



NEW BRUNSWICK RISK SHARING POOL

MARCH 2020 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

Related Bulletin: [F2020-029 New Brunswick RSP March 2020 Operational Report](#)

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

Should you require any further information, please call Aidan Chen, AVP Data & Analytics at (416) 863-1750 x 4804.

ACTUARIAL HIGHLIGHTS**RSP NEW BRUNSWICK****OPERATIONAL REPORT****MARCH 2020**

TABLE OF CONTENTS

1	Summary	2
1.1	Valuation Schedule (Fiscal Year 2020)	2
1.2	New Valuation.....	3
1.3	Appointed Actuary and Hybrid Actuarial Services Model	5
1.4	Consideration of Recent Legal Decisions and Changes in Legislation / Regulation	5
1.5	Harmonized Sales Tax	Error! Bookmark not defined.
1.6	Current Provision Summary	5
2	Activity During the Month of March 2020	6
2.1	Recorded Premium and Claims Activity	6
2.1.a	Actual vs. Projected (AvsP): Earned Premium	7
2.1.b	AvsP: Recorded Indemnity & Allowed Claims Expense.....	8
2.1.c	AvsP: Paid Indemnity & Allowed Claims Expense.....	10
2.2	Actuarial Provisions.....	12
3	Ultimate Loss Ratio Matching Method	14
4	Calendar Year-to-Date Results	14
5	Current Operational Report – Additional Exhibits	15
6	EXHIBITS	16

1 Summary

Key Points

- (a) The 2019 Q4 valuation was completed and implemented into the results this month, with a \$1.2 million unfavourable impact, or 4.2% of beginning policy liabilities (policy liabilities ended at \$30 million) and 28.3 points of year-to-date earned premium;
- (b) The updated valuation loss ratios 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
- (c) The month’s claims activities were generally aligned with projections from last month. Our projections do NOT take into account any specific impacts that might arise due to the COVID-19 pandemic (FA is still in the process of considering impacts, which will be reflected in future projections, as deemed appropriate).

1.1 Valuation Schedule (Fiscal Year 2020)

The March 2020 Operational Report incorporates the results of an updated valuation (as at December 31, 2019) – the impact of the implementation of the valuation is discussed in section 1.2. The table below summarizes the valuation implementations scheduled for fiscal year 2020.

NEW BRUNSWICK RISK SHARING POOL FISCAL YEAR 2020 – SCHEDULE OF VALUATIONS			
Valuation Date	Discount Rate (per annum)	Operational Report	Description of Changes
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 (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 New Valuation

A valuation of the New Brunswick Risk Sharing Pool (“RSP”) as at December 31, 2019 has been completed since last month’s Operational Report and the results of that valuation have been incorporated into this month’s Report. The valuation was completed by the Facility Association’s internal actuarial group in conjunction with, and approved by, the Appointed Actuary, under the hybrid model for actuarial services. Additional detail will be provided in an “Actuarial Highlights – Quarterly Valuation” report which we anticipate will be posted to the FA website in June 2020.

The valuation implementation impact is summarized in the tables below, where the abbreviations PAYs refers to prior accident years, CAY refers to the current accident year (2020), and Prem Def refers to premium deficiency / deferred acquisition costs impacts.

Summary of Impact (\$000s) of Implementing Result of Valuation as at Dec. 31, 2019¹

NB	unfav / (fav) for the month and ytd					
	IMPACT in \$000s from changes in:					
	ults & payout patterns			dsct rate	margins	
	Nominal	apv adj.	sub-tot	apv adj.	apv adj.	TOTAL
	[1]	[2]	[3]	[4]	[5]	[6]
PAYs	904	106	1,010	(108)	-	902
CAY	102	6	108	(14)	-	94
Prem Def	197	14	211	(26)	-	185
TOTAL	1,203	126	1,329	(148)	-	1,181

As indicated in the table above, the incorporation of the new valuation had an estimated **\$1.2 million unfavourable impact** on the month’s net result from operations, adding an estimated 28.3 points (see table below) to the **year-to-date Combined Operating Ratio** to end at **135.7%**.

Summary of Impact (% YTD EP) of Implementing Result of Valuation as at Dec. 31, 2019

NB	ytd EP 4,170 (actual)					
	IMPACT unfav / (fav) as % ytd EP from changes in:					
	ults & payout patterns			dsct rate	margins	
	Nominal	apv adj.	sub-tot	apv adj.	apv adj.	TOTAL
	[1]	[2]	[3]	[4]	[5]	[6]
PAYs	21.7%	2.5%	24.2%	(2.6%)	-	21.6%
CAY	2.4%	0.1%	2.6%	(0.3%)	-	2.3%
Prem Def	4.7%	0.3%	5.1%	(0.6%)	-	4.4%
TOTAL	28.8%	3.0%	31.9%	(3.5%)	-	28.3%

The impact of the **nominal changes** is shown in column [1] of the two preceding summary tables.

