



NEW BRUNSWICK RISK SHARING POOL

MAY 2020 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

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ACTUARIAL HIGHLIGHTS
RSP NEW BRUNSWICK
OPERATIONAL REPORT
MAY 2020

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1 Summary

Key Points

- (a) The 2020 Q1 valuation was completed and implemented into the results this month, with a \$1.7 million unfavourable impact, or 5.2% of beginning policy liabilities (policy liabilities ended at \$33 million) and 24.7 points of year-to-date earned premium; the updated valuation loss ratios include an initial assessment of the incurred impacts associated with the COVID-19 pandemic;
- (b) The month’s Current Accident Year claims activities were lower than projected; the activity was reviewed and attributed to a reduction in written premium and physical damage claims experience further to the projection adjustment made last month in relation to the COVID-19 pandemic; and
- (c) May’s premium projections have been updated to reflect the most recent information provided by certain members. Updated claims assumptions are derived from the 2020 Q1 valuation; May’s reported claims projections include an additional 10% decrease in Current Accident Year reported claims activity - reducing the projected reported activity over the next 2 months and spreading over the remainder of the year, reflecting a shift in Current Accident Year claims reporting and emergence patterns due to the COVID-19 pandemic impact.

1.1 Valuation Schedule (Fiscal Year 2020)

The May 2020 Operational Report incorporates the results of an updated valuation (as at March 31, 2020) – 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 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>in</u> creased 0.6 points to 74.2%; discount rate <u>in</u> creased 2 basis points; no change to selected margins for adverse deviations
Dec. 31, 2019 (completed)	1.62% mfad 25 bp	Mar. 2020	update valuation: 2019 loss ratio <u>in</u> creased 3.5 points to 77.7%; accident year 2020 loss ratio <u>in</u> creased 2.4 points to 75.4 %; discount rate <u>in</u> creased 19 basis points; no change to selected margins for adverse deviations
Mar. 31, 2020 (completed)	0.64% mfad 25 bp	May 2020	update valuation (partial roll-forward): accident year 2020 loss ratio <u>de</u> creased 0.9 points to 74.5%; discount rate <u>de</u> creased 98 basis points; no change to selected margins for adverse deviations

NEW BRUNSWICK RISK SHARING POOL FISCAL YEAR 2020 – SCHEDULE OF VALUATIONS			
Valuation Date	Discount Rate (per annum)	Operational Report	Description of Changes
Jun. 30, 2020	% mfad -- bp	Aug. 2020	update valuation
Sep 30, 2020	% mfad -- bp	Oct. 2020	update valuation (roll-forward)

Under the proposed schedule for fiscal year 2020, the off-half valuation quarters ending March 31, 2020 and September 30, 2020 would not reflect a full valuation update of assumptions, but would rather roll-forward key assumptions from the previous valuation. However, with disruption in the insurance environment from the COVID-19 pandemic, the current valuation (quarter ending March 31, 2020) includes a partial update of key assumptions to reflect this impact. Other assumptions are rolled-forward from the previous valuation.

1.2 New Valuation

A valuation of the New Brunswick Risk Sharing Pool (“RSP”) as at March 31, 2020 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.

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 (2020), and Prem Def refers to premium deficiency / deferred acquisition costs impacts.

Summary of Impact (\$000s) of Implementing Result of Valuation as at Mar. 31, 2020¹

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	893	70	963	575	-	1,538
CAY	(64)	(8)	(72)	147	-	75
Prem Def	(34)	(2)	(36)	151	-	115
TOTAL	795	60	855	873	-	1,728

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.

As indicated in the preceding table, the incorporation of the new valuation had an estimated **\$1.7 million unfavourable impact** on the month's net result from operations, adding an estimated 24.7 points (see following table) to the **year-to-date Combined Operating Ratio** to end at **151.4%**.

Summary of Impact (% YTD EP) of Implementing Result of Valuation as at Mar. 31, 2020

NB	ytd EP		6,984 (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	12.8%	1.0%	13.8%	8.2%	-	22.0%
CAY	(0.9%)	(0.1%)	(1.0%)	2.1%	-	1.1%
Prem Def	(0.5%)	-	(0.5%)	2.2%	-	1.6%
TOTAL	11.4%	0.9%	12.2%	12.5%	-	24.7%

The impact of the **nominal changes** is shown in column [1] of the two preceding summary tables. The change in the selected nominal ultimates was **unfavourable by \$0.8 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 4.6% of the PAYs nominal unpaid balance of \$19.4 million determined at the end of last month (April 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 the following table, the valuation changes were mainly in relation to TPL across multiple PAYs.

Valuation as at Mar. 31, 2020 – 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
2015 & Prior	(90)	(37)	-	(127)
2016	187	3	(9)	181
2017	264	(34)	(15)	215
2018	198	(36)	(7)	155
2019	435	(20)	(12)	403
TOTAL	994	(124)	(43)	827

The CAY and premium deficiency impacts are a result of the change in the selected loss ratios for accident year **2020** (decreased 0.9 points to **74.5%**) and accident year **2021** (increased 1.9 points to 79.5 %).

