



NEW BRUNSWICK RISK SHARING POOL

FEBRUARY 2021 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

Related Bulletin: [F2021-021_NB_RSP_February_2021_Operational_Report](#)

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ACTUARIAL HIGHLIGHTS**RSP NEW BRUNSWICK****OPERATIONAL REPORT****FEBRUARY 2021**

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1 Summary

Note to members: we are currently reviewing our member reporting requirements and intend to provide the **Actuarial Highlights quarterly instead of the current monthly reporting**, starting with the March 2021 participation reporting and aligned with the valuation schedule; please contact us with any questions or concerns in regards to this matter.

1.1 Valuation Schedule (Fiscal Year 2021)

The February 2021 Operational Report leverages actuarial assumptions consistent with last month (that is, it does not reflect the results of an updated valuation). The following table summarizes the valuation implementations scheduled for fiscal year 2021.

NEW BRUNSWICK RISK SHARING POOL FISCAL YEAR 2021 – SCHEDULE OF VALUATIONS			
Valuation Date	Discount Rate (per annum)	Operational Report	Description of Changes
Sep 30, 2020 (completed)	0.22% mfad ¹ 25 bp	Oct. 2020	update valuation (roll-forward):); accident year 2020 loss ratio <u>decreased</u> 0.1 points to 65.2%; discount rate <u>decreased</u> 3 basis points; no change to selected margins for adverse deviations
Dec. 31, 2020	% mfad -- bp	Mar. 2021	update valuation:
Mar. 31, 2021	% mfad -- bp	May 2021	update valuation (roll-forward):
Jun. 30, 2021	% mfad -- bp	Aug. 2021	update valuation:
Sep. 30, 2021	% mfad -- bp	Oct. 2021	update valuation (roll-forward):

Under the proposed schedule for fiscal year 2021, the off-half valuation quarters ending March 31, 2021 and September 30, 2021 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

The Annual General Meeting of the members of Facility Association (“FA”) appointed Mr. Cosimo Pantaleo as the Appointed Actuary at its meeting on March 4, 2021.

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 The selected interest rate margin is limited to reducing the selected discount rate to 0%; the approach is that if the net impact is negative, the discount rate will be capped at 0%.

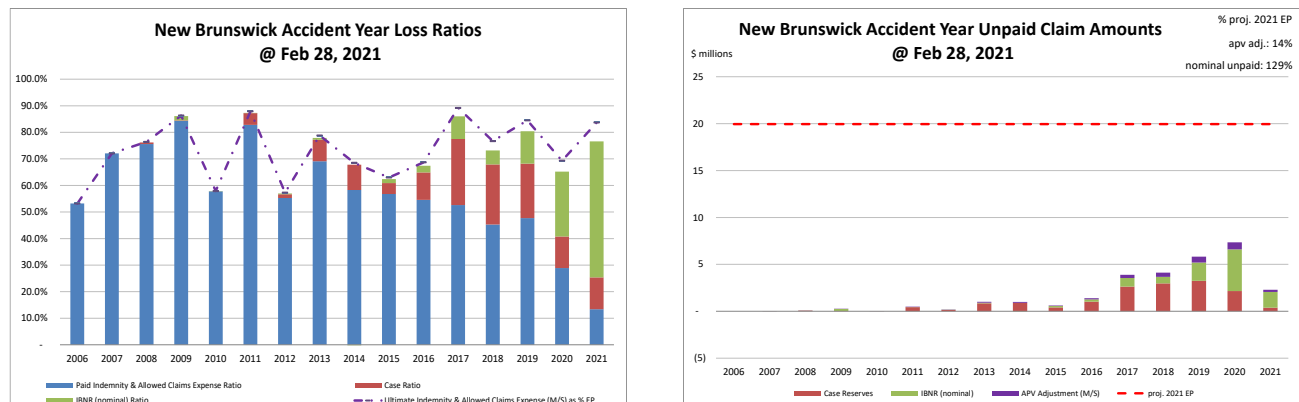
1.3 Consideration of Recent Legal Decisions and Changes in Legislation / Regulation

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

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

1.4 Current Provision Summary

The following charts show the current levels of claim 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 2021 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 (\$2.9 million – see the following table) represents 14% of the earned premium projected for the full year 2021 (see the upper right corner of the right chart above). If our current estimates of the nominal unpaid amounts prove to match actual claims payments, the actuarial present value adjustments will be released into the net operating result over future periods.

claim liabilities (\$'000s)

	amt	%
case	15,306	53.6%
ibnr	10,381	36.4%
M/S apv adjust.	2,868	10.0%
M/S total	28,555	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 59% of the IBNR balance relates to accident years 2020 and 2021 (see Exhibit B).

