



NEW BRUNSWICK RISK SHARING POOL

JUNE 2019 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

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ACTUARIAL HIGHLIGHTS
RSP NEW BRUNSWICK
OPERATIONAL REPORT
JUNE 2019

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1 Summary

1.1 Valuation Schedule (Fiscal Year 2019)

The June 2019 Operational Report leverages actuarial assumptions consistent with last month (that is, it does not reflect the results of an updated valuation). The table immediately below summarizes the implemented valuations and future scheduled valuations for fiscal year 2019.

NEW BRUNSWICK RISK SHARING POOL FISCAL YEAR 2019 – SCHEDULE OF VALUATIONS			
Valuation Date	Discount Rate (per annum)	Operational Report	Description of Changes
Sep. 30, 2018 (completed)	2.29% mfad 25 bp	Oct. 2018	updated valuation (roll forward): accident year 2018 loss ratio <u>increased</u> 0.5 points to 74.7%; discount rate <u>increased</u> by 42 basis points; no change to selected margins for adverse deviations
Dec. 31, 2018 (completed)	1.93% mfad 25 bp	Mar. 2019	updated valuation: accident year 2019 loss ratio <u>increased</u> 0.9 points to 75.5%; discount rate <u>decreased</u> by 36 basis points; no change to selected margins for adverse deviations
Mar. 31, 2019 (completed)	1.44% mfad 25 bp	May 2019	updated valuation (roll forward): accident year 2019 loss ratio <u>increased</u> 1.0 points to 76.5%; discount rate <u>decreased</u> by 49 basis points; no change to selected margins for adverse deviations
Jun. 30, 2019		Aug. 2019	update valuation
Sep. 30, 2019		Oct. 2019	update valuation (roll forward)

Under the proposed schedule for fiscal year 2019, the “off-half” valuation quarters ending March 31, 2019 and September 30, 2019 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

Liam McFarlane of Ernst & Young LLP is Facility Association’s Appointed Actuary (effective as of June 1, 2013).

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.

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 decisions or changes for inclusion here.

1.4 Harmonized Sales Tax

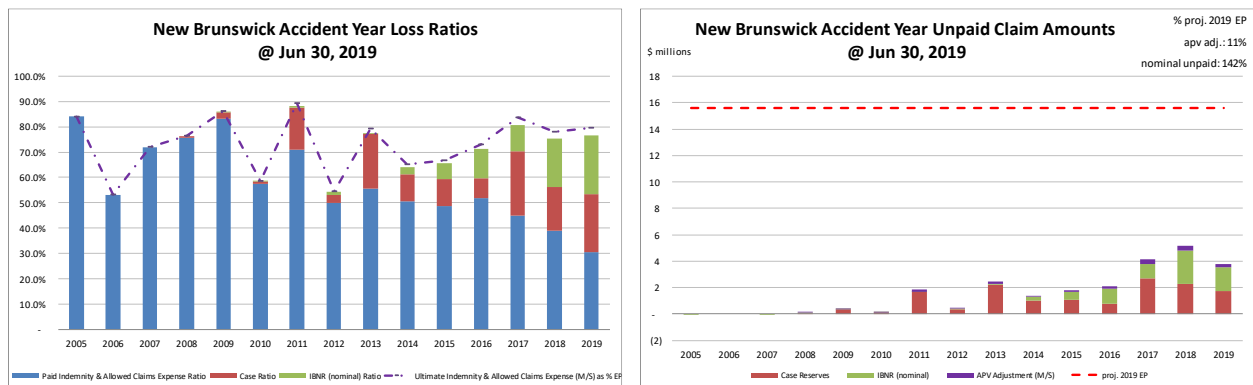
There have been no changes in these descriptions since last month’s Highlights.

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 (March 31, 2019), on the basis that current estimates have implicitly incorporated the impact.

