

# **NEW BRUNSWICK RISK SHARING POOL**

## **MARCH 2023 OPERATIONAL REPORT**

### **ACTUARIAL HIGHLIGHTS**

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**ACTUARIAL HIGHLIGHTS**

**RSP NEW BRUNSWICK**

**OPERATIONAL REPORT**

**MARCH 2023**

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## 1 Summary

Note to members: this is the quarterly Actuarial Highlights we will release going forward to replace the monthly Actuarial Highlights. The next report will be available for reporting month May 2023 in July 2023, in line with the valuation implementation schedule. Please contact us with any questions or concerns in regards to this matter.

### 1.1 Valuation Schedule (Fiscal Year 2023)

The March 2023 Operational Report incorporates the results of an updated valuation (as at December 31, 2022) – the impact of the implementation of the valuation is discussed in section 1.2. The following table summarizes the valuation implementations scheduled for fiscal year 2023.

NEW BRUNSWICK RISK SHARING POOL FISCAL YEAR 2023 – SCHEDULE OF VALUATIONS			
Valuation Date	Discount Rate (per annum)	Operational Report	Description of Changes
Sep. 30, 2022	3.48% mfad 25 bp	Oct. 2022	update valuation (roll-forward): accident year 2023 loss ratio decreased 1.1 points to 77.5%; discount rate increased by 32 basis points; no change to selected margins for adverse deviations
Dec. 31, 2022	5.44% (IFRS 17 does not have explicit interest rate margin )	Mar. 2022	update valuation (roll-forward): accident year 2023 loss ratio increased 0.7 points to 96.6%; discount rate increased by 10 basis points based on the risk free rate plus illiquidity premium from FIERA Capital; no change to selected margins for adverse deviations
Mar. 31, 2023	%	May. 2023	
Jun. 30, 2023	%	Aug. 2023	
Sep. 30, 2023	%	Oct. 2023	

Under the proposed schedule for fiscal year 2023, the off-half valuation quarters ending March 31, 2023 and September 30, 2023 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, 2023 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. In general, this valuation was **favourable** to the RSP results due to lower CAY projected loss ratios and a decrease in adjustments from a member case reserving practice change.

The valuation implementation impact is summarized in the following two tables, where the abbreviations PAYs refers to prior accident years, CAY refers to the current accident year (2023) and FtAY refers to future accident year (2024).

*Summary of Impact (\$'000s) of Implementing Result of Valuation as at Dec. 31, 2023<sup>1</sup>*

RSP: New Brunswick

Summary of Impact	Total \$ Impact	YTD COR Impact
LIC for Unpaid Claims	(296)	(12.0%)
Loss Component	(111)	(4.5%)
TOTAL	(407)	(16.4%)

**Change in LIC for unpaid claims**

	nominal [1]	apv adj. [2]	sub-total [3]	disc rate [4]	margins [5]	TOTAL [6]
PAYs	(331)	13	(318)	(3)	-	(321)
CAY	26	(2)	25	0	-	25
TOTAL	(305)	12	(293)	(3)	-	(296)

**Change in Loss Component**

	2023 (CAY)	2024 (FtAY)	TOTAL
Opening Loss Component	4,719	8,320	13,039
[1] Losses on onerous contracts	14	(18)	(4)
[2] Discount rate	(35)	(72)	(107)
[3] Reversal of losses on onerous contracts	(607)	(19)	(626)
TOTAL [1]+[2]+[3]	(628)	(109)	(737)
Ending Loss Component	4,091	8,211	12,302

unfav/ (fav) for the month and ytd

As indicated in the preceding table, the incorporation of the new valuation had an estimated **\$407 thousand favourable impact** on the month's net result from operations, subtracting an estimated 16.4 points to the **year-to-date Combined Operating Ratio**. The favourable LIC impact is primarily driven by lower CAY projected loss ratios and a decrease in adjustments from a member case reserving practice change, compounded by a small favourable discount rate impact (claim payment pattern and discount rate impacts are both combined in column [4]). The favourable loss component impact in New Brunswick is driven by a decreases in the accident year 2024 expected loss ratio.

The impact of the **nominal changes** on the LIC is shown in column [1] in the above table. The change in the selected nominal ultimates was **favourable by \$305 thousand**. 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

<sup>1</sup>In these tables, "PAYs" refers to prior accident years, "CAY" refers to the current accident year, "FtAY" refers to future accident year, and "LIC" refers to liability for incurred claims. "Nominal" refers to changes excluding impact to discounting and risk adjustment, whereas "apv adj." refers to the impact on discounting and risk adjustment caused by change in the amount and timing of undiscounted liabilities. The columns labeled [1] and [2] reflect the impact of changes in the valuation selected ultimates (i.e. based on unchanged selection of discount rates and risk adjustment). The column "disc rate" reflects the impact of the change in the selected discount rate and claims payment patterns, and the column "margins" reflects the impact of any changes in the selected risk adjustment.

loss ratio).

The **PAYs** overall showed a **\$331 thousand favourable** nominal variance or 1.2% of the PAYs nominal unpaid balance of \$28.6 million determined at the end of last month (February 2023) due to a decrease in adjustments due to a member case reserving practice change.

The **CAY** LIC impact is a result of the change in the selected loss for accident year **2023 (increased 0.7 points to 96.6%)**.

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 risk adjustment factors (at the level they were selected i.e. jurisdiction and coverage), the impact of then updating the discount rate, and finally the impact of any changes to the risk adjustment factors (at the level they were selected). The changes in actuarial present value adjustments are shown in the preceding summary table 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 coverage). This generated an unfavourable change of \$12 thousand in the actuarial present value adjustments, prior to any changes in the selected discount rate and/or risk adjustment.

