007	-	(4)	(4)	-	-	-	-	-	-	(4)
2008	68	4	72	(1)	-	7	-	7	6	78
2009	227	(4)	223	(4)	1	22	-	22	19	242
2010	73	8	81	(2)	-	8	-	8	6	87
2011	395	66	461	(11)	2	46	(1)	45	36	497
2012	828	(6)	822	(22)	3	82	(2)	80	61	883
2013	899	51	950	(23)	4	95	(2)	93	74	1,024
2014	954	(145)	809	(21)	3	81	(2)	79	61	870
2015	362	374	736	(24)	4	74	(2)	72	52	788
2016	1,057	297	1,354	(53)	8	135	(5)	130	85	1,439
2017	2,445	711	3,156	(136)	19	388	(17)	371	254	3,410
2018	2,335	1,517	3,852	(181)	27	466	(22)	444	290	4,142
2019	2,532	1,651	4,183	(226)	33	506	(27)	479	286	4,469
PAYs (sub-total):	12,175	4,518	16,693	(704)	104	1,910	(80)	1,830	1,230	17,923
CAY (2020)	4,989	2,771	7,760	(435)	70	892	(50)	842	477	8,237
claims liabilities:	17,164	7,289	24,453	(1,139)	174	2,802	(130)	2,672	1,707	26,160
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	11,352	(2,249)	9,103	(317)	44	811	(29)	782	509	9,612
policy liabilities:			33,556	(1,456)	218	3,613	(159)	3,454	2,216	35,772

\*Total may not be sum of parts, as apvs apply to future costs within UPR

**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
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%	10.0%	10.0%
2015	10.0%	10.0%	10.0%	10.0%
2016	10.0%	10.0%	8.1%	10.0%
2017	12.5%	10.0%	11.5%	12.3%
2018	12.5%	10.0%	12.5%	12.1%
2019	12.5%	10.0%	9.4%	12.1%
2020	12.3%	10.0%	5.6%	11.5%
<u>prem liab</u>	11.7%	10.0%	5.1%	9.2%

discount rate: 1.62%  
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 (1.62%), the prior valuation assumption (1.43%) and the prior fiscal year end valuation assumption (1.43%) for comparative purposes. A 25 basis point margin for investment return adverse deviation is used in all scenarios presented.

\$ Format: \$000s

Actuarial Present Value of Provisions at Various Discount Rates - Dec. 31, 2020 projected Unpaid								
AY	0.62%	1.12%	1.62%	2.12%	2.62%	3.12%	1.43%	1.43%
2006	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-
2008	51	51	51	50	50	50	51	51
2009	186	185	184	183	182	182	185	185
2010	62	62	61	61	60	60	61	61
2011	328	326	323	321	318	316	324	324
2012	494	490	486	482	478	474	487	487
2013	924	917	911	904	898	891	913	913
2014	959	952	944	936	929	922	947	947
2015	1,064	1,054	1,043	1,033	1,022	1,012	1,047	1,047
2016	1,329	1,313	1,297	1,282	1,267	1,252	1,303	1,303
2017	3,418	3,371	3,326	3,282	3,239	3,197	3,343	3,343
2018	4,064	4,004	3,945	3,888	3,833	3,778	3,967	3,967
2019	5,532	5,438	5,347	5,259	5,174	5,090	5,381	5,381
2020	7,501	7,369	7,241	7,118	6,999	6,883	7,290	7,290
<b>Total</b>	<b>25,912</b>	<b>25,532</b>	<b>25,159</b>	<b>24,799</b>	<b>24,449</b>	<b>24,107</b>	<b>25,299</b>	<b>25,299</b>
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

Dollar Impact Relative to Valuation Assumption								
AY	0.62%	1.12%	1.62%	2.12%	2.62%	3.12%	1.43%	1.43%
Total	753	373	-	(360)	(710)	(1,052)	140	140
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