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

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

The change in the selected nominal ultimates was **unfavourable by \$1.2 million** overall. This reflects the impact attributable to the changes in the selected ultimate loss ratios (i.e. for each accident year, it is the product of life-to-date earned premium for the accident year and the change in the selected ultimate loss ratio).

The **PAYs** overall showed a **\$0.9 million unfavourable** nominal variance or 4.7% of the PAYs nominal unpaid balance of \$19.1 million determined at the end of last month (February 2020), driven by **unfavourable** claims development and updates to a priori loss ratios to include more recent data and updated trends. While the valuation implementation impact does differ from the valuation changes themselves (as they apply to different periods), the valuation result by government line provides insight into the relative PAYs nominal changes. As per below, the valuation changes were relatively minor at the accident year and coverage level.

Valuation as at Dec. 31, 2019 – PAYs Nominal Changes by Government Line

New Brunswick RSP - valuation changes in selected ultimate
(favourable) / unfavourable during Quarter

Accident Year	Third Party Liability	Accident Benefits	Other Coverages	Total
2014 & Prior	64	82	(4)	142
2015	(37)	(18)	(2)	(57)
2016	155	(50)	(5)	100
2017	36	(68)	8	(24)
2018	290	(102)	2	190
TOTAL	508	(156)	(1)	351

The CAY and premium deficiency impacts are a result of the change in the selected loss ratios for accident year **2020** (increased 2.4 points to **75.4%**) and accident year **2021** (decreased 2.6 points to 77.6 %).

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

Column [2] recognizes that changing the nominal selections also changed the unpaid estimates (including changes to the relative mix by government line, which has an impact on the weighted-average MfADs). It also reflects the fact that we updated the projected emergence of claims payments, resulting in a change in the projected cash flows. These changes generated an **unfavourable** change of \$0.1 million in the actuarial present value adjustments, prior to any changes in the selected discount rate and/or MfADs.

Updated projected cash flows were reviewed against the selected risk-free yield curve, derived from Government of Canada benchmark bond yields monthly series using values for December 2019. Column [4] accounts for the change in the **discount rate** selected (increased 19 basis point to **1.62%**), indicating a favourable impact of \$148 thousand. The impact *related only to claims liabilities* (i.e.

PAYs plus CAY) was \$122 thousand at March 2020 – this compares to the \$127 thousand change one would estimate as the impact by interpolation using the interest rate sensitivity table provided in last month’s Actuarial Highlights.

Column [5] accounts for any changes to selected MfADs. The selected **investment rate MfAD** was **left unchanged at 25 basis points** and the selected **claims development MfADs** at the coverage and accident year level were also left unchanged (as per our usual practice, development margins are reviewed with the June 30 valuation).

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

1.3 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.

1.4 Consideration of Recent Legal Decisions and Changes in Legislation / Regulation²

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

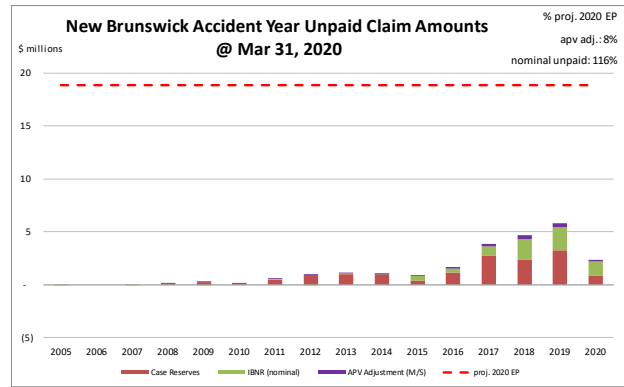
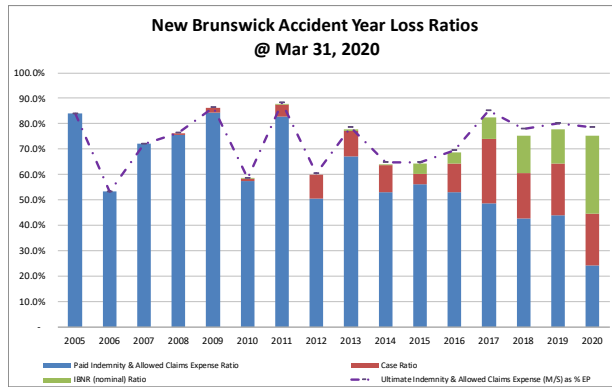
Consideration and assessment of potential impacts of legal decisions and changes in legislation / regulation constitutes a regular part of the valuation process. At the current time, there are no specific recent (i.e. within the last five years) decisions or changes for inclusion here.