Updated projected cash flows were reviewed against the risk-free curve plus illiquidity premium calculated monthly by the Fiera Capital Corporation<sup>2</sup> as at Dec. 31, 2023. It is assumed that the risk sharing pool cash flows are relatively illiquid. This means a yield curve with a higher illiquidity premium is used for the discounting calculations. Column [4] accounts for the change in the **discount rate** selected (average discount rate increased 10 basis points to **5.44%**), indicating a slight favourable impact, although this is slightly offset by an update to paid emergence selection completed annually in Q4.

Column [5] accounts for any changes to selected risk adjustment factors. The risk adjustment is based on a discounted cost of capital methodology. Capital factors are derived from MCT risk factors. Cost of Capital is determined from target return on equity and P/S ratio assumptions from pricing. Capital requirement is determined from a target MCT ratio based on industry data. Risk adjustment is calibrated annually and there is no change to the selection this quarter.

Risk Sharing Pools are onerous by design, as RSPs are designed for systematic under-pricing, which is expected to be unprofitable. We are assuming all RSPs are groups of onerous contracts. This means that the losses on these onerous contracts are recognized through a loss component upon initial recognition of the business. The change in the loss component is the sum of:

- [1] Losses on onerous contracts: This is the change in the loss component during the reporting period arising from Initial recognition and subsequent re-estimation of the loss component (due to changes in premium or loss ratio projections, for example). The table shown above splits out the impact of this item for the CAY and FtAY. The expected loss ratio increased by 0.7% and 0.5% respectively which corresponds to a combined total of **favourable \$4**

<sup>2</sup> <https://www.fieracapital.com/en/institutional-markets/cia-ifrs-17-curves>

thousand.

- [2] Discount rate: This is the change in the loss component due to updating the yield curve. The impact of change in yield curve is **favourable \$107 thousand** driven by increased yields between the current and prior valuation.
- [3]: Reversal of losses on onerous contracts: This is the change in the loss component during the reporting period arising from the portion of the opening LRC earned during the period. This item has been presented in the table above to demonstrate the gradual decline of the loss component expected every month as the losses move from the LRC into the LIC.

Consideration was given to recent legal decisions and changes in legislation / regulation as noted above and outlined in section **Error! Reference source not found.**

### 1.3 Appointed Actuary and Hybrid Actuarial Services Model

The Annual General Meeting of the members of Facility Association (“FA”) appointed Mr. Cosimo Pantaleo as the Appointed Actuary at its meeting on March 1st, 2023.

Facility Association operates under a hybrid model in relation to the management and provision of actuarial services. Under this model, actuarial services are performed by both Facility Association’s internal staff and its external actuarial consulting firm. The hybrid model approach maximizes the efficiency of resource allocation while providing access to additional expertise and capacity as needed.

### 1.4 Consideration of Recent Legal Decisions and Changes in Legislation / Regulation

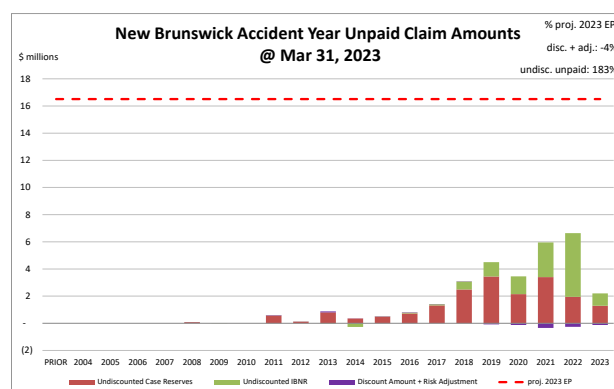
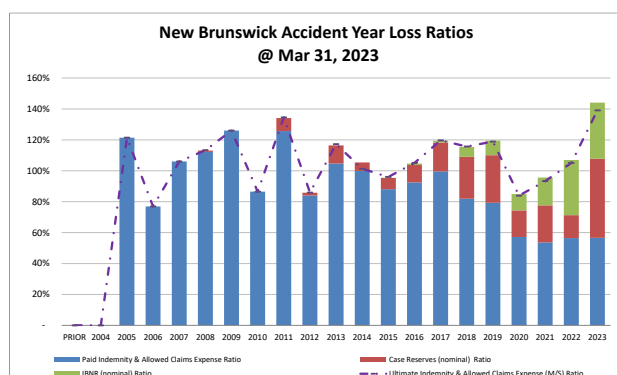
There have been no changes in these descriptions since last Highlights.

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 following charts show the current levels of claim liabilities<sup>3</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 2023 full year earned premium (the red hash-mark line) to provide some perspective.

<sup>3</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.



“M/S” refers to “Member Statement” values – that is, actuarial present value adjustments at the selected discount rate.

liability for incurred claims (\$000s)

	amt	%
undisc. case	19,175	65.1%
undisc. ibnr	10,987	37.3%
disc. + risk adj.	(725)	(2.5%)
LIC	29,437	100.0%

The current discount and risk adjustments (-\$725 thousand – see the following table) represents -4% of the earned premium projected for the full year 2023 (see the upper right corner of the preceding chart on the right). If our current estimates of the nominal unpaid amounts prove to

match actual claims payments, the actuarial present value adjustments will be released into the net operating result over future periods.

The table to the left breaks down Liability for Incurred Claims 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 2021 and 2022 (see Exhibit B). Approximately 74% of the liabilities for incurred claims are related to accident years 2019-2023 inclusive (i.e. the most recent 5 accident years), and approximately 6% is related to accident years 2013 and prior (i.e. prior to the most recent 10 accident years).