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 preceding summary tables 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 \$60 thousand 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 March 2020. Column [4] accounts for the change in the **discount rate** selected (decreased 98 basis point to **0.64%**), indicating an unfavourable impact of \$873 thousand. The impact *related only to claims liabilities* (i.e. PAYs plus CAY) was \$722 thousand at May 2020 – this compares to the \$738 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).

COVID-19 impact

The current valuation includes a nominal \$0.6 million favourable AY2020 adjustment related to the COVID-19 pandemic impact. This adjustment reflects a 30% reduction in a priori loss ratios for short-tailed physical damage coverages over the mid-March to end-of-June period.

Consideration of the impact of the COVID-19 pandemic was discussed with the FA Actuarial Committee and FA Audit & Risk Committee and included input and discussion with Industry stakeholders and uncertainties associated with the current RSP reporting environment, including:

- Limited experience as of Q1
- Potential delayed reporting
- Changes in claims frequency and severity
- Correlations between short-tailed coverages and long-tailed coverages
- Changes in premium volume due to refund/non-renewal/reduction in coverages
- Changes in member’s participation in the Risk Sharing Pools

Given the uncertainties associated with the current RSP reporting environment, this adjustment will be revisited with the 2020 Q2 (June) valuation, which we anticipate will be implemented in the August 2020 Operational Report.

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.

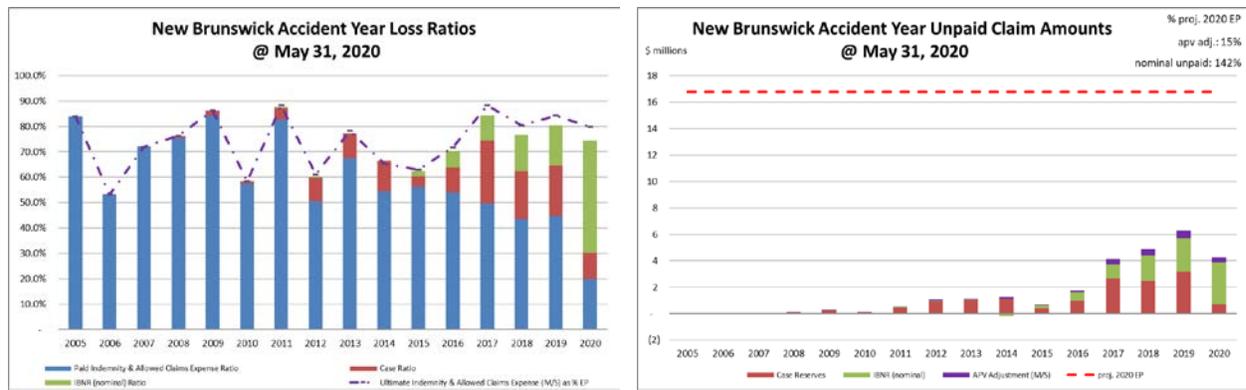
1.4 Consideration of Recent Legal Decisions and Changes in Legislation / Regulation²

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 following charts 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.



"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 (\$2.4 million – see the following table) represents 15% 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.

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.

claim liabilities (\$000s)

	amt	%
case	14,350	54.7%
ibnr	9,435	36.0%
M/S apv adjust.	2,430	9.3%
M/S total	26,215	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 60% of the IBNR balance relates to accident years 2019 and 2020 (see Exhibit B). Approximately 81% of the M/S total claim

liabilities are related to accident years 2016-2020 inclusive (i.e. the most recent 5 accident years), and approximately 2% is related to accident years 2010 and prior (i.e. prior to the most recent 10 accident years).

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

premium liabilities (\$000s)

	amt	%
unearned prem	8,046	118.8%
prem def/(dpac)	(1,776)	(26.2%)
M/S apv adjust.	500	7.4%
M/S total	6,770	100.0%

policy liabilities (\$000s)

	amt	%
claim	23,785	72.1%
premium	6,270	19.0%
M/S apv adjust.	2,930	8.9%
M/S total	32,985	100.0%

2 Activity During the Month of May 2020

2.1 Recorded Premium and Claims Activity

The following table summarizes the extent to which premiums and claims amounts recorded during the month differ from projections reflected in the prior month's Operational Report⁴.

