

New Brunswick Risk Sharing Pool January 2020 Operational Report ACTUARIAL HIGHLIGHTS

Related Bulletin: F2020-014 New Brunswick Risk Sharing Pool – January 2020 Operational Report

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

Should you require any further information, please call Shawn Doherty, Senior Vice President Actuarial & CFO at (416) 644-4968.



ACTUARIAL HIGHLIGHTS

RSP New Brunswick

OPERATIONAL REPORT JANUARY 2020

TABLE OF CONTENTS

1	Summary	2
	.1 Valuation Schedule (Fiscal Year 2020)	
	.2 Appointed Actuary and Hybrid Actuarial Services Model	2
	.3 Consideration of Recent Legal Decisions and Changes in Legislation / Regulat	
	.4 Harmonized Sales Tax	3
	.5 Current Provision Summary	3
2	Activity During the Month of January 2020	4
_	.1 Recorded Premium and Claims Activity	
	2.1.a Actual vs. Projected (AvsP): Earned Premium	5
	2.1.b AvsP: Recorded Indemnity & Allowed Claims Expense	
	2.1.c AvsP: Paid Indemnity & Allowed Claims Expense	8
	.2 Actuarial Provisions	10
3	Iltimate Loss Ratio Matching Method	12
4	Calendar Year-to-Date Results	12
5	Current Operational Report – Additional Exhibits	13
6	EXHIBITS	13



1 Summary

Key Points

- (a) At its Feb. 18, 2020 meeting, the FA Board appointed Mr. Cosimo Pantaleo of Ernst & Young LLP (EY) for fiscal year-end 2019. Recall that Mr. Pantaleo was Acting Appointing Actuary following the resignation of Mr. Liam McFarlane in October 2019. Mr. Pantaleo's appointment was approved by FA Members for fiscal year 2020 at the FA Annual General Meeting held on February 20, 2020.
- (b) The month's activities were generally aligned with projections from last month.

1.1 Valuation Schedule (Fiscal Year 2020)

The January 2020 Operational Report leverages actuarial assumptions consistent with last month (that is, it does not reflect the results of an updated valuation). The table below summarizes the implemented valuations 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	% mfad bp	Mar. 2020	update valuation					
Mar. 31, 2020	% mfad bp	May 2020	update valuation (roll-forward)					
Jun. 30, 2020 % mfad bp		Aug. 2020	update valuation					
Sep. 30, 2020	kep. 30, 2020		update valuation (roll-forward)					

Under the proposed schedule for fiscal year 2020, the off-half valuation quarters ending March 31, 2020 and September 30, 2020 would not reflect a full valuation update of assumptions, but would rather roll-forward key assumptions from the previous valuation.

1.2 Appointed Actuary and Hybrid Actuarial Services Model

Mr. Cosimo Pantaleo of Ernst & Young LLP (EY) was appointed as Actuary by the FA Board at its February 18, 2020 meeting.

Facility Association operates under a hybrid model in relation to the management and provision of actuarial services. Under this model, actuarial services are performed by both Facility Association's



internal staff and its external actuarial consulting firm. The hybrid model approach maximizes the efficiency of resource allocation while providing access to additional expertise and capacity as needed.

1.3 Consideration of Recent Legal Decisions and Changes in Legislation / Regulation¹

There have been no changes in these descriptions since last month's Highlights, other than clarification that recent refers to events within the last five years.

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

1.4 Harmonized Sales Tax

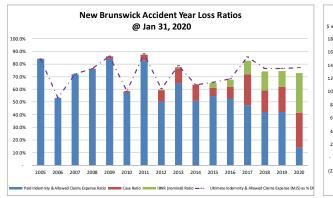
There have been no changes in these descriptions since last month's Highlights other than updated valuation reference.

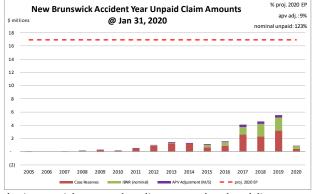
In the fiscal 2016-17 provincial budget released February 2, 2016, the New Brunswick Finance Minister announced a 2 percentage point increase in the provincial component of the harmonized sales tax ("HST") **effective July 1, 2016** increasing the combined HST rate in the province from 13% to 15%.

No explicit adjustments have been made to the valuation assumptions from the **most recent** valuation (September 30, 2019), on the basis that current estimates have implicitly incorporated the impact.

1.5 Current Provision Summary

The charts below show the current levels of claim liabilities² 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.

¹This 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.

²Claim liabilities refer to provision for unpaid indemnity and allowed claims expenses. Allowed claims expenses are first party legal and other expenses as listed in the RSP Claims Guide. Claims expenses paid through the member company expense allowance are NOT included in this discussion.