The following tables summarize the liability for remaining coverages and insurance contract liabilities.

liability for remaining coverage (\$000s)

	amt	%
LRC excl. disc. LC	3,879	24.0%
undisc. LC	18,134	112.1%
disc. amt	(5,832)	(36.0%)
LRC	16,181	100.0%

insurance contract liabilities (\$000s)

	amt	%
claim	30,162	66.1%
premium	22,013	48.3%
disc. + risk adj.	(6,557)	(14.4%)
LIC + LRC	45,618	100.0%

## 2 Activity since previous valuation implementation

### 2.1 Recorded Premium and Claims Activity

The following table summarizes the extent to which premiums and claims amounts recorded since the prior implementation differ from the prior projection.

*New Brunswick RSP Actual vs Projected Summary: Recorded Transaction Amounts (\$ thousands)*

AY Group	Share Year	Share Month	Actual Earned Premium (000s)	Actual minus Projected Earned Premium (000s)	Actual Paid Claims (000s)	Actual minus Projected Paid Claims (000s)	Actual Recorded Claims (000s)	Actual minus Projected Recorded Claims (000s)
PAY	2022	November	(2)	(2)	(2)	(2)	(2)	(2)
		December	4	4	4	4	4	4
	2023	January	(53)	(53)	(53)	(53)	(53)	(53)
		February	(1)	(1)	(1)	(1)	(1)	(1)
		March	(11)	(11)	(11)	(11)	(11)	(11)
PAY Total			(63)	(63)	(63)	(63)	(63)	(63)
CAY	2022	November	1,144	1,144	1,144	1,144	1,144	1,144
		December	1,219	1,219	1,219	1,219	1,219	1,219
	2023	January	1,258	1,258	1,258	1,258	1,258	1,258
		February	1,211	1,211	1,211	1,211	1,211	1,211
		March	1,286	1,286	1,286	1,286	1,286	1,286
CAY Total			6,118	6,118	6,118	6,118	6,118	6,118
Grand Total			6,055	6,055	6,055	6,055	6,055	6,055

(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. The variances are also reviewed as part of the quarterly valuation process, as an indicator of changes in the claims development process or potential bias in ultimate claims estimates.

More detailed analysis and commentary on actual vs. projected for the most recent reporting months is provided below.

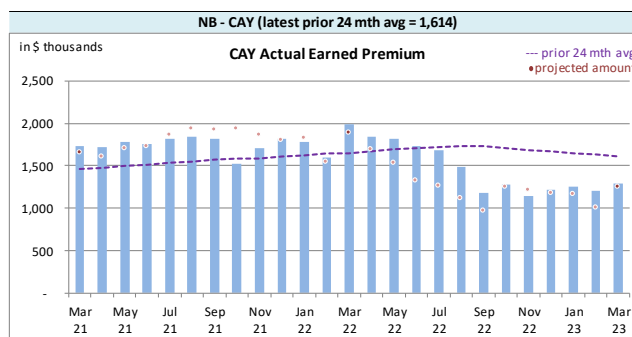
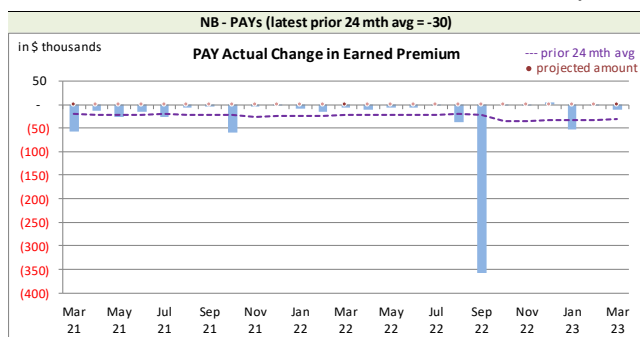
### 2.1.a Actual vs. Projected (AvsP): Earned Premium

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.

<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.



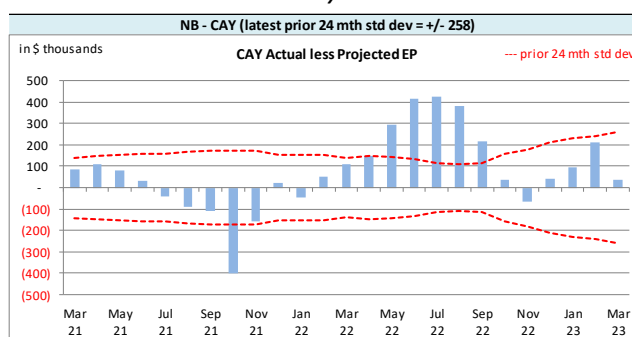
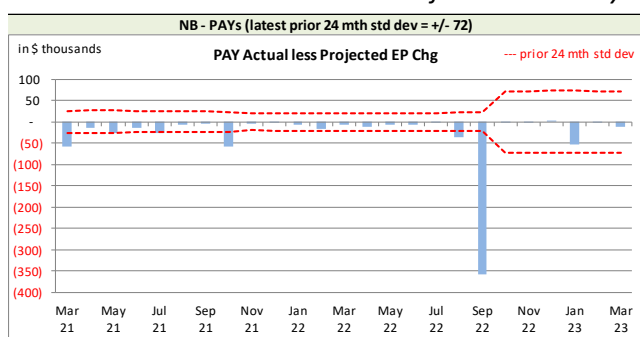
## New Brunswick RSP Actual **Earned Premium** by Calendar Month



**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



On Latest \$ thousands		
<b>Earned Premium</b>	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(30)	1,614
std dev	72	258
A-P <> std dev	5	6
% <> std dev	20.0%	24.0%
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>5</sup>, with actuals generally lower than our projections, although the magnitude is not high relative to monthly premium. However, for the CAY, bias<sup>6</sup> has not been indicated. Over time, we may consider other projection approaches to address the bias issue, but it is not currently deemed as priority.