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

Table 01 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	(1)	(1)	197	(51)	(108)	95	89	44
2018	(2)	(2)	82	39	41	28	124	68
2019	(6)	(6)	86	(74)	(173)	(33)	(87)	(107)
2020	1,439	(52)	177	(153)	(61)	(240)	115	(393)
TOTAL	1,430	(61)	541	(239)	(301)	(149)	241	(388)

(Recorded transaction amounts exclude IBNR & other actuarial provisions)

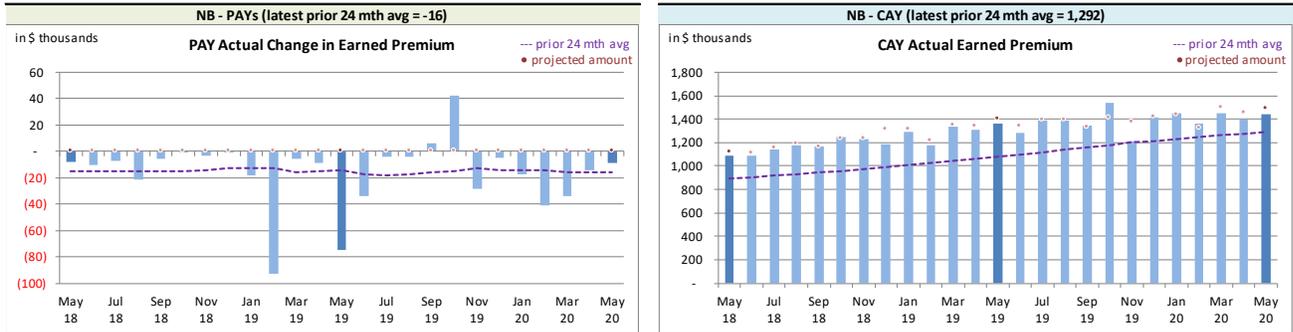
Claims transaction activity is generally volatile and changes from one month to the next are anticipated due to this natural “process variance” (i.e. random variation), and this is particularly true where volumes are low as found in this RSP. Each month, the projection variances are reviewed for signs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

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

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

The following charts 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.

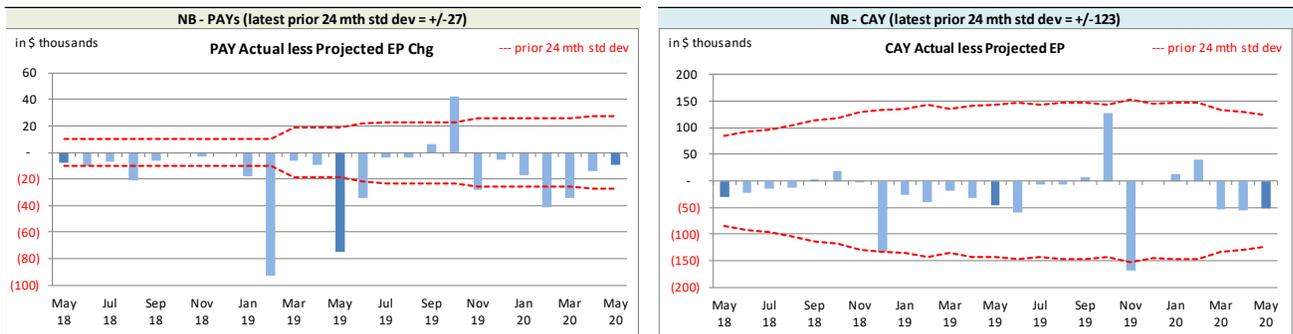
New Brunswick RSP Actual **Earned Premium** by Calendar Month



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 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



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.

On Latest \$ thousands		
Earned Premium	PAYs	CAY
Mthly Avg EP Chg (prior 24 mths)	(16)	1,292
std dev	27	123
A-P <> std dev	9	1
% <> std dev	36.0%	4.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	no better	better

We project **earned premium** changes from known unearned premium balances and projected written premium levels, but upload the total projections as current accident year (CAY). This process has generated prior accident years' (PAYs) bias⁶, with actuals generally lower than our projections, although the magnitude is not high relative to monthly premium. In addition to the PAYs' bias,

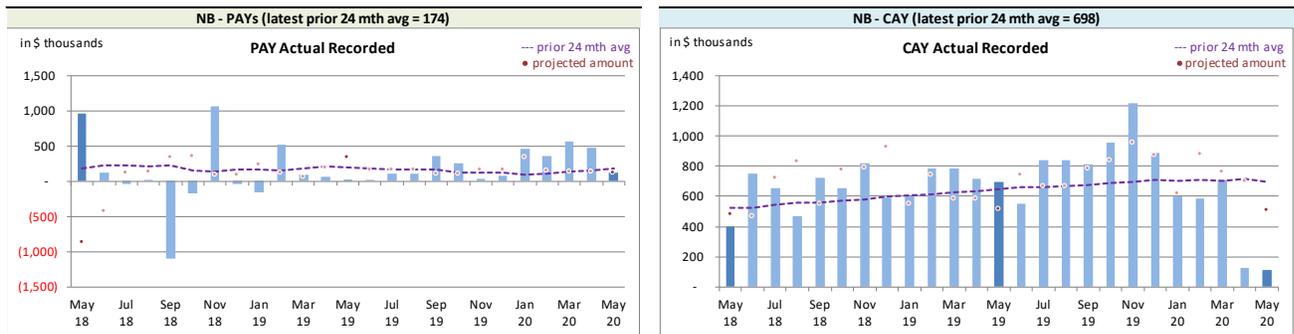
the CAY has also shown bias⁷, with actuals being generally lower than projected, and while we modified our projections processes in response, bias still exists. Over time, we may consider other projection approaches to address the bias issue, but it is not currently deemed as priority.