Approximately 82% of the M/S total claim liabilities are related to accident years 2017-2021 inclusive (i.e. the most recent 5 accident years), and approximately 3% is related to accident years 2011 and prior (i.e. prior to the most recent 10 accident years).

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

premium liabilities (\$000s)			policy liabilities (\$000s)		
	amt	%		amt	%
unearned prem	9,864	115.7%	claim	25,687	69.3%
prem def/(dpac)	(2,050)	(24.0%)	premium	7,814	21.1%
M/S apv adjust.	714	8.4%	M/S apv adjust.	3,582	9.7%
M/S total	8,528	100.0%	M/S total	37,083	100.0%

2 Activity During the Month of February 2021

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 Report³.

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	(4)	(4)	22	(379)	(45)	298	(23)	(81)
2019	(18)	(18)	29	(181)	(0)	158	29	(23)
2020	(24)	(24)	155	(14)	(155)	(80)	1	(93)
2021	1,559	82	337	(90)	168	(371)	505	(461)
TOTAL	1,513	37	544	(663)	(33)	4	512	(659)

(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.

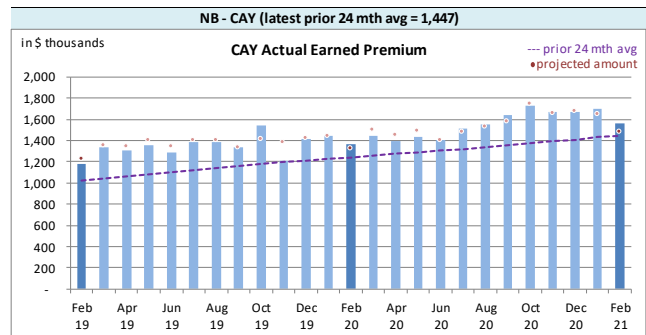
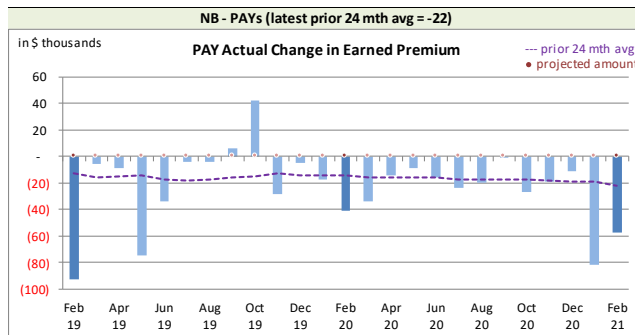
2.1.a Actual vs. Projected (AvsP): Earned Premium

The following charts 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.

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

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.

New Brunswick RSP Actual *Earned Premium* by Calendar Month



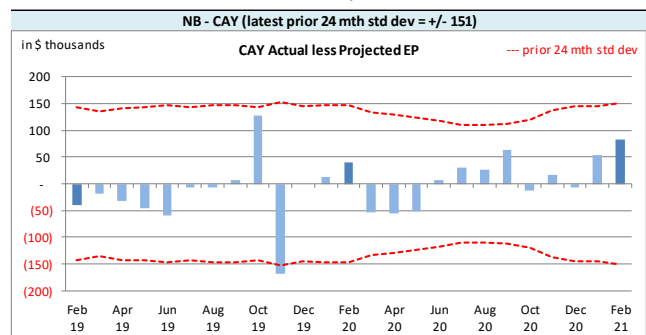
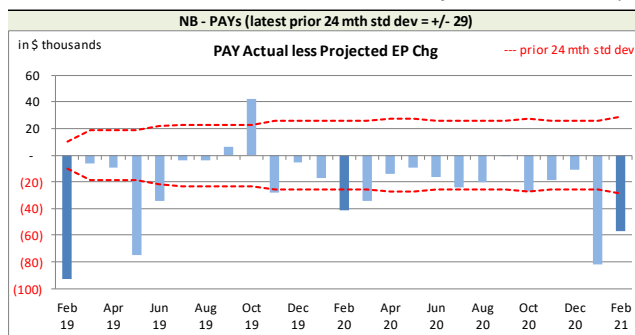
Earned premium changes during a given calendar month in relation to prior accident years tend to be at modest levels, although relatively high levels generally occur at the beginning of each year.