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

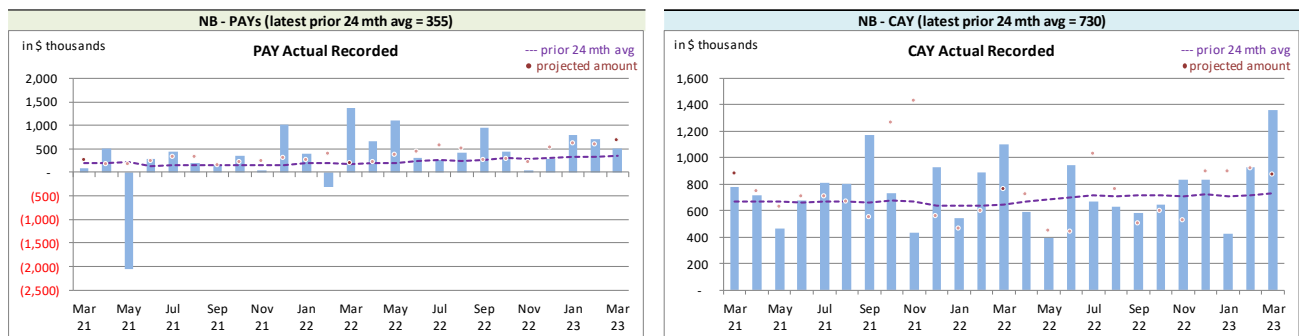
<sup>6</sup>For the binomial distribution with 25 trials and an assumed 50% success probability, the 95% confidence range is 8 to 17 successes. That is, favourable or unfavourable counts of 0 to 7 or 18 to 25 out of 25 outcomes would suggest bias.

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

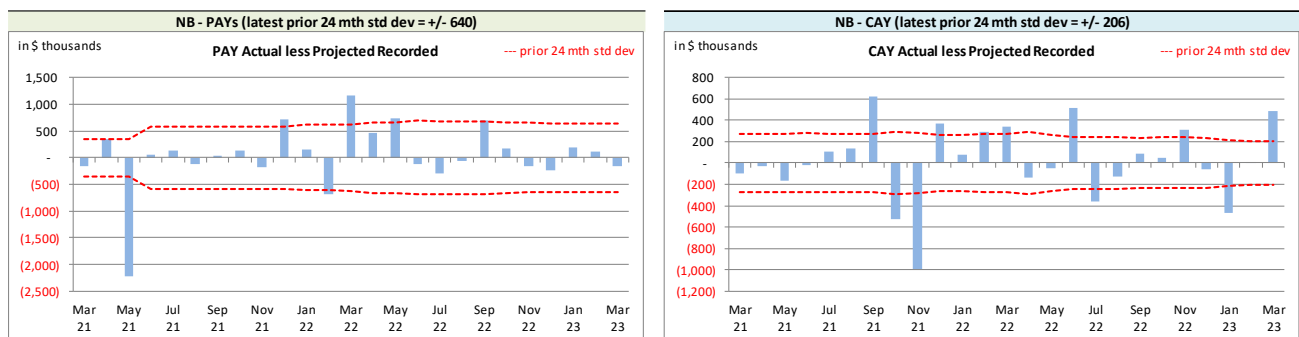
The following charts show actual **recorded** activity (**paid** and case reserve changes), in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

*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.

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



On Latest \$ thousands		
	<b>Recorded</b>	
	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	355	730
std dev	640	206
A-P <> std dev	6	11
% <> std dev	24.0%	44.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	worse

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 preceding table 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

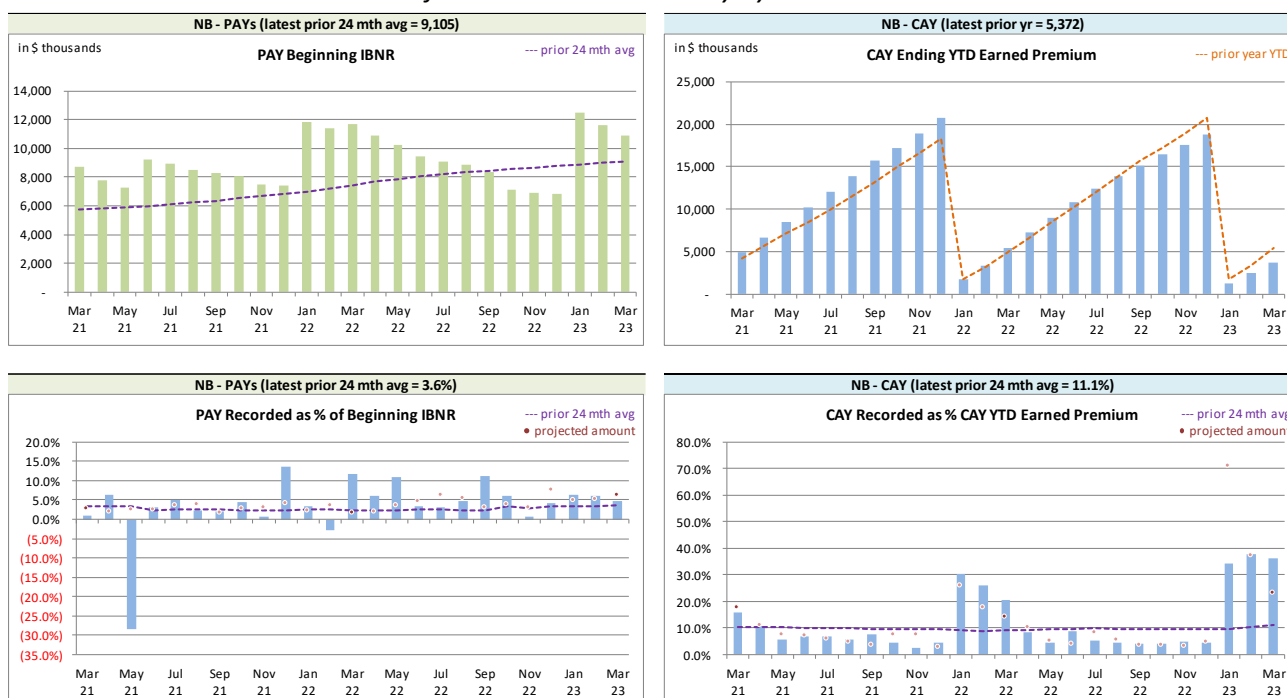
not been indicated at a 95% confidence level on a rolling 25-month basis (14 of 25 variances are positive).