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

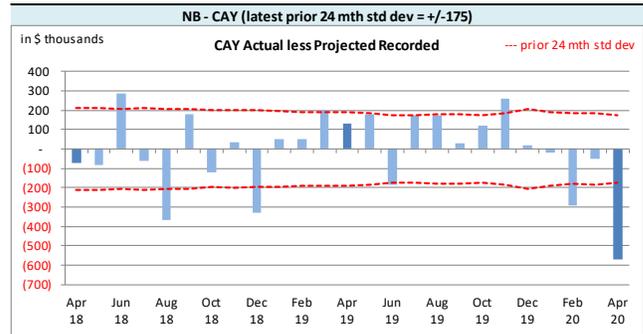
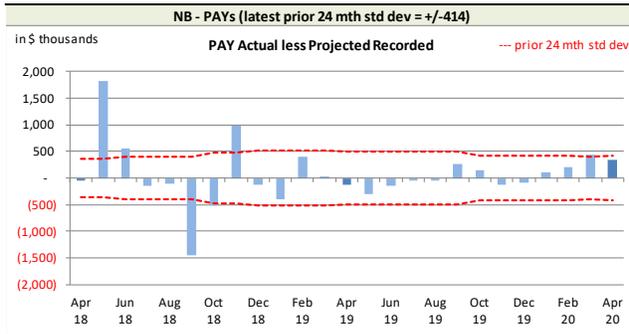


Recorded activity variances from the previous month’s projections are shown in the following charts, including the “prior 24-month standard deviation” levels to show how the variances from projection compare with historical standard deviations.

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

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



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

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

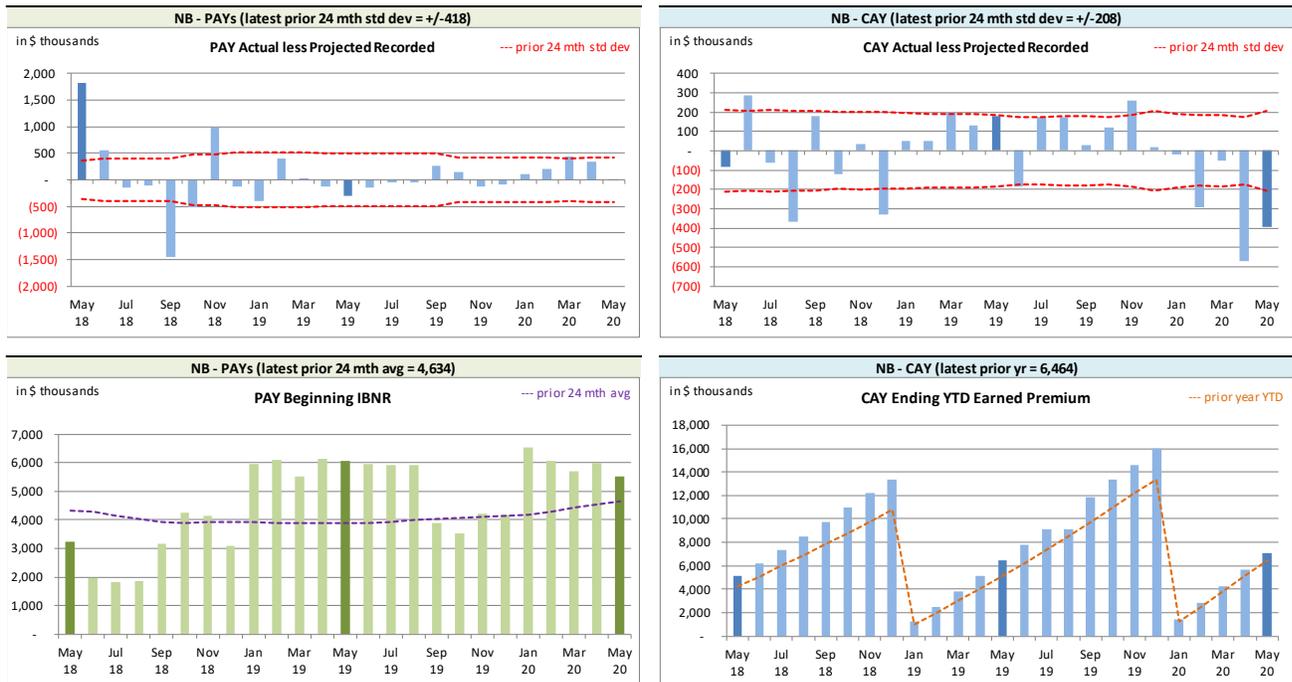
years' (PAYs) **recorded** variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **recorded** amounts (see preceding table to the left), suggesting the projection process has performed better than simply projecting the prior 24-month average amount (assuming it follows a normal distribution). Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (12 of 25 variances are positive).

The current accident year (CAY) **recorded** variances fell outside of one standard deviation 32% of the time over the last 25 calendar months (see 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 (14 of 25 variances are positive).