1.5 Current Provision Summary

The charts at the top of the next page show the current levels of claim liabilities³ 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.

²This 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>.

³Claim 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.



“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 table below) represents 8% 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	14,554	62.0%
ibnr	7,322	31.2%
M/S apv adjust.	1,580	6.7%
M/S total	23,456	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 47% 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 2% is related to accident years 2010 and prior (i.e. prior to the most recent 10 accident years).

The tables below summarize the premium liabilities and the total policy liabilities.

premium liabilities (\$000s)

	amt	%
unearned prem	8,150	121.2%
prem def/(dpac)	(1,785)	(26.6%)
M/S apv adjust.	357	5.3%
M/S total	6,722	100.0%

policy liabilities (\$000s)

	amt	%
claim	21,876	72.5%
premium	6,365	21.1%
M/S apv adjust.	1,937	6.4%
M/S total	30,178	100.0%

2 Activity During the Month of March 2020

2.1 Recorded Premium and Claims Activity

The table at the top of the next page summarizes the extent to which premiums and claims amounts recorded during the month differ from projections reflected in the prior month’s Operational Report⁴.

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

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	(13)	(13)	115	(87)	195	347	310	260
2018	(4)	(4)	34	(91)	94	161	128	70
2019	(16)	(16)	145	(5)	(14)	119	131	114
2020	1,447	(54)	473	71	234	(123)	708	(53)
TOTAL	1,413	(88)	768	(112)	510	504	1,277	392

(Recorded transaction amounts exclude IBNR & other actuarial provisions)

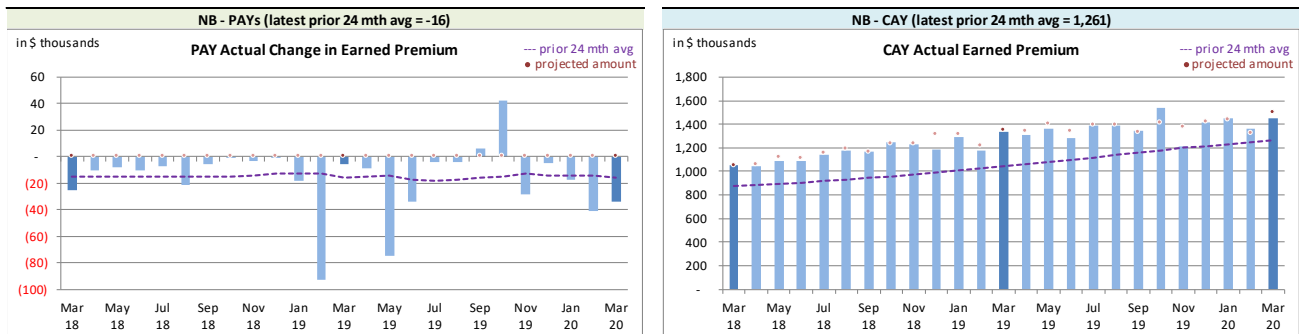
It is unusual to see actual earned premium transactions affecting prior accident years beyond the first prior at this time in the calendar year – we have identified that the prior accident years changes in the month reflects system sweep activity undertaken by a member in responding to audit findings.

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), 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 our review is provided in the sub-sections that follow.

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

The charts below show actual **earned premium**⁵ 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



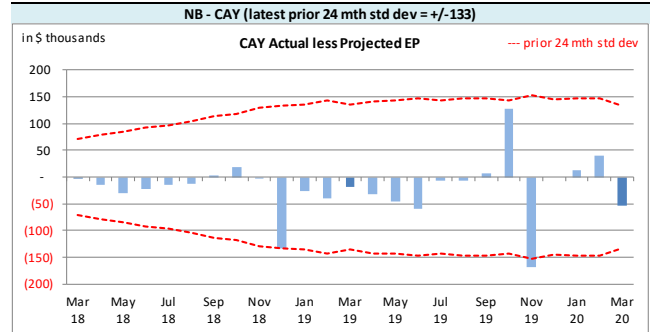
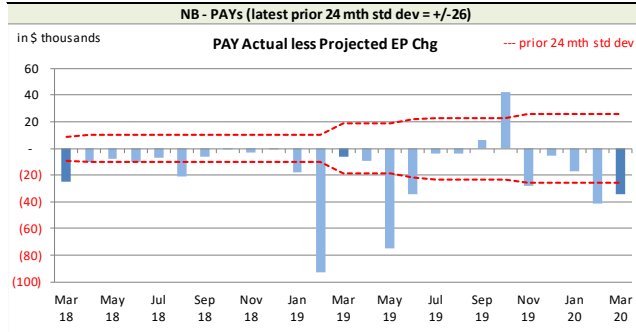
Earned premium changes during a given calendar month in relation to prior accident years tend to be at modest levels, although relatively high levels generally occur at the beginning of each year.