The current accident year (CAY) **recorded** variances fell outside of one standard deviation 44% of the time over the last 25 calendar months (see preceding table on the left), 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 (13 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, 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 of the preceding group of charts) occur for several possible reasons:

- to offset actual **recorded** activity (through loss ratio matching);

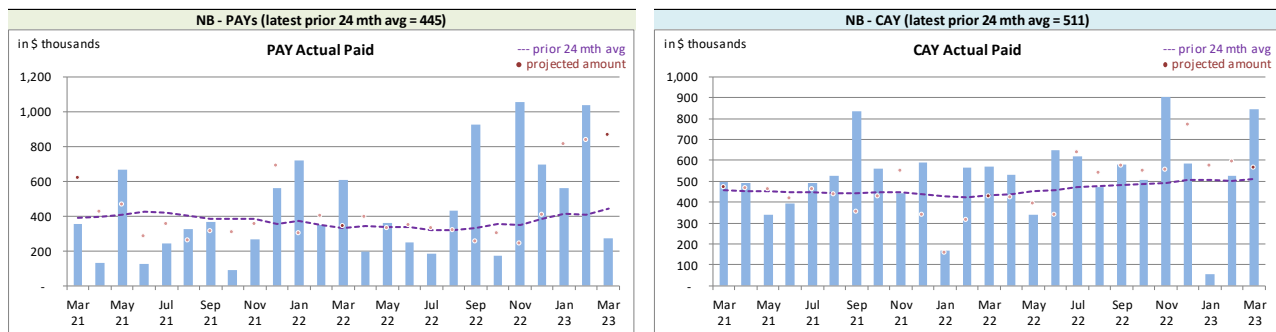
<sup>7</sup>Our recorded activity projections for the prior accident years are based on selected ratios of recorded activity to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date IBNR to year-to-date selected ultimate (i.e. selected LR 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.

- 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

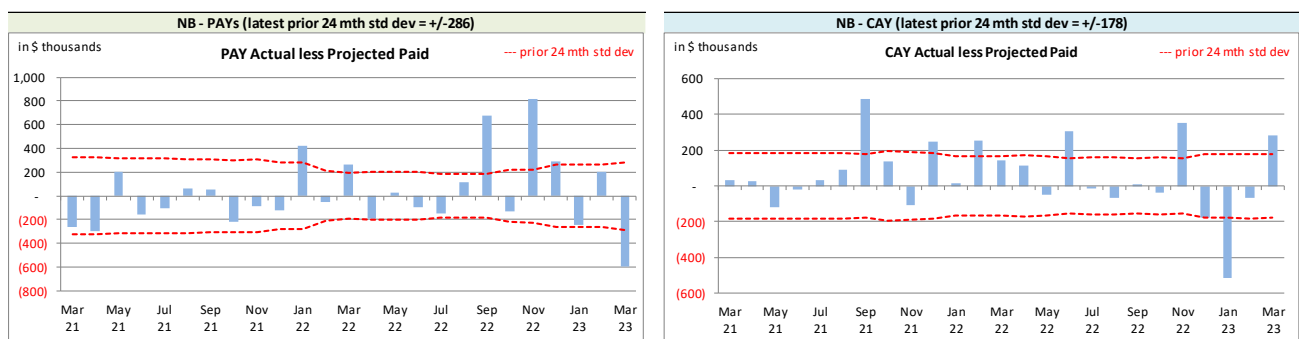
The following charts show actual **paid** activity in each of the most recent 25 calendar months, along with a "prior 24-month average" to show how each month's actual compares with the average amount of the preceding 24 calendar months.

*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>	
Mthly Avg Paid (prior 24 mths)	PAYs 445	CAY 511
std dev	286	178
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 **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, 24% 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 preceding table on the left), suggesting the projection process has performed no better than simply projecting the prior 24-month average amount (assuming a normal distribution). Bias has 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 32% of the time over the last 25 calendar months (see preceding table on the left), 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 (15 of 25 variances are positive).

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 of the preceding group of charts) 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>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.

- 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 month's provisions and projections were based on the applicable valuation.

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)

## **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

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

<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.

accident year, but also earned premium adjustments related to prior accident years. Specifically, the current accident year (CAY) ratio in the table is 96.6% matching 96.6% from the valuation ultimate ratio for accident year 2023, 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.)

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

	YTD Nominal Values		YTD actuarial present value adjustment		YTD Total	
	Amount	%EP	Amount	%EP	Amount	%EP
PAYS	(374)	(10.0%)	459	12.2%	85	2.3%
CAY	3,629	96.6%	(125)	(3.3%)	3,504	93.3%
TOTAL	3,255	86.6%	333	8.9%	3,588	95.5%

("% EP" based on 2023 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 impact of 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 impact of 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).

In addition to the exhibits printed below, we are making supplementary data files available for download from our website for members who require additional detailed data on the LRC calculation as well as the payment patterns and actual and projected premiums, risk adjustment, interest rate, loss ratios and expenses of the pools.