The current actuarial present value adjustments balance (\$1.6 million – see table below) represents 9% of the earned premium projected for the full year 2020 (see the upper right corner of the right chart at the bottom of the previous page). If our current estimates of the nominal unpaid amounts prove to match actual claims payments, the actuarial present value adjustments will be released into the net operating result over future periods.

claim	liahi	lities	(\$000s)	١
ciaiiii	IIabi	IIIIES	(20003)	1

	amt	%
case	14,230	63.7%
ibnr	6,536	29.2%
M/S apv adjust.	1,588	7.1%
M/S total	22,354	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 37% of the IBNR balance relates to accident years 2019 and 2020 (see Exhibit B). Approximately 74% of the M/S total claim

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

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

premium liabilities (\$000s)

•	,	
	amt	%
unearned prem	8,597	124.8%
prem def/(dpac)	(2,098)	(30.5%)
M/S apv adjust.	389	5.6%
M/S total	6.888	100.0%

policy liabilities (\$000s)

	•	
_	amt	%
claim	20,766	71.0%
premium	6,499	22.2%
M/S apv adjust.	1,977	6.8%
M/S total	29,242	100.0%

2 Activity During the Month of January 2020

2.1 Recorded Premium and Claims Activity

The table below summarizes the extent to which premiums and claims amounts recorded during the month differ from projections reflected in the prior month's Operational Report³.

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

Table 01	Earned Premium		Paid Indemnity &		Case increase /		Recorded increase /	
	Earned Premium		Allowed Claims Expense		(decrease)		(decrease)	
Accident	Actual less		nt Actual Actual less Actual Actual Actual Actual		Actual less	Actual	Actual less	
Year	Actual	Projected	Actual	Projected	Actual	Projected	Actual	Projected
Prior	1	1	686	536	(629)	(516)	57	20
2018	1	1	64	(108)	(151)	(111)	(87)	(219)
2019	(19)	(19)	564	220	(75)	95	489	315
2020	1,449	12	203	25	399	(42)	602	(17)
TOTAL	1,432	(5)	1,517	673	(455)	(573)	1,061	99

(Recorded transaction amounts exclude IBNR & other actuarial provisions)

It is unusual to see actual earned premium transactions affecting prior accident years beyond the first prior at this time in the calendar year –prior accident years changes in the month include activity

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



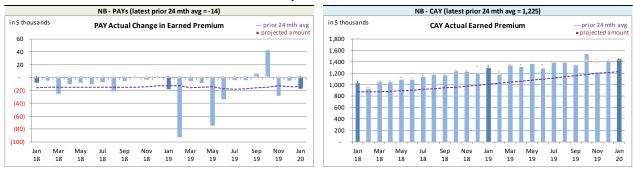
undertaken by a member reflecting recent audit findings.

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

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

The charts below show actual **earned premium**⁴ activity in each of the most recent 25 calendar months, along with a "prior 24-month average" to show how each month's actual compares with the average amount of the preceding 24 calendar months.

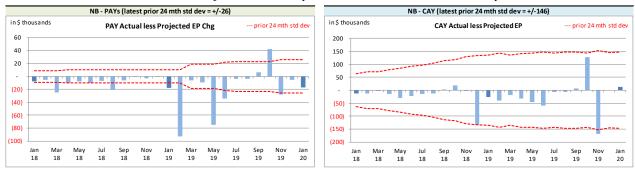
New Brunswick RSP Actual Earned Premium by Calendar Month



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

The associated variance between the actual changes and the projections from the previous month are shown in the charts below. **Earned premium** change projections are all attributed to the current accident year as the projection upload does not accept **earned premium** changes for other accident years. We do not see this limitation as being significant for our purposes, but it does mean that the actual less projection variance will equal the actual **earned premium** change in relation to prior accident years.

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



⁴Premium 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)	(14)	1,225					
std dev	26	146					
A-P <> std dev	8	1					
% <> std dev	32.0%	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 and projected written premium levels, but upload the total projections as current accident year (CAY). This process has generated prior accident years' (PAYs) bias⁵, with actuals generally lower than our projections, although the magnitude is not high relative to monthly premium. In addition to the PAYs' bias,

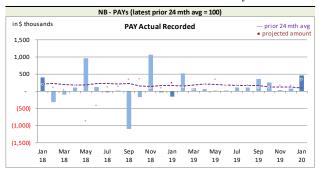
the CAY has also shown bias⁶, with actuals being generally lower than projected, and we have modified our projections processes in response. Over time, we may consider other projection approaches to narrow monthly variance levels further, but it is not currently deemed a priority.

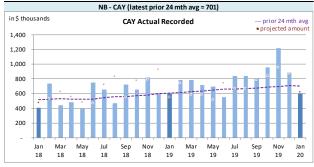
Readers will note the widening of the CAY standard deviation band, reflecting the recent and sustained volume increases and the impact as those increases are earned.