On Latest \$ thousands		
	Earned Premium	PAYs CAY
Mthly Avg EP Chg (prior 24 mths)	(22)	1,447
std dev	29	151
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

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*



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) bias⁵, with actuals generally lower than our projections, although the magnitude is not high relative to monthly premium. However, for the CAY, bias⁶ has not been indicated. Over time, we may consider other projection approaches to address the bias issue, but it is not currently deemed as priority.

Readers will note the widening of the CAY standard deviation band, reflecting the recent and sustained

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

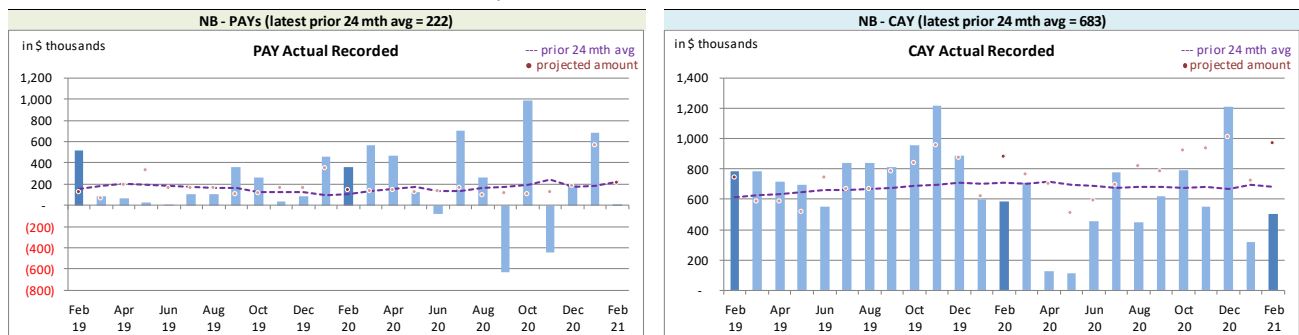
⁶For the binomial distribution with 25 trials and an assumed 50% success probability, the 95% confidence range is 8 to 17 successes. That is, favourable or unfavourable counts of 0 to 7 or 18 to 25 out of 25 outcomes would suggest bias.

volume increases and the impact as those increases are earned.

2.1.b AvsP: Recorded Indemnity & Allowed Claims Expense

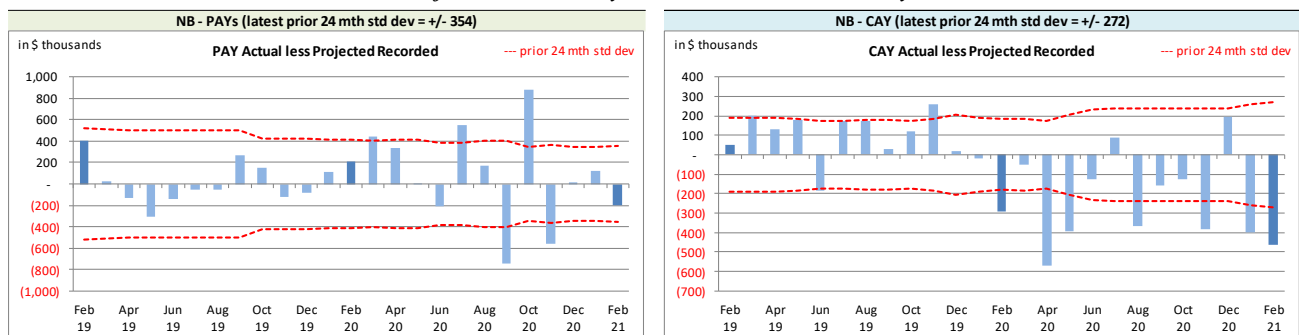
The following charts show actual **recorded** activity (**paid** and case reserve changes), in each of the most recent 25 calendar months, along with a “prior 24-month average” to show how each month’s actual compares with the average amount of the preceding 24 calendar months.