1.5 Current Provision Summary

The charts immediately 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 2019 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 (\$1.7 million – see table at the top of the next page) represents 11% of the earned premium projected for the full year 2019 (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

¹This link is to a helpful guide on how bills become laws: <http://www.ontla.on.ca/lao/en/media/laointernet/pdf/bills-and-lawmaking-background-documents/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.

over future periods.

claim liabilities (\$000s)	amt	%
case	14,355	60.4%
ibnr	7,726	32.5%
M/S apv adjust.	1,695	7.1%
M/S total	23,776	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 56% of the IBNR balance relates to accident years 2018 and 2019 (see Exhibit B). Approximately 72% of the M/S claim liabilities

are related to accident years 2015-2019 inclusive (i.e. the most recent 5 accident years), and 2% is related to accident years 2009 and prior (i.e. prior to the most recent 10 accident years).

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

premium liabilities (\$000s)			policy liabilities (\$000s)		
	amt	%		amt	%
unearned prem	8,263	118.8%	claim	22,081	71.9%
prem def/(dpac)	(1,705)	(24.5%)	premium	6,558	21.3%
M/S apv adjust.	398	5.7%	M/S apv adjust.	2,093	6.8%
M/S total	6,956	100.0%	M/S total	30,732	100.0%

2 Activity During the Month of June 2019

2.1 Recorded Premium and Claims Activity

The table immediately 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)

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	-	-	112	13	(196)	(167)	(83)	(153)
2017	(1)	(1)	(4)	(42)	53	56	49	14
2018	(33)	(33)	28	(69)	19	64	47	(5)
2019	1,285	(59)	376	(48)	177	(137)	553	(184)
TOTAL	1,251	(93)	512	(146)	53	(184)	565	(329)

(Recorded transaction amounts exclude IBNR & other actuarial provisions)

It is typically unusual to see actual earned premium transactions affecting accident years older than the first prior accident year, the changes in 2018 and prior accident years reflect activity undertaken by a member to remove risks from the RSP, 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

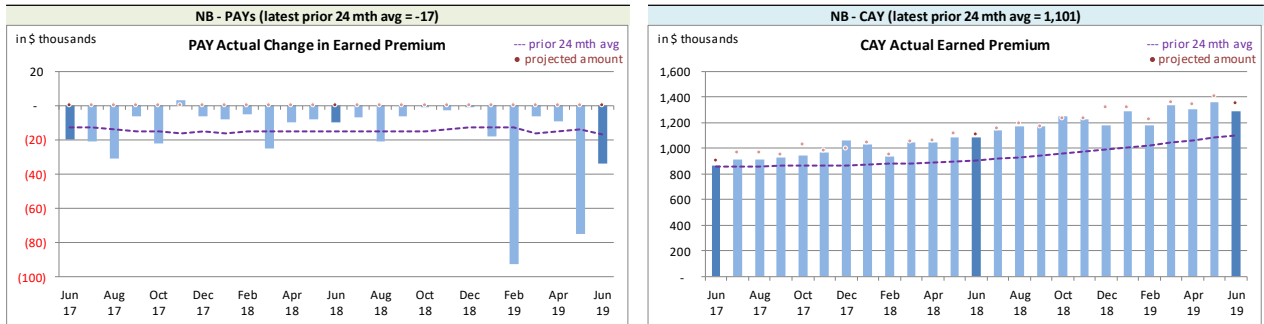
³There may be rounding differences in values in this document compared with the associated Bulletin and/or Operational Report.

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 immediately 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.