2.1.b AvsP: Recorded Indemnity & Allowed Claims Expense

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

New Brunswick RSP Actual **Recorded** by Calendar Month





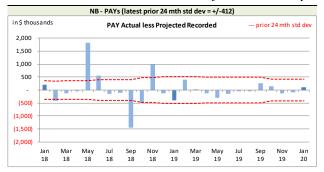
Recorded activity variances from the previous month's projections are shown in the charts at the top of the next page, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

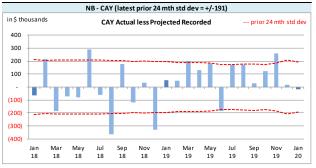
⁵The PAYs' variances will show bias as the projection upload forces all earned premium projections to be attributed to the CAY.

⁶We 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 January 2020 has only 5 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	s	
Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)	100	701
std dev	412	191
A-P <> std dev	6	7
% <> std dev	24.0%	28.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	better	no better

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

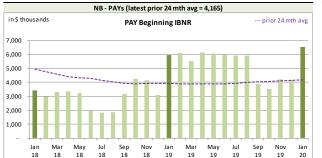
prior accident years' (PAYs) **recorded** variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **recorded** amounts (see table above and to the left), suggesting the projection process has performed better than simply projecting the prior 24-month average amount (assuming it follows a normal distribution). Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (9 of 25 variances are positive).

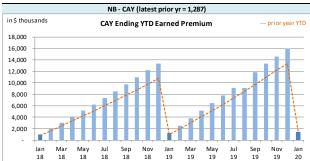
The current accident year (CAY) **recorded** variances fell outside of one standard deviation 28% of the time over the last 25 calendar months (see table above), suggesting the projection process has performed no better than simply projecting the prior 24-month average amount. Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (15 of 25 variances are positive).

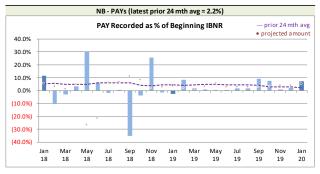
The method for establishing IBNR adjusts automatically for changes in **earned premium** and **recorded** claims activity level (see sections 2.2 and 3).

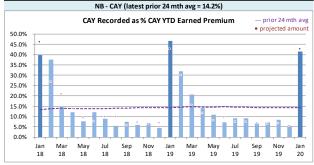
We have included, for reference, additional charts at the top of the next page related to levels influencing **recorded** activity. Note in particular the increase in the level of PAY beginning IBNR over the months. Part of this will be as a response to valuations and showing up as a beginning IBNR change one month after the valuation is implemented (i.e. April, June, September, and November).











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);

New Brunswick RSP Levels that influence Recorded activity by Calendar Month

- the annual switchover as a CAY becomes a PAY (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of PAYs' ultimates (will show up as a beginning IBNR change one month after the valuation is implemented, i.e. the change will generally show in April, June, September, and November).

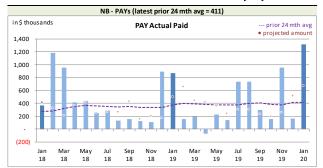
2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

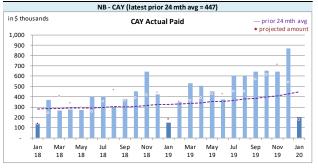
The charts at the top of the next page show actual **paid** activity in each of the most recent 25 calendar months, along with a "prior 24-month average" to show how each month's actual compares with the average amount of the preceding 24 calendar months.

⁷Our 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

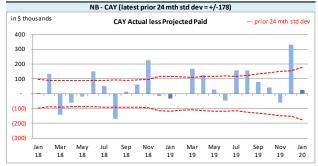




Paid activity variances from the previous month's projections are shown in the charts below, including the "prior 24-month standard deviation" levels to show how the variances from projection compare with historical standard deviations.

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





On Latest \$ thousands						
Paid	PAYs	CAY				
Mthly Avg Paid (prior 24 mths)	411	447				
std dev	348	178				
A-P <> std dev	11	10				
% <> std dev	44.0%	40.0%				
norm <> std dev	31.7%	31.7%				
performance vs 24-mth avg:	worse	worse				

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, 44% of the prior accident years' (PAYs)

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

The PAYs **paid** variances were outside of the one standard deviation band this month (see left chart above). The activity was reviewed and attributed to process variance.