The CAY **recorded** variance was outside of the one standard deviation band this month (see preceding chart on the right). The significant lower than projected recorded activity was reviewed, and attributed to a reduction in written premium and physical damage claims experience in the month further to the projection adjustment made last month in relation to COVID-19 pandemic. The current month's projection of future recorded activity is based on updated assumptions under the new valuation (as at March 31, 2020) which includes key assumptions updated to reflect the COVID-19 impact.

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 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:

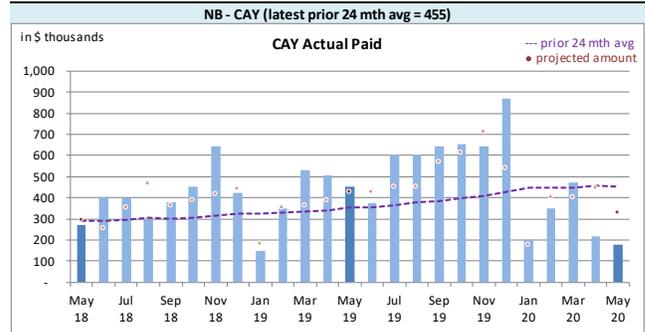
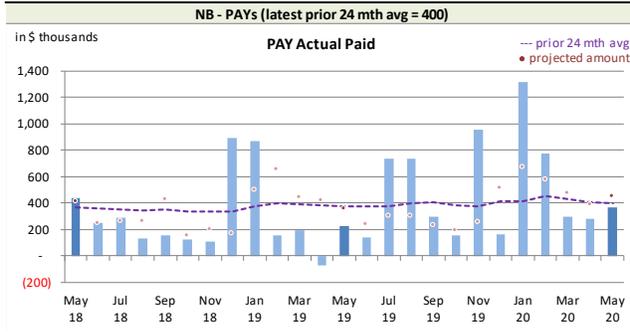
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a CAY becomes a PAY (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of PAYs’ ultimates (will show up as a beginning IBNR change one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

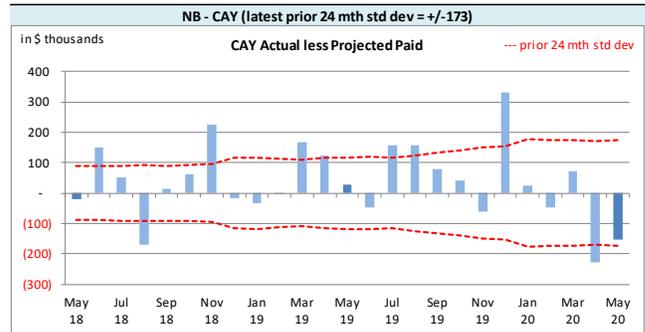
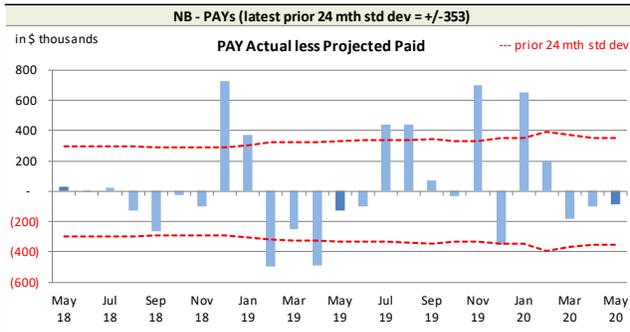
⁸Our recorded activity projections for the prior accident years are based on selected ratios of recorded activity to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date IBNR to year-to-date selected ultimate (i.e. selected LR x earned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

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		
	Paid	
Mthly Avg Paid (prior 24 mths)	PAYs	CAY
	400	455
std dev	353	173
A-P <> std dev	9	9
% <> std dev	36.0%	36.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	no better	no better

With respect to **paid** indemnity & allowed claims expense, caution must be exercised in reviewing the variances as this is a small pool, and single claim transactions that are normal course for the business may look unusual and generate relatively significant variances that in nominal value terms are not that significant in relative or overall terms. That said, 36% of the prior accident years’ (PAYs)

variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **paid** amounts (see 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 not been indicated at a 95% confidence level on a rolling 25-month basis (10 of 25 variances are positive).