Percentage Impact Relative to Valuation Assumption								
AY	0.62%	1.12%	1.62%	2.12%	2.62%	3.12%	1.43%	1.43%
2006	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-
2008	-	-	-	(2.0%)	(2.0%)	(2.0%)	-	-
2009	1.1%	0.5%	-	(0.5%)	(1.1%)	(1.1%)	0.5%	0.5%
2010	1.6%	1.6%	-	-	(1.6%)	(1.6%)	-	-
2011	1.5%	0.9%	-	(0.6%)	(1.5%)	(2.2%)	0.3%	0.3%
2012	1.6%	0.8%	-	(0.8%)	(1.6%)	(2.5%)	0.2%	0.2%
2013	1.4%	0.7%	-	(0.8%)	(1.4%)	(2.2%)	0.2%	0.2%
2014	1.6%	0.8%	-	(0.8%)	(1.6%)	(2.3%)	0.3%	0.3%
2015	2.0%	1.1%	-	(1.0%)	(2.0%)	(3.0%)	0.4%	0.4%
2016	2.5%	1.2%	-	(1.2%)	(2.3%)	(3.5%)	0.5%	0.5%
2017	2.8%	1.4%	-	(1.3%)	(2.6%)	(3.9%)	0.5%	0.5%
2018	3.0%	1.5%	-	(1.4%)	(2.8%)	(4.2%)	0.6%	0.6%
2019	3.5%	1.7%	-	(1.6%)	(3.2%)	(4.8%)	0.6%	0.6%
2020	3.6%	1.8%	-	(1.7%)	(3.3%)	(4.9%)	0.7%	0.7%
<b>Total</b>	<b>3.0%</b>	<b>1.5%</b>	<b>-</b>	<b>(1.4%)</b>	<b>(2.8%)</b>	<b>(4.2%)</b>	<b>0.6%</b>	<b>0.6%</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 **New Brunswick**  
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			
2005	(2)	-	-	-	-	-	(2)
2006	-	-	-	-	-	-	-
2007	(4)	-	-	-	-	-	(4)
2008	11	-	-	-	-	-	11
2009	18	(1)	1	-	-	-	18
2010	16	(1)	-	-	(1)	(6.3%)	15
2011	91	(2)	27	-	25	27.5%	116
2012	64	(1)	-	-	(1)	(1.6%)	63
2013	146	(5)	1	-	(4)	(2.7%)	142
2014	93	(3)	(185)	-	(188)	(202.2%)	(95)
2015	486	(22)	18	-	(4)	(0.8%)	482
2016	521	(4)	(5)	-	(9)	(1.7%)	512
2017	1,191	(39)	(11)	-	(50)	(4.2%)	1,141
2018	2,296	(49)	(56)	-	(105)	(4.6%)	2,191
2019	2,521	(33)	(130)	-	(163)	(6.5%)	2,358
2020	1,454	440	539	-	979	67.3%	2,433
<b>Grand Total</b>	<b>8,902</b>	<b>280</b>	<b>199</b>	<b>-</b>	<b>479</b>	<b>5.4%</b>	<b>9,381</b>

EXHIBIT G

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

RSP		New Brunswick						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		
2005	(2)	-	-	-	-	-	(2)	
2006	-	-	-	-	-	-	-	
2007	(4)	-	-	-	-	-	(4)	
2008	4	-	-	-	-	-	4	
2009	(4)	-	-	-	-	-	(4)	
2010	8	-	-	-	-	-	8	
2011	51	(2)	27	-	25	49.0%	76	
2012	(5)	-	(1)	-	(1)	20.0%	(6)	
2013	63	(3)	-	-	(3)	(4.8%)	60	
2014	17	(1)	(180)	-	(181)	(1,064.7%)	(164)	
2015	429	(20)	16	-	(4)	(0.9%)	425	
2016	424	(4)	(3)	-	(7)	(1.7%)	417	
2017	901	(36)	(11)	-	(47)	(5.2%)	854	
2018	1,971	(47)	(58)	-	(105)	(5.3%)	1,866	
2019	2,150	(22)	(136)	-	(158)	(7.3%)	1,992	
2020	1,319	400	527	-	927	70.3%	2,246	
<b>Grand Total</b>	<b>7,322</b>	<b>265</b>	<b>181</b>	<b>-</b>	<b>446</b>	<b>6.1%</b>	<b>7,768</b>	