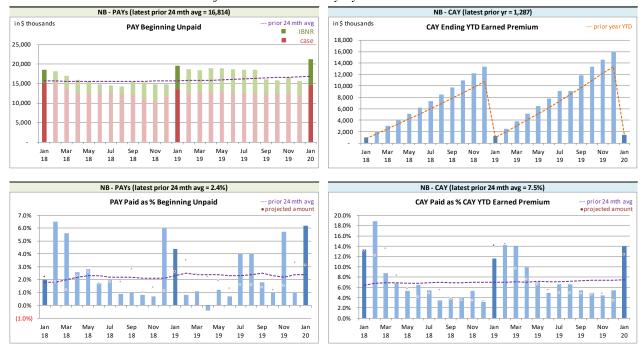
The current accident year (CAY) **paid** variances fell outside of one standard deviation 40% of the time over the last 25 calendar months (see table above), suggesting that the projection process has performed worse than simply projecting the prior 24-month average amount. Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (16 of 25 variances are positive).



The CAY **paid** variances were outside of the one standard deviation band this month (see left chart at the bottom of the previous page). The activity was reviewed and attributed to process variance.

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

New Brunswick RSP Levels that influence⁸ 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 IBNR⁹, 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

⁸Our 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.

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



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.

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

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

Table 02	Table 02			e 02 actuarial present value adjustments				
	IDND		Provisions for Adverse		for Adverse	IBNR + actuarial present		
	ID	IBNR		Discount Amount		ations	value adj	ustments
Accident	Actual	Actual less	Actual	Actual less	Actual	Actual less	Actual	Actual less
Year	Actual	Projected	Actual	Projected	Actual	Projected	Actual	Projected
Prior	2,135	(21)	(315)	10	1,159	(54)	2,979	(65)
2018	1,970	220	(190)	(5)	518	13	2,298	228
2019	1,976	(329)	(247)	12	605	(27)	2,334	(344)
2020	455	25	(42)	1	100	(2)	513	24
TOTAL	6,536	(105)	(794)	18	2,382	(70)	8,124	(157)

The IBNR provision is \$0.1 million lower than projected from last month, counterbalancing the recorded claims activity and adjusting for the earned premium variance impacts indicated in section 2.1.

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

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

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

The table at the top of the next page summarizes the variances in the provisions for premium deficiency liability / (deferred policy acquisition cost asset) included in this month's Operational Report and the one-month projections from last month's Report. This RSP is in a deferred policy acquisition cost asset position (shown as a negative amount) prior to and after actuarial present value adjustments. Actuarial present value adjustments decrease the asset value as the adjustments increase the expected future policy obligations (costs) associated with the unearned premium. The variances noted are mainly driven by the unearned premium variance.





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	Actual	Actual less	Actual	Actual less
_		7101001	Projected	7101001	Projected	, totaai	Projected
	balance:	(2,098)	(70)	389	14	(1,709)	(56)
	balance as % unearned premium:	(24.4%)	-	4.5%	-	(19.9%)	-

actual unearned premium: 8,597 less projected: 293

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 loss¹⁰ ratio per latest valuation
- (c) Estimated ultimate incurred = (a) x (b)
- (d) Recorded indemnity & allowed claims expense to-date
- (e) IBNR = (c) (d)

4 Calendar Year-to-Date Results

The table at the top of the next page summarizes the calendar year-to-date results for indemnity & allowed claims expenses¹¹, 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 73.8% rather than 73.0% (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.)

¹⁰"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).

¹¹Allowed 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.



Table 04	YTD Nominal Values		YTD actuarial present value adjustment		YTD To	tal	Change from Prior Month YTD	
	Amount	% EP	Amount	% EP	Amount	% EP	Amount	LR pts
PAYs	(14)	(1.0%)	(31)	(2.2%)	(45)	(3.1%)	#N/A	#N/A
CAY	1,057	73.8%	58	4.1%	1,115	77.9%	#N/A	#N/A
TOTAL	1.043	72.9%	27	1.9%	1.070	74.7%	#N/A	#N/A

("% EP" based on 2019 calendar year-to-date earned premium; ratios may not total due to rounding)

In general, prior accident years (PAYs) changes from last month are due to the release of the actuarial present value adjustments with claims payments, except when valuations are implemented. The loss ratio change year-to-date in Table 04 reflects not only changes in the prior accident year levels, but also the increase in the calendar year-to-date earned premium with an additional month's earned premium.

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

5 Current Operational Report – Additional Exhibits

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

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

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

The ultimate loss ratios detailed in section 6, Exhibit B, refer to the estimates derived on the basis of various actuarial methodologies applied to the experience of the New Brunswick Risk Sharing Pool for the purposes of the most recent quarterly valuation. As discussed in section 3, IBNR reflected in the current month's Operational Report was derived as the difference between the estimated ultimate for the claims amount (i.e. earned premium x ultimate loss ratio) and the associated current recorded amounts (life-to-date payments plus current case reserves).