## **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	Liability for Remaining Coverage
EXHIBIT D	Projected Year-end Policy Liabilities
EXHIBIT E	Risk Adjustment & Discount Rate
EXHIBIT F	Interest Rate Sensitivity
EXHIBIT G	Components of IBNR Change During Month

Additional exhibits available online:

[LRC Calculation file](#)

[Detailed valuation results](#)



EXHIBIT A

IBNR for Member Sharing – includes Actuarial Present Value Adjustments

EXHIBIT A - IBNR + M/S Actuarial Present Value Adjustments: RSP New Brunswick								
amounts in \$000s								
Accident Year	Actual Feb 2023	Actual Mar 2023	Projected Apr 2023	Projected May 2023	Projected Jun 2023	Projected Jul 2023	Projected Aug 2023	Projected Dec 2023
prior	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-
2005	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
2006	0	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0	0
2008	8	8	9	9	10	10	10	12
2009	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
2010	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
2011	24	27	29	32	35	37	40	34
2012	3	10	10	11	12	12	13	15
2013	46	54	55	55	52	46	40	17
2014	(324)	(264)	(28)	208	444	435	425	297
2015	(59)	40	40	41	41	35	28	19
2016	90	91	65	38	11	19	26	7
discount rate: 5.44%	2017	637	99	119	139	158	157	156
	2018	264	605	546	487	427	381	335
	2019	1,131	977	956	934	912	896	879
weighted average risk adjustment factor: 11.00%	2020	1,268	1,184	1,147	1,109	1,071	1,046	1,019
	2021	2,049	2,213	2,185	2,156	2,127	2,090	2,052
	2022	4,846	4,432	4,323	4,215	4,107	3,997	3,887
	2023	896	788	991	1,297	1,618	1,960	2,355
	TOTAL	10,880	10,263	10,449	10,732	11,025	11,121	11,265
	Change		(617)	186	283	292	96	144

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

EXHIBIT B

IBNR

EXHIBIT B - Undiscounted IBNR: RSP New Brunswick									
amounts in \$000s									
Ultimate Loss Ratio	Accident Year	Actual Feb 2023	Actual Mar 2023	Projected Apr 2023	Projected May 2023	Projected Jun 2023	Projected Jul 2023	Projected Aug 2023	Projected Dec 2023
	prior	-	-	-	-	-	-	-	-
0.0%	2004	-	-	-	-	-	-	-	-
84.0%	2005	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
53.2%	2006	0	0	0	0	0	0	0	0
72.1%	2007	0	0	0	0	0	0	0	0
76.3%	2008	0	0	0	0	0	0	0	0
84.5%	2009	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
57.8%	2010	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
90.3%	2011	0	0	0	0	0	0	0	-
56.9%	2012	(3)	0	0	0	0	0	0	0
76.8%	2013	(15)	(14)	4	22	41	34	28	5
68.0%	2014	(327)	(268)	(33)	203	439	429	420	294
63.3%	2015	(77)	13	13	12	12	9	7	1
68.0%	2016	68	62	33	4	(25)	(19)	(14)	(31)
79.5%	2017	626	84	98	113	127	120	113	(97)
80.7%	2018	298	588	517	445	374	318	262	163
84.5%	2019	1,268	1,054	1,012	970	927	892	857	661
59.3%	2020	1,431	1,313	1,259	1,205	1,151	1,110	1,068	902
66.6%	2021	2,425	2,552	2,494	2,435	2,377	2,311	2,246	1,978
75.0%	2022	5,229	4,688	4,577	4,465	4,353	4,240	4,127	3,656
96.6%	2023	1,011	913	1,146	1,487	1,844	2,227	2,664	4,646
	TOTAL	11,934	10,987	11,120	11,362	11,620	11,671	11,778	12,178
	Change		(947)	133	242	258	51	107	

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

EXHIBIT C

Liability for Remaining Coverage

EXHIBIT C - Liability for Remaining Coverage: RSP New Brunswick									
amounts in \$000s									
Accident Year	Actual Feb 2023	Actual Mar 2023	Projected Apr 2023	Projected May 2023	Projected Jun 2023	Projected Jul 2023	Projected Aug 2023	Projected Dec 2023	
<b>LRC excl. Loss Component</b>									
2023	3,964	3,803	3,468	3,423	3,348	3,174	2,842	(1)	
2024	20	76	199	563	1,005	1,563	2,300	6,226	
2025	-	-	-	-	-	-	-	-	
2026	-	-	-	-	-	-	-	-	
<b>Total</b>	<b>3,984</b>	<b>3,879</b>	<b>3,667</b>	<b>3,986</b>	<b>4,354</b>	<b>4,737</b>	<b>5,142</b>	<b>6,226</b>	
<b>Undiscounted Loss Component</b>									
2023	6,834	6,039	5,472	4,844	4,202	3,506	2,787	-	
2024	12,027	12,094	12,094	12,094	12,094	12,094	12,094	12,094	
2025	-	-	-	-	-	-	-	-	
2026	-	-	-	-	-	-	-	-	
<b>Total</b>	<b>18,861</b>	<b>18,134</b>	<b>17,566</b>	<b>16,939</b>	<b>16,296</b>	<b>15,600</b>	<b>14,881</b>	<b>12,094</b>	
<b>Discounted Loss Component</b>									
2023	4,719	4,091	3,723	3,304	2,870	2,399	1,911	-	
2024	8,320	8,211	8,241	8,258	8,266	8,281	8,293	8,382	
2025	-	-	-	-	-	-	-	-	
2026	-	-	-	-	-	-	-	-	
<b>Total</b>	<b>13,039</b>	<b>12,302</b>	<b>11,964</b>	<b>11,562</b>	<b>11,136</b>	<b>10,680</b>	<b>10,204</b>	<b>8,382</b>	
<b>LRC incl. Loss Component</b>									
2023	8,683	7,894	7,191	6,727	6,219	5,573	4,753	(1)	
2024	8,340	8,287	8,440	8,821	9,271	9,844	10,593	14,608	
2025	-	-	-	-	-	-	-	-	
2026	-	-	-	-	-	-	-	-	
<b>Total</b>	<b>17,023</b>	<b>16,181</b>	<b>15,631</b>	<b>15,548</b>	<b>15,490</b>	<b>15,417</b>	<b>15,346</b>	<b>14,607</b>	