New Brunswick RSP Actual Recorded by Calendar Month



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

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



On Latest \$ thousands		
	Recorded	
Mthly Avg Recorded (prior 24 mths)	PAYs	CAY
std dev	222	683
A-P <> std dev	354	272
% <> std dev	5	10
norm <> std dev	20.0%	40.0%
performance vs 24-mth avg:	31.7%	31.7%
	better	worse

With respect to **recorded** indemnity & allowed claims expense activity, caution must be exercised in reviewing the variances as this is a small pool and single claim transactions that are normal course for the business may look unusual and generate relatively significant variances that in nominal value terms are not that significant in relative or overall terms. That said, 20% of the prior accident

years’ (PAYs) **recorded** variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **recorded** amounts (see preceding table to the left), suggesting the projection process has performed better than simply projecting the prior 24-month average amount (assuming it follows a normal distribution). Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (14 of 25 variances are positive).

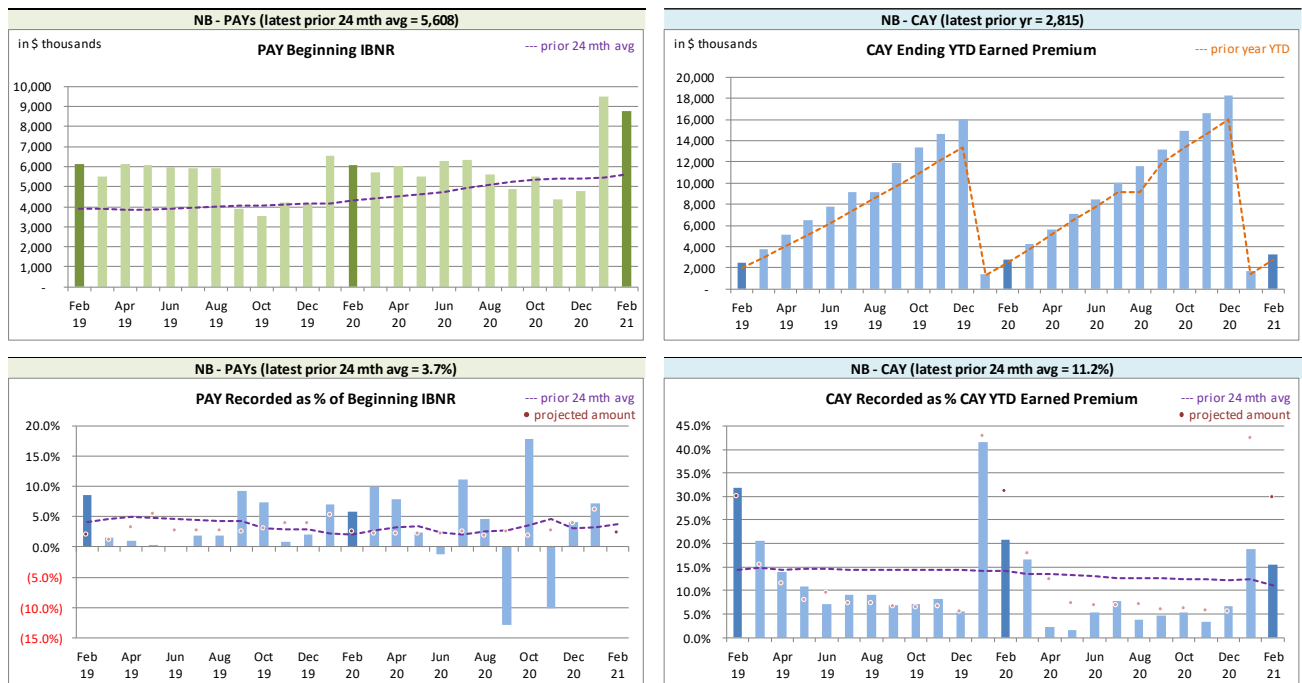
The current accident year (CAY) **recorded** variances fell outside of one standard deviation 40% of the time over the last 25 calendar months (see preceding table on the left), suggesting the projection process has performed worse than simply projecting the prior 24-month average amount. Bias has not been indicated at a 95% confidence level on a rolling 25-month basis (12 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 lower than projected recorded activity was reviewed, and attributed to process variance.