6 EXHIBITS

The exhibits listed below are provided on the pages that follow:

EXHIBIT A IBNR for Member Sharing – includes Actuarial Present Value Adjustments

EXHIBIT B IBNR

EXHIBIT C Premium Liabilities

EXHIBIT D Projected Year-end Policy Liabilities

EXHIBIT E Discount Rate & Margins for Adverse Deviations

EXHIBIT F Interest Rate Sensitivity

EXHIBIT G Components of IBNR Change During Month



EXHIBIT A

IBNR for Member Sharing – includes Actuarial Present Value Adjustments

TABLE EXHIBIT A	Amounts in \$000s								
IBNR + M/S actuarial present	Accident	Actual	Actual	Projected	Projected	Projected			
value adjustments	Year	Dec. 2019	Jan. 2020	Feb. 2020	Mar. 2020	Dec. 2020			
	2005	(2)	(2)	(2)	(2)	(2)			
	2006	-	-	-	-	-			
	2007	(4)	(4)	(4)	(4)	(4)			
	2008	11	11	11	11	10			
	2009	16	17	18	17	14			
	2010	29	29	29	29	25			
	2011	49	49	49	49	42			
	2012	117	114	112	111	95			
	2013	153	191	187	185	156			
	2014	59	11	12	12	14			
discount rate	2015	472	430	421	418	353			
1.43%	2016	668	665	651	630	497			
	2017	1,472	1,468	1,411	1,368	1,115			
interest rate margin	2018	2,204	2,298	2,225	2,160	1,731			
25 basis pts	2019	2,871	2,334	2,305	2,276	1,846			
	2020	-	513	646	958	2,951			
	2021	-	-	-	-	-			
	TOTAL	8,115	8,124	8,071	8,218	8,843			
	Change		9	(53)	147				

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



EXHIBIT B

IBNR

TABLE EXHIBIT B				Amount	s in \$000s		
IBNR	Ultimate Loss Ratio	Accident Year	Actual Dec. 2019	Actual Jan. 2020	Projected Feb. 2020	Projected Mar. 2020	Projected Dec. 2020
	84.0%	2005	(2)	(2)	(2)	(2)	(2)
	53.2%	2006	-	-	-	-	-
	72.0%	2007	(4)	(4)	(4)	(4)	(4)
	76.3%	2008	4	4	4	4	4
	86.1%	2009	(4)	(4)	(4)	(4)	(4)
	58.4%	2010	20	20	20	20	18
	87.5%	2011	11	11	11	11	10
	59.7%	2012	42	40	39	39	33
	77.5%	2013	48	84	82	81	67
	62.8%	2014	(25)	(75)	(73)	(72)	(59)
	64.9%	2015	356	354	346	343	288
	67.4%	2016	574	561	550	533	411
	82.5%	2017	1,173	1,146	1,102	1,069	853
	74.1%	2018	1,882	1,970	1,911	1,854	1,461
	74.2%	2019	2,479	1,976	1,956	1,936	1,587
	73.0%	2020	-	455	549	816	2,477
	75.0%	2021	-	-	-	-	-
		TOTAL	6,554	6,536	6,487	6,624	7,140
		Change		(18)	(49)	137	

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



EXHIBIT C

Premium Liabilities

TABLE EXHIBIT C	Amounts in \$000s							
	Actual	Actual	Projected	Projected	Projected			
Premium Liabilities	Dec. 2019	Jan. 2020	Feb. 2020	Mar. 2020	Dec. 2020			
(1) unearned premium (UP)	8,774	8,597	7,887	8,050	8,350			
FOR MEMBER SHARING								
(2) expected future costs ratio {% of (1)}	80.1%	80.1%	80.1%	80.2%	82.2%			
(3) expected future costs {(1) x (2)}	7,028	6,888	6,320	6,459	6,866			
(4) premium deficiency / (deferred policy								
acquisition cost)	(1,746)	(1,709)	(1,567)	(1,591)	(1,484)			
Excluding Actuarial Present Value Adjustments								
(5) expected future costs ratio {% of (1)}	75.6%	75.6%	75.6%	75.7%	77.6%			
(6) expected future costs {(1) x (5)}	6,631	6,499	5,963	6,093	6,477			
(7) premium deficiency / (deferred policy								
acquisition cost)	(2,143)	(2,098)	(1,924)	(1,957)	(1,873)			