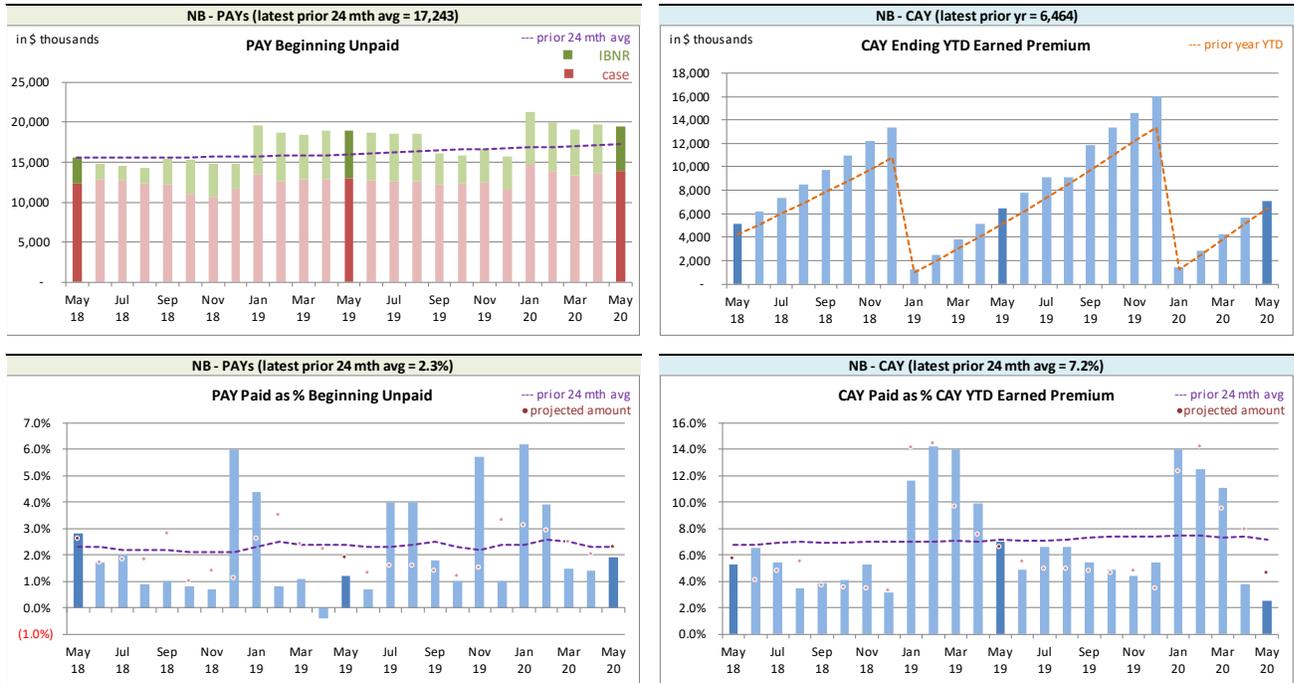
The current accident year (CAY) **paid** variances fell outside of one standard deviation 36% of the time over the last 25 calendar months (see preceding table on the left), suggesting that the projection process has performed no better than simply projecting the prior 24-month average amount. Bias has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

As discussed with respect to projected CAY recorded claims activity, the current month’s projected paid activity is based on the updated assumptions under the new valuation (as at March 31, 2020)

which includes key assumptions updated to reflect COVID-19 impact.

We have included, for reference, the following charts 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

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”.

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

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

New Brunswick RSP Actual vs Projected Summary: IBNR and APV Amounts (\$ thousands)

Table 02

Accident Year	IBNR		actuarial present value adjustments					
			Discount Amount		Provisions for Adverse Deviations		IBNR + actuarial present value adjustments	
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	1,849	230	(139)	188	1,112	66	2,822	484
2018	1,913	103	(83)	117	553	31	2,383	251
2019	2,521	549	(125)	155	731	97	3,127	801
2020	3,152	289	(89)	125	470	22	3,533	436
TOTAL	9,435	1,171	(436)	585	2,866	216	11,865	1,972

The IBNR provision is \$1.2 million higher than projected from last month, counterbalancing the recorded claims activity and adjusting for the earned premium variance impacts indicated in section 2.1., and due to the 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 following table summarizes the variances in the provisions for premium deficiency liability / (deferred policy acquisition cost asset) included in this month’s Operational Report and the one-month projections from last month’s Report. This RSP is in a deferred policy acquisition cost asset position (shown as a negative amount) prior to and after actuarial present value adjustments. Actuarial present value adjustments decrease the asset value as the adjustments increase the expected future policy obligations (costs) associated with the unearned premium. The variances noted are mainly driven by the unearned premium variance, 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:	(1,776)	126	500	115	(1,276)	241
balance as % unearned premium:	(22.1%)	(0.5%)	6.2%	1.8%	(15.9%)	1.3%
actual unearned premium:	8,046					
less projected:	(759)					

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 following table 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 75.7% rather than 74.5% (the valuation ultimate ratio for accident year 2020), as the calendar year-to-date earned premium includes prior accident year earned premium adjustments. (Note that the ratios in this table may differ slightly from those shown in the 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	1,710	24.5%	488	7.0%	2,198	31.5%	1,509
CAY	5,288	75.7%	381	5.5%	5,669	81.2%	1,215	1.0%
TOTAL	6,999	100.2%	869	12.4%	7,868	112.7%	2,725	20.1%