The associated variance between the actual changes and the projections from the previous month are shown in the charts at the top of the next page. **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

⁵Premium 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.

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



On Latest \$ thousands		
Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(16)	1,261
std dev	26	133
A-P <> std dev	10	1
% <> std dev	40.0%	4.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	worse	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) bias⁶, 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 bias⁷, with actuals being generally lower than projected, and we have modified our projections processes in response. Over time, we may consider other projection approaches to narrow monthly variance levels further, but it is not currently deemed a priority.

The PAY **earned premium** variance was outside of the one standard deviation band this month (see left chart above). The activity was reviewed and verified, and attributed to system sweep activity undertaken by a member in responding to audit findings.

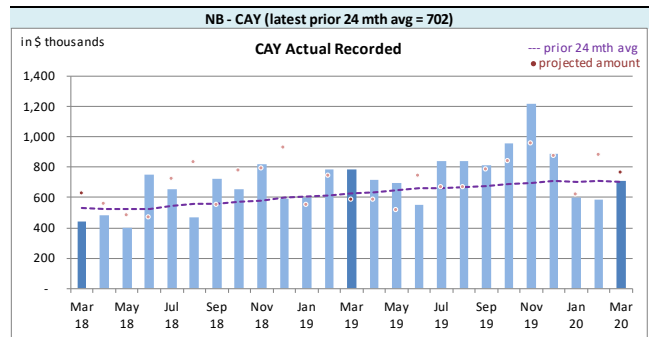
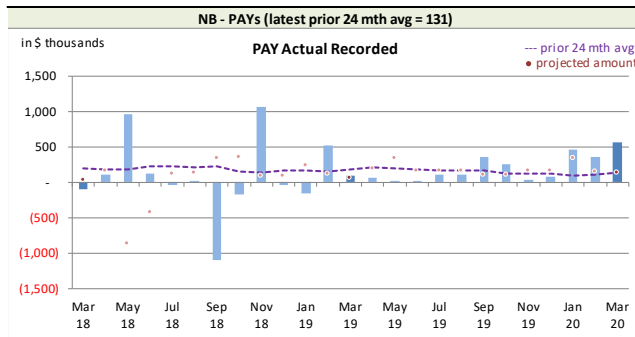
Readers will note the widening of the CAY standard deviation band, reflecting the recent and sustained volume increases and the impact as those increases are earned.

2.1.b AvsP: Recorded Indemnity & Allowed Claims Expense

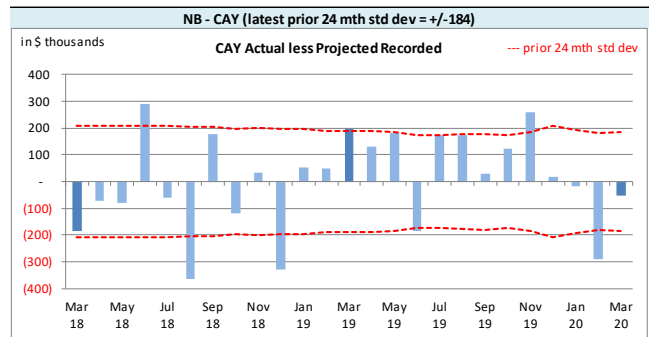
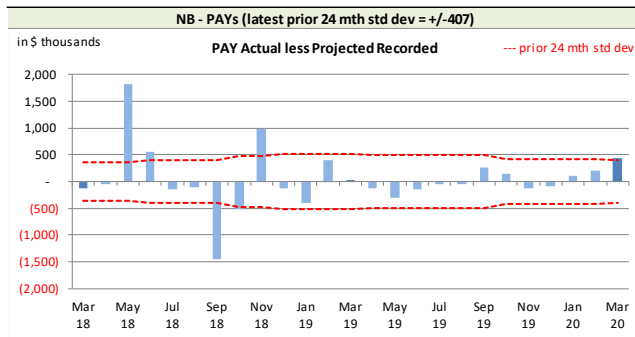
The charts at the top of the next page show actual **recorded** activity (**paid** and case reserve changes), in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

⁶The PAYs’ variances will show bias as the projection upload forces all earned premium projections to be attributed to the CAY.