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 influence⁷ Recorded activity by Calendar Month



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

- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a CAY becomes a PAY (occurs in January); and

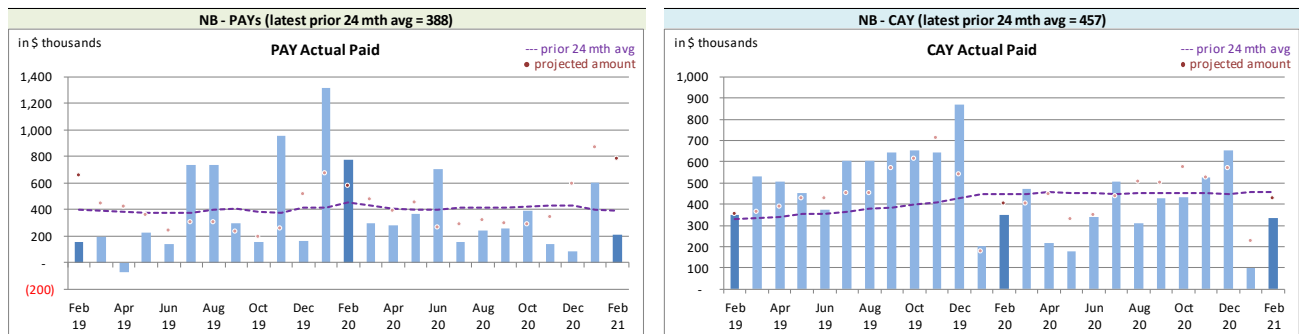
⁷Our recorded activity projections for the prior accident years are based on selected ratios of recorded activity to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date IBNR to year-to-date selected ultimate (i.e. selected LR x earned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

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

2.1.c AvsP: Paid Indemnity & Allowed Claims Expense

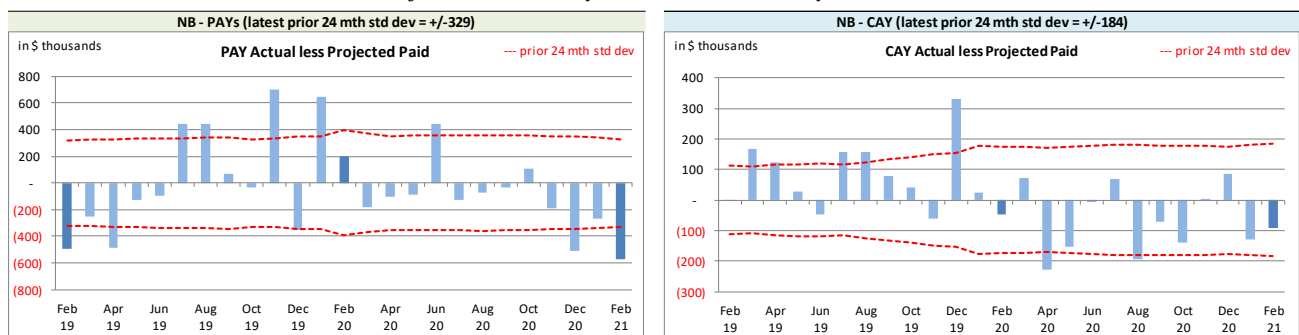
The following charts show actual **paid** activity in each of the most recent 25 calendar months, along with a "prior 24-month average" to show how each month's actual compares with the average amount of the preceding 24 calendar months.

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



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

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



On Latest \$ thousands		
Paid	PAYs	CAY
Mthly Avg Paid (prior 24 mths)	388	457
std dev	329	184
A-P <> std dev	10	7
% <> std dev	40.0%	28.0%
norm <> std dev	31.7%	31.7%
performance vs 24-mth avg:	worse	no better

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

variances over the last 25 calendar months have fallen outside of one standard deviation of the actual **paid** amounts (see preceding table on the left), 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 (8 of 25 variances are positive).

The PAY **paid** variance fell outside of the one standard deviation band this month (see preceding chart on the left). The lower than projected paid activity was reviewed, and attributed to process variance.

The current accident year (CAY) **paid** variances fell outside of one standard deviation 28% 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 (13 of 25 variances are positive).

We have included, for reference, the following charts 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 of the preceding group of charts) occur for several possible reasons:

- to offset actual **paid** activity (may reduce case or IBNR or both);
- the annual switchover as a CAY becomes a PAY (occurs in January); and
- 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

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.