EXHIBIT D

Projected Year-end Policy Liabilities

The table below presents the projected policy liabilities as at December 31, 2023, broken down by component.

New Brunswick	Projected Balances as at Dec. 31, 2023 (\$000s)											
Ending 2023	nominal values			actuarial present value adjustments (apvs)								
Accident Year	Case	IBNR	Total Unpaid	Discount Amount	Risk Adjustment	Liability for Incurred Claims (LC)	Discounted Loss Component	Undiscounted Loss Component	Discount Amount	Liability for Remaining Coverage (LRC)	LRC excl. Loss Component	Total Insurance Contract Liabilities
prior	-	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-	-
2005	-	(0)	(0)	-	-	(0)	-	-	-	-	-	(0)
2006	-	0	0	-	-	0	-	-	-	-	-	0
2007	-	0	0	0	-	0	-	-	-	-	-	0
2008	78	0	78	3	9	90	-	-	-	-	-	90
2009	-	(0)	(0)	-	-	(0)	-	-	-	-	-	(0)
2010	-	(0)	(0)	-	-	(0)	-	-	-	-	-	(0)
2011	379	-	379	(9)	43	413	-	-	-	-	-	413
2012	120	0	120	4	11	135	-	-	-	-	-	135
2013	87	5	92	1	11	104	-	-	-	-	-	104
2014	(260)	294	34	(1)	4	37	-	-	-	-	-	37
2015	188	1	189	(4)	22	207	-	-	-	-	-	207
2016	494	(31)	463	(15)	52	501	-	-	-	-	-	501
2017	1,273	(97)	1,176	(66)	128	1,238	-	-	-	-	-	1,238
2018	2,046	163	2,209	(134)	239	2,313	-	-	-	-	-	2,313
2019	3,005	661	3,666	(303)	390	3,754	-	-	-	-	-	3,754
2020	2,094	902	2,996	(298)	307	3,005	-	-	-	-	-	3,005
2021	3,124	1,978	5,102	(596)	506	5,012	-	-	-	-	-	5,012
2022	2,264	3,656	5,920	(804)	575	5,691	-	-	-	-	-	5,691
PAYs subtotal	14,892	7,532	22,424	(2,221)	2,297	22,500	-	-	-	-	-	22,500
CAY (2023)	3,822	4,646	8,467	(1,288)	806	7,985	-	-	-	(1)	(1)	7,985
FIAY (2024)	-	-	-	-	-	-	8,382	12,094	(3,713)	14,608	6,226	14,608
Total	18,714	12,178	30,892	(3,509)	3,103	30,486	8,382	12,094	(3,713)	14,607	6,226	45,093

## EXHIBIT E

## Risk Adjustment &amp; Discount Rate

The tables below present selected risk adjustment factor by coverage (the total is a weighted average, based on the unpaid claims projection for December 31, 2023 from the valuation), followed by the selected discount rate.

**Risk Adjustment Factors: RSP New Brunswick**

<b>Coverage</b>	<b>Government Line</b>	<b>New Brunswick</b>
Bodily Injury	Third Party Liability	11.70%
Property Damage (w DCPD)	Third Party Liability	2.58%
AccBen (indivis)	Accident Benefits	8.59%
Uninsured Automobile	Accident Benefits	8.14%
Underinsured Motorist	Other Coverages	10.19%
Collision w AP	Other Coverages	1.66%
Comprehensive w SP	Other Coverages	2.24%
<b>Total</b>	<b>Total</b>	<b>11.00%</b>

discount rate: 5.44%

EXHIBIT F

Interest Rate Sensitivity

The tables below present sensitivity to the member statement claims liability as projected to Dec. 31, 2023 from the latest valuation date (projections in exhibits A to D are to Dec. 31, 2023, and are based on more up-to-date information). We have included the most recent valuation selection (5.50%), the prior valuation assumption (3.48%) and the prior fiscal year end valuation assumption (1.07%) for comparative purposes. A 25 basis point margin for investment return adverse deviation is used in all scenarios presented.