EXHIBIT D

Projected Year-end Policy Liabilities

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

New Brunswick	Projected Balances as at Dec. 31, 2020 (\$000s)												
ending 2020	nominal values				actuarial present value adjustments (apvs)								
Acc Yr	Case	IBNR	Total Unpaid	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL			
2005	-	(2)	(2)	-	-	-	-	-	-	(2)			
2006	-	-	-	-	-	-	-	-	-	-			
2007	-	(4)	(4)	=	-	-	-	-	-	(4)			
2008	64	4	68	(1)	-	7	-	7	6	74			
2009	215	(4)	211	(4)	1	21	-	21	18	229			
2010	75	18	93	(2)	-	9	-	9	7	100			
2011	395	10	405	(9)	2	40	(1)	39	32	437			
2012	755	33	788	(18)	3	79	(2)	77	62	850			
2013	1,056	67	1,123	(24)	3	112	(2)	110	89	1,212			
2014	1,002	(59)	943	(23)	4	94	(2)	92	73	1,016			
2015	582	288	870	(24)	4	87	(2)	85	65	935			
2016	787	411	1,198	(36)	6	120	(4)	116	86	1,284			
2017	2,199	853	3,052	(119)	21	375	(15)	360	262	3,314			
2018	2,026	1,461	3,487	(157)	24	422	(19)	403	270	3,757			
2019	2,125	1,587	3,712	(178)	30	427	(20)	407	259	3,971			
PAYs (sub-total):	11,281	4,663	15,944	(595)	98	1,793	(67)	1,726	1,229	17,173			
CAY (2020)	4,459	2,477	6,936	(340)	55	798	(39)	759	474	7,410			
claims liabilities:	15,740	7,140	22,880	(935)	153	2,591	(106)	2,485	1,703	24,583			
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*			
premium liabilities:	8,350	(1,873)	6,477	(200)	31	576	(18)	558	389	6,866			
						*	Total may not be s	um of parts, as ap	ovs apply to future	costs within UPR			
policy liabilities:			29,357	(1,135)	184	3,167	(124)	3,043	2,092	31,449			



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, 2019 from the valuation), followed by the selected discount rate and the associated margin for investment income.

Selected Claims Development MfADs (Sep. 30, 2019)

Accident	Third Party	Accident	Other	Tatal
Year	Liability	Benefits	Coverages	Total
	Margins	Margins	Margins	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%	8.7%	10.0%
2017	12.5%	10.0%	10.7%	12.3%
2018	12.5%	10.0%	12.5%	12.1%
2019	12.3%	10.0%	5.6%	11.5%
2020	11.7%	10.0%	5.1%	9.2%
prem liab	11.7%	10.0%	5.1%	9.2%

discount rate: 1.43% 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, 2019 from the latest valuation date (projections in exhibits A to D are to Dec. 31, 2020, and are based on more up-to-date information). We have included the most recent valuation selection (1.43%), the prior valuation assumption (1.41%) and the prior fiscal year end valuation assumption (2.29%) for comparative purposes. A 25 basis point margin for investment return adverse deviation is used in all scenarios presented.