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

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

Table 02

Accident Year	IBNR		actuarial present value adjustments				IBNR + actuarial present value adjustments	
			Discount Amount		Provisions for Adverse Deviations			
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
Prior	2,333	70	(62)	(3)	1,321	43	3,592	110
2019	1,939	8	(36)	(1)	666	21	2,569	28
2020	4,440	78	(53)	-	799	-	5,186	78
2021	1,669	524	(16)	(1)	249	19	1,902	542
TOTAL	10,381	680	(167)	(5)	3,035	83	13,249	758

The IBNR provision is \$0.7 million higher than projected from last month, counterbalancing the recorded claims activity and adjusting for the earned premium variance impacts indicated in section 2.1.

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

- the change projected last month;
- 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
- 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

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

the unearned premium variance.

New Brunswick RSP Actual vs Projected Summary: Premium Deficiency / (DPAC) Amounts (\$ thousands)

Table 03

	Premium Deficiency / (Deferred Policy Acquisition Costs)		actuarial present value adjustments		Premium Deficiency / (DPAC) including actuarial present value adjustments	
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
balance:	(2,050)	(0)	714	-	(1,336)	(0)
balance as % unearned premium:	(20.8%)	-	7.2%	-	(13.5%)	-
actual unearned premium:	9,864					
less projected:	4					

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:

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

4 Calendar Year-to-Date Results

The following table 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 80.0% rather than 76.6% (the valuation ultimate ratio for accident year 2021), 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.

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	(99)	(3.2%)	(103)	(3.3%)	(202)	(6.5%)	(71)	1.6%
CAY	2,495	80.0%	233	7.5%	2,728	87.5%	1,291	(1.4%)
TOTAL	2,396	76.8%	130	4.2%	2,526	81.0%	1,220	0.2%

("EP" based on 2021 calendar year-to-date earned premium; ratios may not total due to rounding)

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

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

5 Current Operational Report – Additional Exhibits

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

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

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

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

6 EXHIBITS

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

- EXHIBIT A IBNR for Member Sharing – includes Actuarial Present Value Adjustments
- EXHIBIT B IBNR
- EXHIBIT C Premium Liabilities
- EXHIBIT D Projected Year-end Policy Liabilities
- EXHIBIT E Discount Rate & Margins for Adverse Deviations
- EXHIBIT F Interest Rate Sensitivity
- EXHIBIT G Components of IBNR Change During Month

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

		Amounts in \$000s				
IBNR + M/S actuarial present value adjustments	Accident Year	Actual Jan. 2021	Actual Feb. 2021	Projected Mar. 2021	Projected Apr. 2021	Projected Dec. 2021
	2006	-	-	-	-	-
	2007	6	6	6	6	6
	2008	12	12	12	12	11
	2009	244	244	242	232	198
	2010	11	11	11	11	10
	2011	57	57	56	55	48
	2012	50	50	49	48	42
	2013	156	166	164	159	138
	2014	69	68	67	65	55
	2015	207	206	204	196	170
discount rate	2016	374	373	370	356	306
0.22%	2017	1,282	1,253	1,216	1,202	981
	2018	1,119	1,148	1,114	1,083	921
interest rate margin	2019	2,618	2,569	2,492	2,439	1,996
25 basis pts	2020	5,222	5,186	5,031	4,966	4,106
	2021	1,116	1,902	2,377	3,001	4,720
	TOTAL	12,541	13,249	13,409	13,829	13,706
	Change		708	160	420	

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

EXHIBIT B

IBNR

TABLE EXHIBIT B

Amounts in \$000s						
Ultimate Loss Ratio	Accident Year	Actual Jan. 2021	Actual Feb. 2021	Projected Mar. 2021	Projected Apr. 2021	Projected Dec. 2021
53.2%	2006	-	-	-	-	-
72.1%	2007	5	5	5	5	5
76.3%	2008	4	4	4	4	4
86.1%	2009	219	219	217	208	177
57.9%	2010	10	10	10	10	9
87.4%	2011	11	11	11	11	10
57.1%	2012	32	32	32	31	27
77.9%	2013	66	75	74	71	60
67.6%	2014	(20)	(21)	(21)	(20)	(19)
62.4%	2015	150	149	148	142	122
67.4%	2016	247	247	245	235	200
85.9%	2017	929	901	874	865	680
73.3%	2018	670	703	682	655	540
80.5%	2019	1,983	1,939	1,881	1,834	1,456
65.2%	2020	4,456	4,440	4,307	4,264	3,555
76.6%	2021	980	1,669	2,054	2,585	3,538
	TOTAL	9,740	10,381	10,521	10,898	10,362
	Change		641	140	377	