(“% 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 Apr. 2020	Actual May. 2020	Projected Jun. 2020	Projected Jul. 2020	Projected Dec. 2020
	2005	(2)	(2)	(2)	(2)	(2)
	2006	-	-	-	-	-
	2007	(4)	(6)	(6)	(6)	(6)
	2008	11	12	12	12	11
	2009	18	20	20	20	18
	2010	15	16	16	16	15
	2011	116	113	110	109	101
	2012	63	134	131	130	124
	2013	142	126	124	123	116
	2014	(95)	(107)	(102)	(100)	(94)
discount rate	2015	482	274	267	263	247
0.64%	2016	512	788	780	729	636
	2017	1,141	1,454	1,441	1,411	1,276
interest rate margin	2018	2,191	2,383	2,309	2,268	2,040
25 basis pts	2019	2,358	3,127	3,071	3,009	2,608
	2020	2,433	3,533	4,057	4,543	3,211
	TOTAL	9,381	11,865	12,228	12,525	10,301
	Change		2,484	363	297	

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 Apr. 2020	Actual May. 2020	Projected Jun. 2020	Projected Jul. 2020	Projected Dec. 2020
	84.0%	2005	(2)	(2)	(2)	(2)	(2)
	53.2%	2006	-	-	-	-	-
	72.0%	2007	(4)	(7)	(7)	(7)	(7)
	76.3%	2008	4	4	4	4	4
	86.1%	2009	(4)	(4)	(4)	(4)	(4)
	58.3%	2010	8	8	8	8	8
	87.8%	2011	76	66	64	63	57
	60.2%	2012	(6)	44	43	42	41
	77.4%	2013	60	29	28	28	27
	64.4%	2014	(164)	(195)	(189)	(186)	(174)
	62.3%	2015	425	217	211	208	195
	70.3%	2016	417	645	639	589	506
	84.4%	2017	854	1,044	1,034	1,013	909
	76.8%	2018	1,866	1,913	1,846	1,809	1,615
	80.5%	2019	1,992	2,521	2,478	2,428	2,119
	74.5%	2020	2,246	3,152	3,608	4,030	2,518
		TOTAL	7,768	9,435	9,761	10,023	7,812
		Change		1,667	326	262	

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

EXHIBIT C
Premium Liabilities

TABLE EXHIBIT C

	Amounts in \$000s				
	Actual Apr. 2020	Actual May. 2020	Projected Jun. 2020	Projected Jul. 2020	Projected Dec. 2020
Premium Liabilities					
(1) unearned premium (UP)	8,099	8,046	8,310	8,231	8,760
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	82.6%	84.1%	84.6%	85.1%	88.7%
(3) expected future costs {(1) x (2)}	6,686	6,770	7,032	7,004	7,766
(4) premium deficiency / (deferred policy acquisition cost)	(1,413)	(1,276)	(1,278)	(1,227)	(994)
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	78.2%	77.9%	78.3%	78.8%	82.1%
(6) expected future costs {(1) x (5)}	6,334	6,270	6,510	6,486	7,190
(7) premium deficiency / (deferred policy acquisition cost)	(1,765)	(1,776)	(1,800)	(1,745)	(1,570)

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	-	(7)	(7)	-	-	1	-	1	1	(6)
2008	71	4	75	-	-	7	-	7	7	82
2009	238	(4)	234	(1)	-	23	-	23	22	256
2010	77	8	85	(1)	-	8	-	8	7	92
2011	416	57	473	(5)	2	47	-	47	44	517
2012	864	41	905	(10)	4	90	(1)	89	83	988
2013	937	27	964	(10)	4	96	(1)	95	89	1,053
2014	1,048	(174)	874	(9)	3	87	(1)	86	80	954
2015	383	195	578	(8)	3	58	(1)	57	52	630
2016	954	506	1,460	(23)	9	146	(2)	144	130	1,590
2017	2,405	909	3,314	(60)	23	411	(7)	404	367	3,681
2018	2,356	1,615	3,971	(75)	28	481	(9)	472	425	4,396
2019	2,481	2,119	4,600	(101)	41	561	(12)	549	489	5,089
PAYs (sub-total):	12,230	5,294	17,524	(303)	117	2,016	(34)	1,982	1,796	19,320
CAY (2020)	4,532	2,518	7,050	(162)	63	811	(19)	792	693	7,743
claims liabilities:	16,762	7,812	24,574	(465)	180	2,827	(53)	2,774	2,489	27,063
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*
premium liabilities:	8,760	(1,570)	7,190	(104)	42	648	(10)	638	576	7,766
*Total may not be sum of parts, as apvs apply to future costs within UPR										
policy liabilities:			31,764	(569)	222	3,475	(63)	3,412	3,065	34,829

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 (Mar. 31,
2020)

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%	12.4%
2018	12.5%	10.0%	12.5%	12.1%
2019	12.5%	10.0%	11.1%	12.2%
2020	12.3%	10.0%	5.5%	11.5%
2021	11.7%	10.0%	5.1%	9.3%
<u>prem liab</u>	<u>11.7%</u>	<u>10.0%</u>	<u>5.1%</u>	<u>9.3%</u>

discount rate: 0.64%
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 (0.64%), the prior valuation assumption (1.62%) 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