Actuarial Present Value of Provisions at Various Discount Rates - Dec. 31, 2023 projected Unpaid								
AY	4.50%	5.00%	5.50%	6.00%	6.50%	7.00%	3.53%	3.53%
2005 & prior	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-
2012	0	0	0	0	0	0	0	0
2013	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
2014	8	8	8	8	8	8	8	8
2015	672	669	665	661	658	654	680	680
2016	942	938	933	929	924	920	951	951
2017	2,698	2,683	2,669	2,655	2,640	2,627	2,727	2,727
2018	2,352	2,334	2,316	2,299	2,281	2,264	2,387	2,387
2019	4,659	4,618	4,578	4,539	4,501	4,464	4,739	4,739
2020	6,995	6,934	6,874	6,815	6,758	6,701	7,118	7,118
2021	14,119	13,970	13,823	13,680	13,540	13,403	14,419	14,419
2022	10,730	10,597	10,468	10,341	10,217	10,096	10,997	10,997
Total	57,357	56,721	56,100	55,492	54,898	54,317	58,633	58,633
	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	4.50%	5.00%	5.50%	6.00%	6.50%	7.00%	3.53%	3.53%
Total	1,257	621	-	(607)	(1,201)	(1,782)	2,533	2,533
	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	4.50%	5.00%	5.50%	6.00%	6.50%	7.00%	3.53%	3.53%
2005 & prior	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2005	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2006	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2007	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2008	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2009	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2010	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2011	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2012	0.7%	0.4%	0.0%	-0.3%	-0.7%	-1.0%	1.4%	1.4%
2013	1.2%	0.6%	0.0%	-0.6%	-1.1%	-1.7%	2.3%	2.3%
2014	0.5%	0.2%	0.0%	-0.2%	-0.5%	-0.7%	1.0%	1.0%
2015	1.1%	0.6%	0.0%	-0.5%	-1.1%	-1.6%	2.3%	2.3%
2016	1.0%	0.5%	0.0%	-0.5%	-1.0%	-1.4%	2.0%	2.0%
2017	1.1%	0.5%	0.0%	-0.5%	-1.1%	-1.6%	2.2%	2.2%
2018	1.5%	0.8%	0.0%	-0.8%	-1.5%	-2.2%	3.1%	3.1%
2019	1.8%	0.9%	0.0%	-0.9%	-1.7%	-2.5%	3.5%	3.5%
2020	1.8%	0.9%	0.0%	-0.9%	-1.7%	-2.5%	3.5%	3.5%
2021	2.1%	1.1%	0.0%	-1.0%	-2.1%	-3.0%	4.3%	4.3%
2022	2.5%	1.2%	0.0%	-1.2%	-2.4%	-3.5%	5.1%	5.1%
2023	3.0%	1.5%	0.0%	-1.5%	-2.9%	-4.2%	6.1%	6.1%
Total	2.2%	1.1%	0.0%	-1.1%	-2.1%	-3.2%	4.5%	4.5%
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

EXHIBIT G

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

EXHIBIT G - Components of Change in M/S IBNR (i.e. IBNR + Discount Amount + Risk Adjustment): RSP New Brunswick							
10/31/2022 to 3/31/2023							
amounts in \$000s							
Accident Year	Prior Implementation Month	Projected Change	Change Due to AvsP Variances	Change Due to Valuation Implementation	Total Change	% of Total Change	Current Month Final Amount
prior	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-
2005	(0)	-	(0)	0	-	-	(0)
2006	0	-	-	-	-	-	0
2007	0	-	-	-	-	-	0
2008	8	(50)	42	8	1	6.3%	8
2009	(0)	-	-	-	-	-	(0)
2010	(0)	-	(0)	0	-	-	(0)
2011	24	(16)	(7)	26	2	10.4%	27
2012	3	(15)	9	13	7	259.7%	10
2013	46	(168)	106	70	8	16.8%	54
2014	23	(180)	(190)	83	(287)	(1,264.2%)	(264)
2015	12	(72)	(24)	125	28	236.8%	40
2016	61	(30)	37	22	30	48.1%	91
2017	466	(374)	394	(388)	(367)	(78.7%)	99
2018	466	(92)	(49)	280	139	29.8%	605
2019	1,252	(308)	299	(267)	(275)	(22.0%)	977
2020	1,545	(368)	(98)	106	(361)	(23.4%)	1,184
2021	2,420	(332)	137	(12)	(208)	(8.6%)	2,213
2022	5,235	(427)	78	(454)	(804)	(15.3%)	4,432
2023	-	490	340	(42)	788	-	788
<b>TOTAL</b>	<b>11,562</b>	<b>(1,943)</b>	<b>1,074</b>	<b>(431)</b>	<b>(1,299)</b>	<b>(11.2%)</b>	<b>10,263</b>

EXHIBIT G

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

EXHIBIT G - Components of Change in Undiscounted IBNR: RSP New Brunswick							
10/31/2022 to 3/31/2023							
amounts in \$000s							
Accident Year	Prior Implementation Month	Projected Change	Change Due to AvsP Variances	Change Due to Valuation Implementation	Total Change	% of Total Change	Current Month Final Amount
prior	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-
2005	(2)	-	2	0	2	(100.0%)	(0)
2006	-	-	0	-	0	-	0
2007	5	-	(5)	-	(5)	(100.0%)	0
2008	4	-	(4)	-	(4)	(99.9%)	0
2009	(2)	-	2	-	2	(99.9%)	(0)
2010	(2)	-	2	0	2	(100.0%)	(0)
2011	4	(1)	(3)	(0)	(4)	(93.7%)	0
2012	1	(2)	(3)	4	(1)	(74.8%)	0
2013	(18)	(0)	3	1	4	(19.9%)	(14)
2014	(6)	(132)	(189)	58	(262)	4,371.8%	(268)
2015	(8)	(56)	(18)	95	21	(268.2%)	13
2016	38	(3)	32	(5)	24	63.0%	62
2017	447	(361)	398	(400)	(363)	(81.1%)	84
2018	504	(84)	(91)	259	84	16.8%	588
2019	1,395	(339)	224	(227)	(341)	(24.4%)	1,054
2020	1,736	(414)	(187)	178	(423)	(24.3%)	1,313
2021	2,809	(599)	168	174	(257)	(9.1%)	2,552
2022	5,730	(183)	(389)	(469)	(1,042)	(18.2%)	4,688
2023	-	589	297	26	913	-	913
<b>TOTAL</b>	<b>12,635</b>	<b>(1,584)</b>	<b>241</b>	<b>(305)</b>	<b>(1,648)</b>	<b>(13.0%)</b>	<b>10,987</b>