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

EXHIBIT C
Premium Liabilities
TABLE EXHIBIT C

	Amounts in \$000s				
	Actual Jan. 2021	Actual Feb. 2021	Projected Mar. 2021	Projected Apr. 2021	Projected Dec. 2021
Premium Liabilities					
(1) unearned premium (UP)	9,972	9,864	9,848	9,792	9,736
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	86.4%	86.5%	86.5%	86.5%	87.5%
(3) expected future costs {(1) x (2)}	8,618	8,528	8,515	8,473	8,520
(4) premium deficiency / (deferred policy acquisition cost)	(1,354)	(1,336)	(1,333)	(1,319)	(1,216)
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	79.2%	79.2%	79.2%	79.3%	80.2%
(6) expected future costs {(1) x (5)}	7,897	7,814	7,802	7,763	7,806
(7) premium deficiency / (deferred policy acquisition cost)	(2,075)	(2,050)	(2,046)	(2,029)	(1,930)

EXHIBIT D

Projected Year-end Policy Liabilities

The table below presents the projected policy liabilities as at December 31, 2021, broken down by component.

New Brunswick ending 2021		Projected Balances as at Dec. 31, 2021 (\$000s)							
		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
2006	-	-	-	-	-	-	-	-	-
2007	-	5	5	-	-	1	-	1	1
2008	64	4	68	-	-	7	-	7	7
2009	32	177	209	-	-	21	-	21	21
2010	1	9	10	-	-	1	-	1	1
2011	373	10	383	(1)	1	38	-	38	38
2012	120	27	147	-	-	15	-	15	15
2013	715	60	775	(5)	5	78	-	78	78
2014	763	(19)	744	(2)	2	74	-	74	74
2015	353	122	475	(2)	2	48	-	48	48
2016	869	200	1,069	(5)	5	107	(1)	106	106
2017	2,352	680	3,032	(18)	18	303	(2)	301	301
2018	2,596	540	3,136	(19)	19	383	(2)	381	381
2019	3,004	1,456	4,460	(31)	31	544	(4)	540	540
2020	1,311	3,555	4,866	(39)	39	555	(4)	551	551
PAYs (sub-total):	12,553	6,824	19,377	(122)	122	2,175	(13)	2,162	2,162
CAY (2021)	6,922	3,538	10,460	(84)	84	1,192	(10)	1,182	1,182
claims liabilities:	19,475	10,362	29,837	(206)	206	3,367	(23)	3,344	3,344
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs
premium liabilities:	9,736	(1,930)	7,806	(45)	45	718	(4)	714	714
*Total may not be sum of parts, as apvs apply to future costs within UPR									
policy liabilities:			37,643	(251)	251	4,085	(27)	4,058	4,058

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 (Sep. 30,
 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%	6.1%	10.0%
2017	10.0%	10.0%	7.7%	10.0%
2018	12.5%	10.0%	11.1%	12.2%
2019	12.5%	10.0%	12.5%	12.2%
2020	12.3%	10.0%	5.4%	11.4%
2021	11.9%	10.0%	5.1%	9.5%
prem liab	11.9%	10.0%	5.1%	9.5%