AY	Actuarial Present Value of Provisions at Various Discount Rates - Dec. 31, 2020 projected Unpaid							
	0.00%	0.14%	0.64%	1.14%	1.64%	2.14%	1.62%	1.43%
2005	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-
2008	57	57	57	57	56	56	56	56
2009	205	205	204	203	202	201	202	202
2010	67	67	67	67	66	66	66	66
2011	371	371	368	366	363	360	363	364
2012	641	641	637	631	626	620	626	628
2013	778	778	773	767	762	756	762	764
2014	926	926	920	913	905	898	906	908
2015	535	534	530	524	519	514	519	521
2016	1,546	1,546	1,530	1,512	1,494	1,476	1,494	1,501
2017	3,718	3,716	3,675	3,624	3,575	3,528	3,577	3,596
2018	4,296	4,295	4,242	4,179	4,117	4,057	4,119	4,143
2019	5,925	5,922	5,840	5,740	5,643	5,550	5,647	5,683
2020	8,882	8,877	8,749	8,594	8,444	8,299	8,450	8,506
Total	27,947	27,935	27,592	27,177	26,772	26,381	26,787	26,938
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

AY	Dollar Impact Relative to Valuation Assumption							
	0.00%	0.14%	0.64%	1.14%	1.64%	2.14%	1.62%	1.43%
Total	355	343	-	(415)	(820)	(1,211)	(805)	(654)
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

AY	Percentage Impact Relative to Valuation Assumption							
	0.00%	0.14%	0.64%	1.14%	1.64%	2.14%	1.62%	1.43%
2005	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-
2008	-	-	-	-	(1.8%)	(1.8%)	(1.8%)	(1.8%)
2009	0.5%	0.5%	-	(0.5%)	(1.0%)	(1.5%)	(1.0%)	(1.0%)
2010	-	-	-	-	(1.5%)	(1.5%)	(1.5%)	(1.5%)
2011	0.8%	0.8%	-	(0.5%)	(1.4%)	(2.2%)	(1.4%)	(1.1%)
2012	0.6%	0.6%	-	(0.9%)	(1.7%)	(2.7%)	(1.7%)	(1.4%)
2013	0.6%	0.6%	-	(0.8%)	(1.4%)	(2.2%)	(1.4%)	(1.2%)
2014	0.7%	0.7%	-	(0.8%)	(1.6%)	(2.4%)	(1.5%)	(1.3%)
2015	0.9%	0.8%	-	(1.1%)	(2.1%)	(3.0%)	(2.1%)	(1.7%)
2016	1.0%	1.0%	-	(1.2%)	(2.4%)	(3.5%)	(2.4%)	(1.9%)
2017	1.2%	1.1%	-	(1.4%)	(2.7%)	(4.0%)	(2.7%)	(2.1%)
2018	1.3%	1.2%	-	(1.5%)	(2.9%)	(4.4%)	(2.9%)	(2.3%)
2019	1.5%	1.4%	-	(1.7%)	(3.4%)	(5.0%)	(3.3%)	(2.7%)
2020	1.5%	1.5%	-	(1.8%)	(3.5%)	(5.1%)	(3.4%)	(2.8%)
Total	1.3%	1.2%	-	(1.5%)	(3.0%)	(4.4%)	(2.9%)	(2.4%)
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

EXHIBIT G

Page 1 of 2

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

RSP **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)	-	(2)	-	(2)	50.0%	(6)
2008	11	-	-	1	1	9.1%	12
2009	18	(1)	1	2	2	11.1%	20
2010	15	-	-	1	1	6.7%	16
2011	116	(2)	2	(3)	(3)	(2.6%)	113
2012	63	(2)	2	71	71	112.7%	134
2013	142	(3)	(7)	(6)	(16)	(11.3%)	126
2014	(95)	(1)	(88)	77	(12)	12.6%	(107)
2015	482	(10)	6	(204)	(208)	(43.2%)	274
2016	512	(13)	58	231	276	53.9%	788
2017	1,141	(29)	(11)	353	313	27.4%	1,454
2018	2,191	(59)	(72)	323	192	8.8%	2,383
2019	2,358	(32)	109	692	769	32.6%	3,127
2020	2,433	664	361	75	1,100	45.2%	3,533
Grand Total	9,381	512	359	1,613	2,484	26.5%	11,865

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)	-	(3)	-	(3)	75.0%	(7)	
2008	4	-	-	-	-	-	4	
2009	(4)	-	-	-	-	-	(4)	
2010	8	-	-	-	-	-	8	
2011	76	(1)	1	(10)	(10)	(13.2%)	66	
2012	(6)	-	-	50	50	(833.3%)	44	
2013	60	(1)	(9)	(21)	(31)	(51.7%)	29	
2014	(164)	3	(91)	57	(31)	18.9%	(195)	
2015	425	(7)	3	(204)	(208)	(48.9%)	217	
2016	417	(13)	62	179	228	54.7%	645	
2017	854	(26)	(8)	224	190	22.2%	1,044	
2018	1,866	(56)	(69)	172	47	2.5%	1,913	
2019	1,992	(20)	103	446	529	26.6%	2,521	
2020	2,246	617	353	(64)	906	40.3%	3,152	
Grand Total	7,768	496	342	829	1,667	21.5%	9,435	