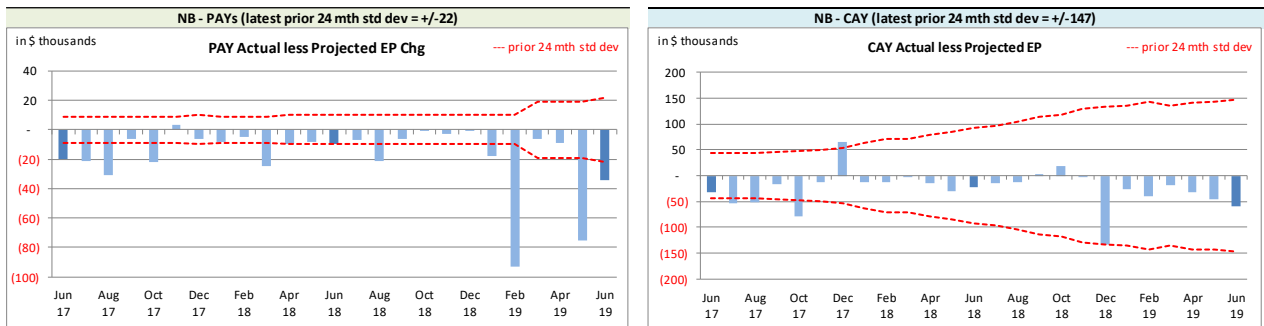
New Brunswick RSP Actual Earned Premium by Calendar Month



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. As commented on earlier, this month’s variances are related to a member’s activity in relation to recent audit findings.

The associated variance between the actual changes and the projections from the previous month are shown in the charts immediately 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)	(17)	1,101
std dev	22	147
A-P <> std dev	10	4
% <> std dev	40.0%	16.0%
norm <> std dev	31.7%	31.7%

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

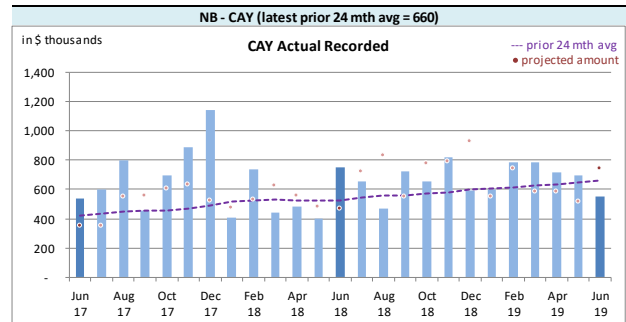
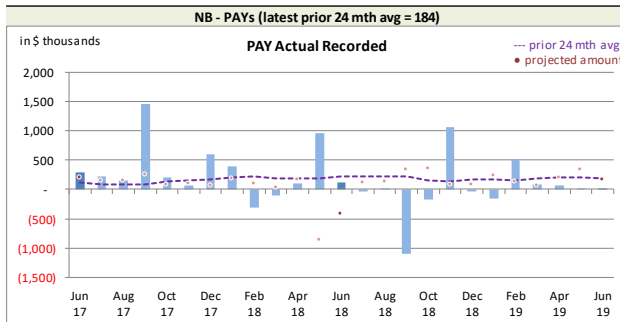
monthly premium. In addition to the PAYS’ bias, the CAY has also shown bias⁶, with actuals being generally lower than projected, and we have modified our projections processes in response. Over time, we may consider other projection approaches to narrow monthly variance levels further, but it is not 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 immediately 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

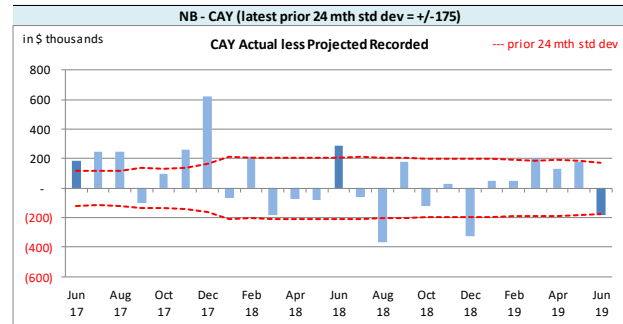
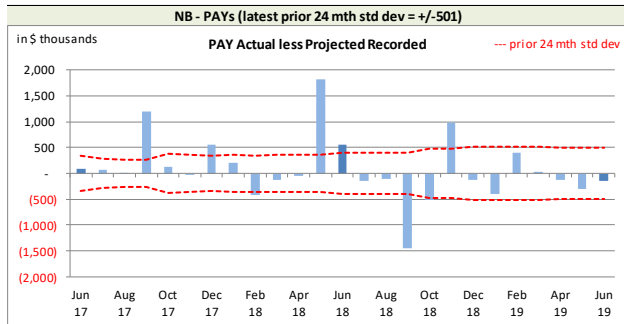


Recorded activity variances from the previous month’s projections are shown in the charts at the top of the next page, including the “prior 24-month standard deviation” levels to show how the variances from projection compare with historical standard deviations.