discount rate: 0.22%
 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 (0.22%), the prior valuation assumption (0.25%) 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%	0.00%	0.22%	0.72%	1.22%	1.72%	0.25%	1.43%
2005	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-
2008	74	74	74	73	73	73	74	73
2009	242	242	242	241	240	238	242	239
2010	5	5	5	5	5	5	5	5
2011	442	442	442	439	435	432	442	434
2012	185	185	185	182	180	178	185	179
2013	855	855	855	848	842	835	855	839
2014	1,202	1,202	1,201	1,192	1,182	1,172	1,201	1,177
2015	613	613	613	607	600	594	613	598
2016	1,319	1,319	1,318	1,303	1,287	1,271	1,318	1,280
2017	3,864	3,864	3,862	3,810	3,755	3,703	3,862	3,733
2018	4,041	4,041	4,038	3,977	3,914	3,854	4,037	3,889
2019	5,862	5,862	5,857	5,761	5,663	5,568	5,856	5,622
2020	7,622	7,622	7,616	7,488	7,356	7,230	7,615	7,303
Total	26,326	26,326	26,308	25,926	25,532	25,153	26,305	25,371
	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%	0.00%	0.22%	0.72%	1.22%	1.72%	0.25%	1.43%
Total	18	18	-	(382)	(776)	(1,155)	(3)	(937)
	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%	0.00%	0.22%	0.72%	1.22%	1.72%	0.25%	1.43%
2005	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-
2008	-	-	-	(1.4%)	(1.4%)	(1.4%)	-	(1.4%)
2009	-	-	-	(0.4%)	(0.8%)	(1.7%)	-	(1.2%)
2010	-	-	-	-	-	-	-	-
2011	-	-	-	(0.7%)	(1.6%)	(2.3%)	-	(1.8%)
2012	-	-	-	(1.6%)	(2.7%)	(3.8%)	-	(3.2%)
2013	-	-	-	(0.8%)	(1.5%)	(2.3%)	-	(1.9%)
2014	0.1%	0.1%	-	(0.7%)	(1.6%)	(2.4%)	-	(2.0%)
2015	-	-	-	(1.0%)	(2.1%)	(3.1%)	-	(2.4%)
2016	0.1%	0.1%	-	(1.1%)	(2.4%)	(3.6%)	-	(2.9%)
2017	0.1%	0.1%	-	(1.3%)	(2.8%)	(4.1%)	-	(3.3%)
2018	0.1%	0.1%	-	(1.5%)	(3.1%)	(4.6%)	(0.0%)	(3.7%)
2019	0.1%	0.1%	-	(1.6%)	(3.3%)	(4.9%)	(0.0%)	(4.0%)
2020	0.1%	0.1%	-	(1.7%)	(3.4%)	(5.1%)	(0.0%)	(4.1%)
Total	0.1%	0.1%	-	(1.5%)	(2.9%)	(4.4%)	(0.0%)	(3.6%)
	curr - 100 bp	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	prior val assumption	prior fyr end assumption

EXHIBIT G

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			
2006	-	-	-	-	-	-	-
2007	6	-	-	-	-	-	6
2008	12	-	-	-	-	-	12
2009	244	(3)	3	-	-	-	244
2010	11	-	-	-	-	-	11
2011	57	(2)	2	-	-	-	57
2012	50	(1)	1	-	-	-	50
2013	156	(3)	13	-	10	6.4%	166
2014	69	(2)	1	-	(1)	(1.4%)	68
2015	207	(4)	3	-	(1)	(0.5%)	206
2016	374	(5)	4	-	(1)	(0.3%)	373
2017	1,282	(36)	7	-	(29)	(2.3%)	1,253
2018	1,119	(47)	76	-	29	2.6%	1,148
2019	2,618	(77)	28	-	(49)	(1.9%)	2,569
2020	5,222	(114)	78	-	(36)	(0.7%)	5,186
2021	1,116	244	542	-	786	70.4%	1,902
Grand Total	12,541	(50)	758	-	708	5.6%	13,249

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

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			
2006	-	-	-	-	-	-	-
2007	5	-	-	-	-	-	5
2008	4	-	-	-	-	-	4
2009	219	(2)	2	-	-	-	219
2010	10	-	-	-	-	-	10
2011	11	-	-	-	-	-	11
2012	32	-	-	-	-	-	32
2013	66	(1)	10	-	9	13.6%	75
2014	(20)	-	(1)	-	(1)	5.0%	(21)
2015	150	(2)	1	-	(1)	(0.7%)	149
2016	247	(2)	2	-	-	-	247
2017	929	(22)	(6)	-	(28)	(3.0%)	901
2018	670	(29)	62	-	33	4.9%	703
2019	1,983	(52)	8	-	(44)	(2.2%)	1,939
2020	4,456	(94)	78	-	(16)	(0.4%)	4,440
2021	980	165	524	-	689	70.3%	1,669
Grand Total	9,740	(39)	680	-	641	6.6%	10,381