\$ Format: \$000s

	Actuar	ial Present Va	lue of Provision	ons at Various	Discount Rate	es - Dec. 31, 20	19 projected l	Jnpaid
AY	0.43%	0.93%	1.43%	1.93%	2.43%	2.93%	1.41%	2.29%
2005	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-
2007	-		-		-		-	-
2008	79	78	78	77	77	76	78	77
2009	225	223	222	220	219	217	222	219
2010	109	108	107	106	106	105	107	106
2011	469	465	462	458	454	451	462	455
2012	876	870	863	857	851	845	864	853
2013	2,244	2,225	2,206	2,188	2,170	2,153	2,207	2,175
2014	1,153	1,141	1,130	1,120	1,109	1,099	1,131	1,112
2015	1,636	1,619	1,602	1,585	1,569	1,553	1,602	1,573
2016	1,565	1,543	1,522	1,502	1,481	1,462	1,523	1,487
2017	4,157	4,089	4,024	3,960	3,898	3,838	4,026	3,915
2018	4,691	4,610	4,532	4,456	4,383	4,312	4,535	4,403
2019	6,850	6,728	6,612	6,498	6,388	6,283	6,616	6,419
Total	24,054	23,699	23,360	23,027	22,705	22,394	23,373	22,794
	curr - 100 bp	curr - 50 bp	curr val	curr + 50bp	curr + 100bp	curr + 150bp	prior val	prior fyr end
			assumption				assumption	assumption
				,				
			Dollar Imp	act Relative t	o Valuation As	sumption		
AY	0.43%	0.93%	1.43%	1.93%	2.43%	2.93%	1.41%	2.29%
Total	694	339	-	(333)	(655)	(966)	13	
	curr - 100 bp	FO I						
	curr - 100 pp	curr - 50 bp	curr val	curr + 50bp	curr + 100bp	curr + 150bp	prior val	prior fyr end
	curr - 100 bp	curr - 50 pp	assumption	-	curr + 100bp	curr + 150bp	3 .	1.
	син - 100 бр	curr - 50 bp	assumption				3 .	11
		·	assumption Percentage I	mpact Relativ	e to Valuation	Assumption	assumption	assumption
AY	0.43%	0.93%	assumption				3 .	11
AY 2005		·	assumption Percentage I	mpact Relativ	e to Valuation	Assumption	assumption	assumption
		·	assumption Percentage I	mpact Relativ	e to Valuation	Assumption	assumption	assumption
2005		·	assumption Percentage I	mpact Relativ	e to Valuation	Assumption	assumption	assumption
2005 2006		·	assumption Percentage I	mpact Relativ	e to Valuation	Assumption	assumption	assumption
2005 2006 2007	0.43%	·	assumption Percentage I	mpact Relativ 1.93% - 	e to Valuation 2.43% - - -	Assumption 2.93%	assumption	2.29% - - -
2005 2006 2007 2008	0.43%	0.93%	assumption Percentage I	mpact Relativ 1.93% - - - - (1.3%)	e to Valuation 2.43% (1.3%)	Assumption 2.93% (2.6%)	assumption	2.29% - - - (1.3%)
2005 2006 2007 2008 2009	0.43% - - - 1.3% 1.4%	0.93%	assumption Percentage I	1.93% (1.3%) (0.9%)	e to Valuation 2.43% (1.3%) (1.4%)	Assumption 2.93% (2.6%) (2.3%)	assumption	2.29%
2005 2006 2007 2008 2009 2010	0.43%	0.93% - - - - - 0.5% 0.9%	assumption Percentage I	1.93%	e to Valuation 2.43% (1.3%) (1.4%) (0.9%)	Assumption 2.93% (2.6%) (2.3%) (1.9%)	assumption	2.29%
2005 2006 2007 2008 2009 2010 2011	0.43%	0.93% - - - - - 0.5% 0.9% 0.6%	assumption Percentage I	1.93% 1.93% 	e to Valuation 2.43% (1.3%) (1.4%) (0.9%) (1.7%)	Assumption 2.93%	1.41%	2.29%
2005 2006 2007 2008 2009 2010 2011 2012	0.43%	0.93% 	assumption Percentage I	1.93%	e to Valuation 2.43% (1.3%) (1.4%) (0.9%) (1.7%) (1.4%)	2.93%	1.41%	2.29%
2005 2006 2007 2008 2009 2010 2011 2012 2013	0.43%	0.93% 	assumption Percentage I	1.93%	e to Valuation 2.43% (1.3%) (1.4%) (0.9%) (1.7%) (1.4%) (1.6%)	Assumption 2.93%	1.41%	2.29%
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014	0.43%	0.93%	assumption Percentage I	1.93% 1.93% (1.3%) (0.9%) (0.9%) (0.9%) (0.7%) (0.8%) (0.9%)	e to Valuation 2.43% (1.3%) (1.4%) (0.9%) (1.7%) (1.4%) (1.6%) (1.9%)	Assumption 2.93% (2.6%) (2.3%) (1.9%) (2.4%) (2.4%) (2.4%) (2.7%)	1.41%	2.29%
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015	0.43%	0.93%	assumption Percentage I	1.93% 1.93% (1.3%) (0.9%) (0.9%) (0.7%) (0.8%) (0.9%) (1.1%)	e to Valuation 2.43% (1.3%) (1.4%) (0.9%) (1.7%) (1.4%) (1.6%) (1.9%) (2.1%)	Assumption 2.93% (2.6%) (2.3%) (1.9%) (2.4%) (2.1%) (2.4%) (2.7%) (3.1%)	1.41%	2.29%
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016	0.43%	0.93%	assumption Percentage I	1.93% (1.3%) (0.9%) (0.9%) (0.9%) (0.7%) (0.8%) (0.9%) (1.1%) (1.3%)	e to Valuation 2.43% (1.3%) (1.4%) (0.9%) (1.7%) (1.4%) (1.6%) (1.9%) (2.1%) (2.7%)	Assumption 2.93% (2.6%) (2.3%) (1.9%) (2.4%) (2.1%) (2.4%) (3.1%) (3.9%)	1.41%	2.29%
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016	0.43%	0.93%	assumption Percentage I	1.93% 1.93% (1.3%) (0.9%) (0.9%) (0.7%) (0.8%) (0.9%) (1.1%) (1.3%) (1.6%)	e to Valuation 2.43% (1.3%) (1.4%) (0.9%) (1.7%) (1.4%) (1.6%) (1.9%) (2.1%) (2.7%) (3.1%)	Assumption 2.93% (2.6%) (2.3%) (1.9%) (2.4%) (2.1%) (2.4%) (2.7%) (3.1%) (3.9%) (4.6%)	1.41%	2.29%
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	0.43%	0.93%	assumption Percentage I	1.93% 1.93% (1.3%) (0.9%) (0.9%) (0.9%) (0.7%) (0.8%) (1.1%) (1.3%) (1.6%) (1.7%)	e to Valuation 2.43% (1.3%) (1.4%) (0.9%) (1.7%) (1.4%) (2.1%) (2.1%) (3.1%) (3.3%)	Assumption 2.93% (2.6%) (2.3%) (1.9%) (2.4%) (2.1%) (2.4%) (3.1%) (3.9%) (4.6%) (4.9%)	1.41%	2.29%
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019	0.43%	0.93%	assumption Percentage I	(1.3%) (0.9%) (0.9%) (0.9%) (0.9%) (0.9%) (1.1%) (1.3%) (1.6%) (1.7%)	e to Valuation 2.43% (1.3%) (1.4%) (0.9%) (1.7%) (1.4%) (2.1%) (2.1%) (3.1%) (3.3%) (3.4%)	Assumption 2.93% (2.6%) (2.3%) (1.9%) (2.4%) (2.1%) (2.4%) (3.1%) (4.6%) (4.9%) (5.0%) (4.1%)	1.41% 1.41%	2.29% (1.3%) (1.4%) (0.9%) (1.5%) (1.2%) (1.4%) (1.6%) (1.8%) (2.3%) (2.7%) (2.8%) (2.9%)
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019	0.43%	0.93%	assumption Percentage I 1.43%	1.93% 1.93% (1.3%) (0.9%) (0.9%) (0.9%) (0.9%) (1.1%) (1.3%) (1.6%) (1.7%) (1.4%) curr + 50bp	e to Valuation 2.43% (1.3%) (1.4%) (0.9%) (1.7%) (1.4%) (2.1%) (2.1%) (3.1%) (3.3%) (3.4%) (2.8%)	Assumption 2.93% (2.6%) (2.3%) (1.9%) (2.4%) (2.1%) (2.4%) (3.1%) (4.6%) (4.9%) (5.0%) (4.1%)	1.41% 1.41%	2.29% (1.3%) (1.4%) (0.9%) (1.5%) (1.2%) (1.4%) (2.3%) (2.3%) (2.7%) (2.8%) (2.9%)