⁷We 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 March 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 **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.

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


On Latest \$ thousands		
Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	131	702
std dev	407	184
A-P <> std dev	6	7
% <> std dev	24.0%	28.0%
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 (10 of 25 variances are positive).

The PAY **recorded** variance was slightly outside of the one standard deviation band this month (see left chart above). The activity was reviewed and verified, and attributed to a large reserve increase on one claim in litigation.

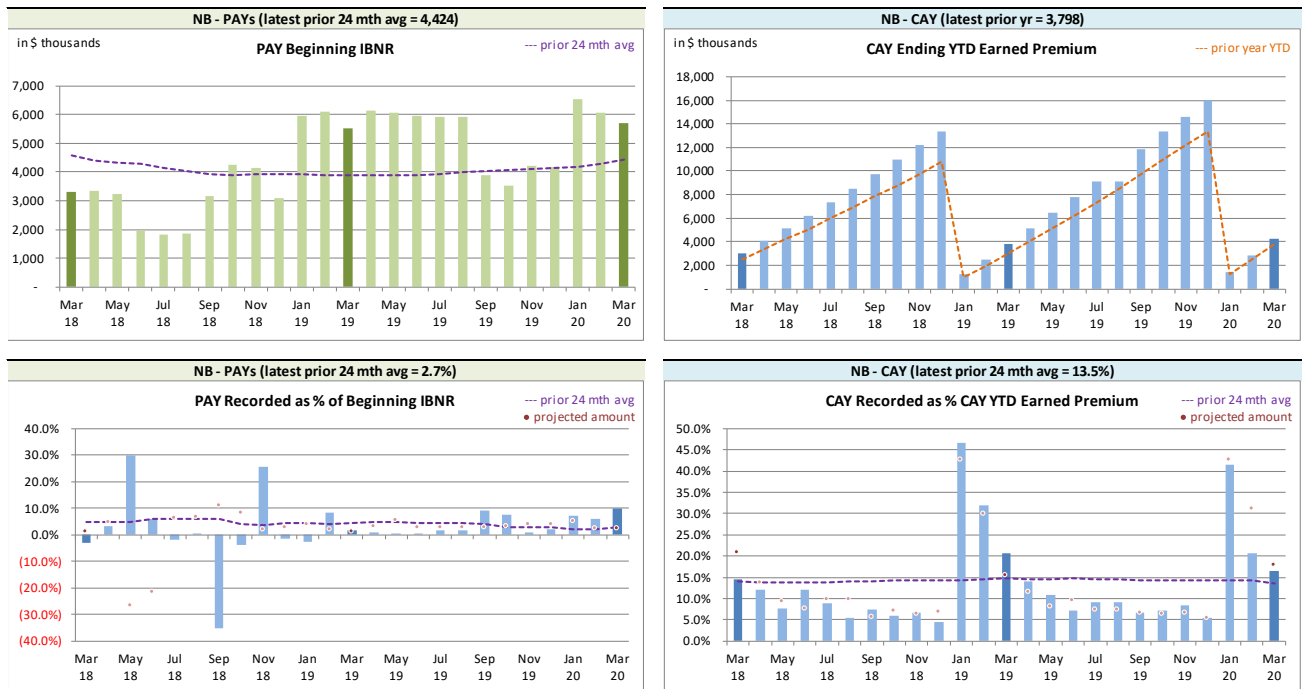
The current accident year (CAY) **recorded** variances fell outside of one standard deviation 28% of the time over the last 25 calendar months (see table above), suggesting the projection process has performed no better than simply projecting the prior 24-month average amount. Bias has not been

indicated at a 95% confidence level on a rolling 25-month basis (14 of 25 variances are positive).

The 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 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 influence⁸ 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).

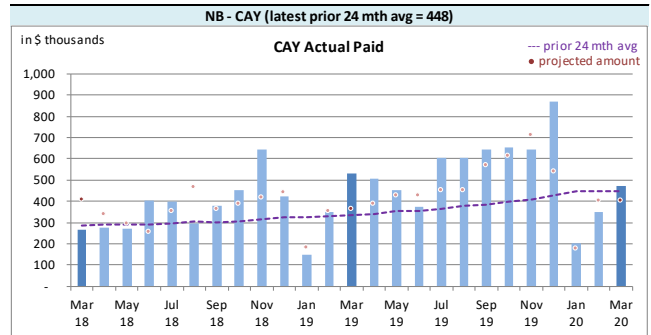
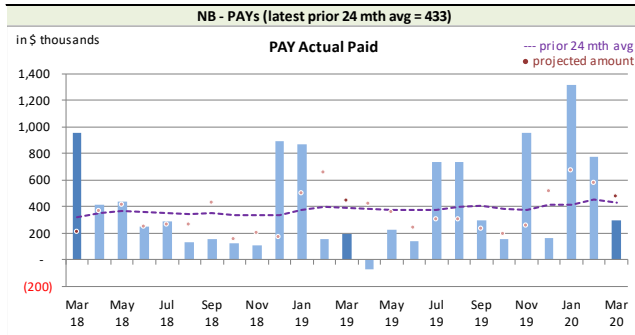
2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

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

⁸Our 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.