EXHIBIT G

Page 1 of 2

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

RSP	New Brunswick
AccountCode Desc	IBNR - Discounted

Values							
AccYear	Sum of Prior Month Actual Amount	Sum of Projected Change	Sum of Change Due to AvsP Variances	Sum of Change Due to Valuation Implementation	Sum of Total Change	Sum of % Total Change	Sum of Current Month Final Amount
2005	(2)	-	-	-	-	-	(2)
2006	-	-	-	-	-	-	-
2007	(4)	-	-	-	-	-	(4)
2008	11	1	(1)	-	-	-	11
2009	16	2	(1)	-	1	6.3%	17
2010	29	-	-	-	-	-	29
2011	49	1	(1)	-	-	-	49
2012	117	(2)	(1)	-	(3)	(2.6%)	114
2013	153	2	36	-	38	24.8%	191
2014	59	3	(51)	-	(48)	(81.4%)	11
2015	472	(5)	(37)	-	(42)	(8.9%)	430
2016	668	(5)	2	-	(3)	(0.4%)	665
2017	1,472	7	(11)	-	(4)	(0.3%)	1,468
2018	2,204	(134)	228	-	94	4.3%	2,298
2019	2,871	(193)	(344)	-	(537)	(18.7%)	2,334
2020	-	489	24	-	513	100.0%	513
Grand Total	8,115	166	(157)	-	9	0.1%	8,124



EXHIBIT G

Page 2 of 2

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

RSP New Brunswick
AccountCode Desc IBNR - Undiscounted IBNR - in \$000s

	Values						
AccYear	Sum of Prior Month Actual Amount	Sum of Projected Change	Sum of Change Due to AvsP Variances	Sum of Change Due to Valuation Implementation	Sum of Total Change	Sum of % Total Change	Sum of Current Month Final Amount
2005	(2)	-	-	-	-	-	(2)
2006	-	-	-	-	-	-	-
2007	(4)	-	-	-	-	-	(4)
2008	4	-	-	-	-	-	4
2009	(4)	-	-	-	-	=	(4)
2010	20	-	-	-	-	-	20
2011	11	-	-	-	-	-	11
2012	42	(1)	(1)	-	(2)	(4.8%)	40
2013	48	(1)	37	-	36	75.0%	84
2014	(25)	1	(51)	-	(50)	200.0%	(75)
2015	356	(7)	5	-	(2)	(0.6%)	354
2016	574	(17)	4	-	(13)	(2.3%)	561
2017	1,173	(12)	(15)	-	(27)	(2.3%)	1,146
2018	1,882	(132)	220	-	88	4.7%	1,970
2019	2,479	(174)	(329)	-	(503)	(20.3%)	1,976
2020	-	430	25	-	455	100.0%	455
Grand Total	6,554	87	(105)	-	(18)	(0.3%)	6,536