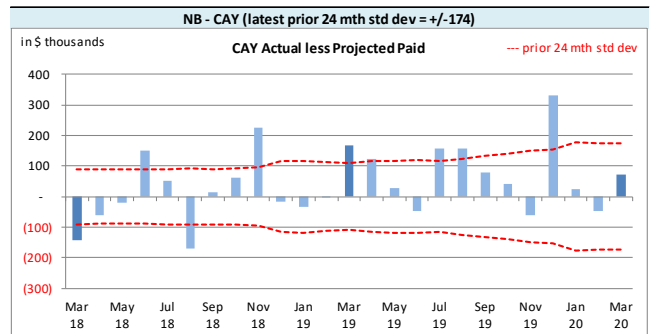
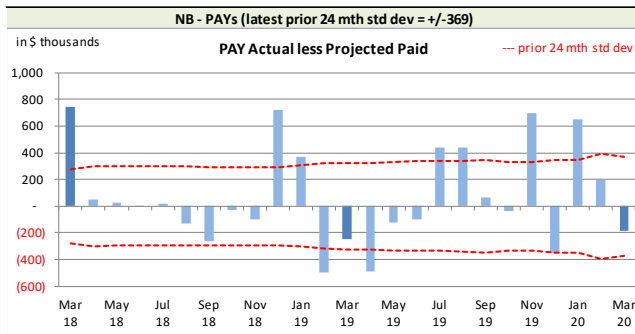
average amount of the preceding 24 calendar months.

*New Brunswick 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.

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



On Latest \$ thousands		
Paid	PAYs	CAY
Mthly Avg Paid (prior 24 mths)	433	448
std dev	369	174
A-P <> std dev	10	9
% <> std dev	40.0%	36.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	worse	no better

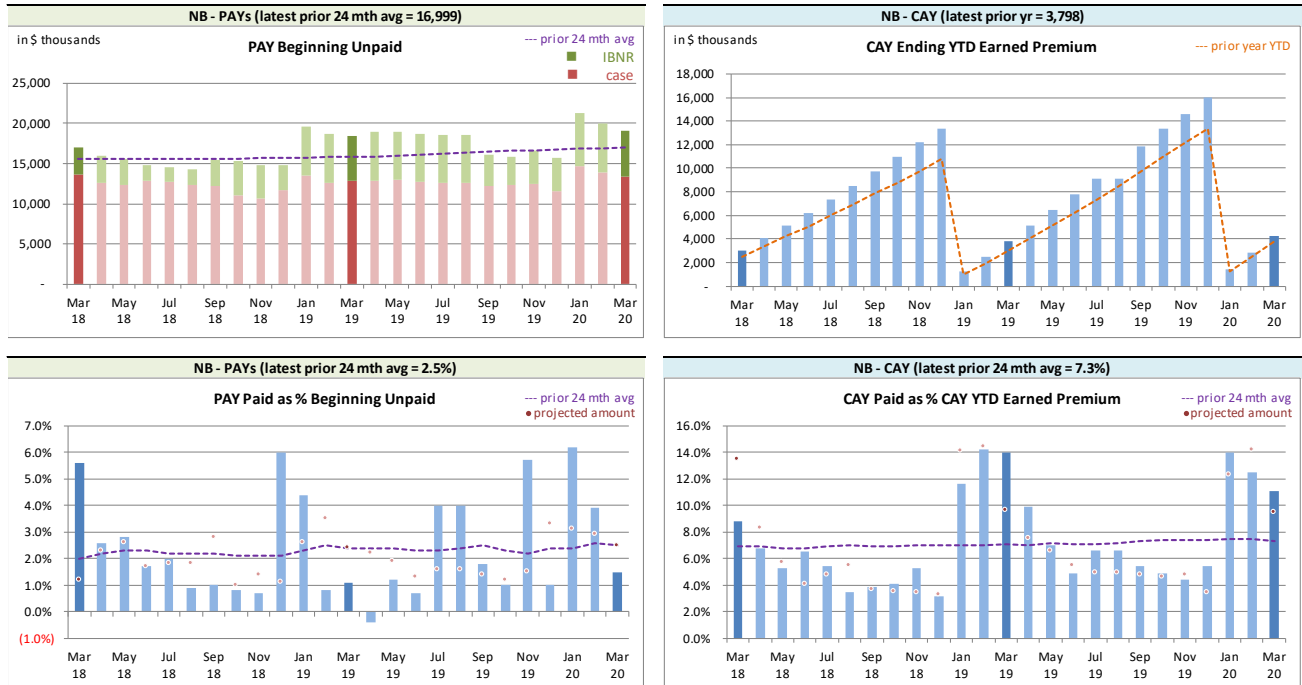
With respect to **paid** indemnity & allowed claims expense, caution must be exercised in reviewing the variances as this is a small pool, and single claim transactions that are normal course for the business may look unusual and generate relatively significant variances that in nominal value terms are not that significant in relative or overall terms. That said, 40% 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 worse 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 (12 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).

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

New Brunswick RSP Levels that influence⁹ 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 IBNR¹⁰, 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 month's provisions and projections were based on the applicable valuation.

⁹Our 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.

¹⁰For ease of discussion, "IBNR" is used in place of "provisions for incurred but not recorded (IBNR) and development".

The table immediately below summarizes variances in provisions included in this month’s Operational Report and the associated one-month projections from last month’s Report.

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	1,882	(111)	(341)	(51)	1,090	14	2,631	(148)
2018	1,971	112	(203)	(21)	528	32	2,296	123
2019	2,150	433	(292)	(59)	663	92	2,521	466
2020	1,319	116	(122)	(15)	257	(1)	1,454	100
TOTAL	7,322	550	(958)	(146)	2,538	137	8,902	541

The IBNR provision is \$0.6 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, and due to valuation implementation.

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

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

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

The table at the top of the next page summarizes the variances in the provisions for premium deficiency liability / (deferred policy acquisition cost asset) included in 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, and due to the valuation implementation.

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:	(1,785)	319	357	(37)	(1,428)	282
balance as % unearned premium:	(21.9%)	2.4%	4.4%	(0.2%)	(17.5%)	2.2%
actual unearned premium:	8,150					
less projected:	(509)					

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 loss¹¹ 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 expenses¹², 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 77.1% 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.)

¹¹“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).

¹²Allowed 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	835	20.0%	(116)	(2.8%)	719	17.2%	855	22.1%
CAY	3,213	77.1%	135	3.2%	3,348	80.3%	1,191	2.0%
TOTAL	4,048	97.1%	19	0.5%	4,067	97.5%	2,045	24.2%

(" % 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, and due to the valuation implementation.

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

5 Current Operational Report – Additional Exhibits

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

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

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

The ultimate loss ratios 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 Feb. 2020	Actual Mar. 2020	Projected Apr. 2020	Projected May. 2020	Projected Dec. 2020
	2005	(2)	(2)	(2)	(2)	(2)
	2006	-	-	-	-	-
	2007	(4)	(4)	(4)	(4)	(4)
	2008	11	11	11	11	10
	2009	17	18	17	16	16
	2010	29	16	15	15	14
	2011	49	91	89	86	80
	2012	75	64	63	60	54
	2013	226	146	141	138	124
	2014	(16)	93	90	88	83
discount rate	2015	477	486	464	455	409
1.62%	2016	645	521	517	503	386
	2017	1,334	1,191	1,152	1,123	974
interest rate margin	2018	2,240	2,296	2,247	2,186	1,853
25 basis pts	2019	2,082	2,521	2,488	2,457	2,046
	2020	971	1,454	1,894	2,472	3,347
	TOTAL	8,134	8,902	9,182	9,604	9,390
	Change		768	280	422	

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 Feb. 2020	Actual Mar. 2020	Projected Apr. 2020	Projected May. 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	20	8	8	8	8
	87.9%	2011	11	51	49	48	45
	59.7%	2012	1	(5)	(5)	(5)	(5)
	77.6%	2013	141	63	60	59	51
	63.8%	2014	(89)	17	16	16	16
	64.3%	2015	411	429	409	402	359
	68.5%	2016	540	424	420	407	299
	82.3%	2017	1,014	901	865	839	720
	75.5%	2018	1,917	1,971	1,924	1,866	1,564
	77.7%	2019	1,734	2,150	2,128	2,107	1,764
	75.4%	2020	868	1,319	1,719	2,251	2,854
		TOTAL	6,562	7,322	7,587	7,992	7,669
		Change		760	265	405	

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

EXHIBIT C

Premium Liabilities

TABLE EXHIBIT C	Amounts in \$000s				
Premium Liabilities	Actual Feb. 2020	Actual Mar. 2020	Projected Apr. 2020	Projected May. 2020	Projected Dec. 2020
(1) unearned premium (UP)	8,258	8,150	8,758	9,404	11,517
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	80.2%	82.5%	82.6%	82.8%	84.7%
(3) expected future costs {(1) x (2)}	6,621	6,722	7,234	7,785	9,749
(4) premium deficiency / (deferred policy acquisition cost)	(1,637)	(1,428)	(1,524)	(1,619)	(1,768)
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	75.6%	78.1%	78.2%	78.4%	80.2%
(6) expected future costs {(1) x (5)}	6,245	6,365	6,852	7,374	9,234
(7) premium deficiency / (deferred policy acquisition cost)	(2,013)	(1,785)	(1,906)	(2,030)	(2,283)

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		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	
2005	-	(2)	(2)	-	-	-	-	-	-	(2)	
2006	-	-	-	-	-	-	-	-	-	-	
2007	-	(4)	(4)	-	-	-	-	-	-	(4)	
2008	66	4	70	(1)	-	7	-	7	6	76	
2009	221	(4)	217	(3)	1	22	-	22	20	237	
2010	75	8	83	(2)	-	8	-	8	6	89	
2011	403	45	448	(11)	2	45	(1)	44	35	483	
2012	809	(5)	804	(22)	3	80	(2)	78	59	863	
2013	881	51	932	(22)	4	93	(2)	91	73	1,005	
2014	864	16	880	(23)	4	88	(2)	86	67	947	
2015	361	359	720	(24)	4	72	(2)	70	50	770	
2016	1,076	299	1,375	(54)	8	138	(5)	133	87	1,462	
2017	2,432	720	3,152	(136)	19	388	(17)	371	254	3,406	
2018	2,267	1,564	3,831	(180)	27	464	(22)	442	289	4,120	
2019	2,352	1,764	4,116	(222)	33	498	(27)	471	282	4,398	
PAYs (sub-total):	11,807	4,815	16,622	(700)	105	1,903	(80)	1,823	1,228	17,850	
CAY (2020)	5,137	2,854	7,991	(447)	72	919	(51)	868	493	8,484	
claims liabilities:	16,944	7,669	24,613	(1,147)	177	2,822	(131)	2,691	1,721	26,334	
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*	
premium liabilities:	11,517	(2,283)	9,234	(322)	45	822	(30)	792	515	9,749	
*Total may not be sum of parts, as apvs apply to future costs within UPR											
policy liabilities:			33,847	(1,469)	222	3,644	(161)	3,483	2,236	36,083	

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
Total	25,912	25,532	25,159	24,799	24,449	24,107	25,299	25,299
	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%
Total	3.0%	1.5%	-	(1.4%)	(2.8%)	(4.2%)	0.6%	0.6%
	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	17	1	(1)	1	1	5.9%	18
2010	29	-	-	(13)	(13)	(44.8%)	16
2011	49	1	(1)	42	42	85.7%	91
2012	75	-	(6)	(5)	(11)	(14.7%)	64
2013	226	(1)	(87)	8	(80)	(35.4%)	146
2014	(16)	-	10	99	109	(681.3%)	93
2015	477	(4)	83	(70)	9	1.9%	486
2016	645	(19)	(207)	102	(124)	(19.2%)	521
2017	1,334	(40)	(59)	(44)	(143)	(10.7%)	1,191
2018	2,240	(67)	(66)	189	56	2.5%	2,296
2019	2,082	(27)	(127)	593	439	21.1%	2,521
2020	971	383	6	94	483	49.7%	1,454
Grand Total	8,134	227	(455)	996	768	9.4%	8,902

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	20	-	-	(12)	(12)	(60.0%)	8	
2011	11	-	-	40	40	363.6%	51	
2012	1	-	(6)	-	(6)	(600.0%)	(5)	
2013	141	(1)	(88)	11	(78)	(55.3%)	63	
2014	(89)	1	10	95	106	(119.1%)	17	
2015	411	(4)	83	(61)	18	4.4%	429	
2016	540	(16)	(209)	109	(116)	(21.5%)	424	
2017	1,014	(30)	(61)	(22)	(113)	(11.1%)	901	
2018	1,917	(58)	(73)	185	54	2.8%	1,971	
2019	1,734	(17)	(126)	559	416	24.0%	2,150	
2020	868	335	14	102	451	52.0%	1,319	
Grand Total	6,562	210	(456)	1,006	760	11.6%	7,322	