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 (24 in this case) and 50% probability of success. The 24-month variances at June 2019 has only 3 months where the actual was higher than projected, and as the 95% confidence range is 7 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)	184	660	
std dev	501	175	
A-P <> std dev	8	11	
% <> std dev	32.0%	44.0%	
norm <> std dev	31.7%	31.7%	

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, 32% 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), suggesting the projection process has performed no 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 lagging 24-month basis.

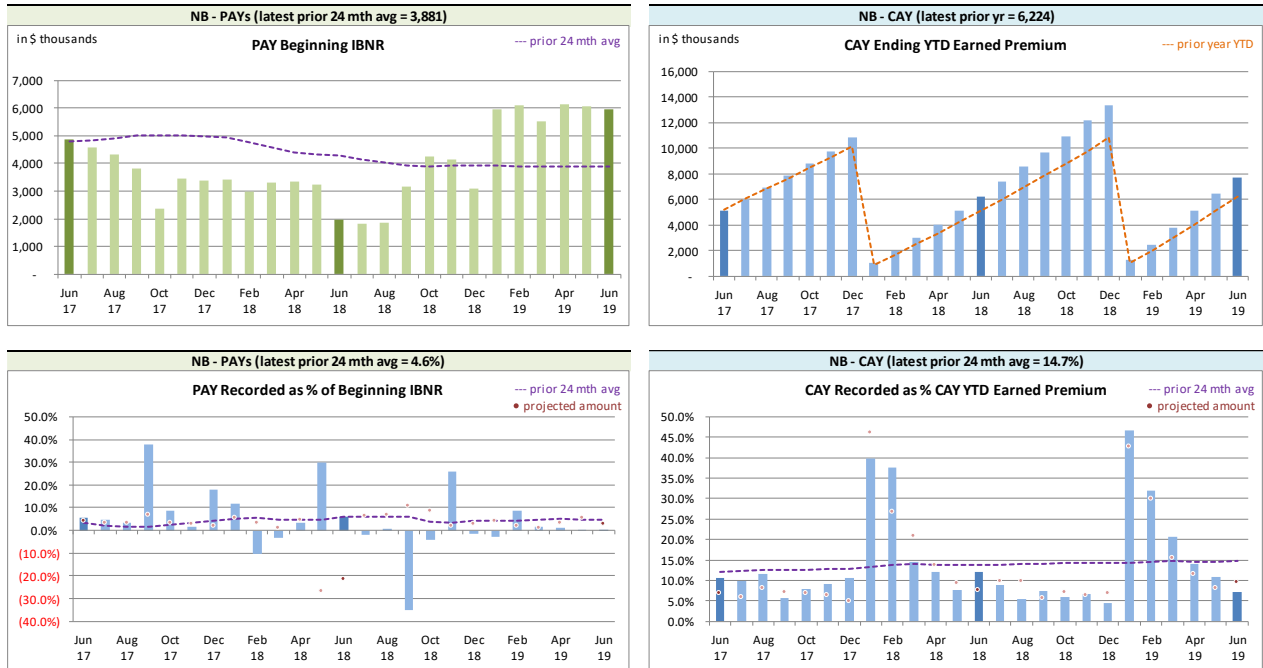
The current accident year (CAY) **recorded** variances fell outside of one standard deviation 44% of the time over the last 25 calendar months (see table above), suggesting the projection process has performed worse than simply projecting the prior 24-month average amount. We believe projection improvements introduced during 2018 are not yet fully reflected in the CAY variance measure (7 of the 11 variances beyond a standard deviation were related to the earlier 13 months, with only 4 related to the more recent 12 months). Bias has not been indicated at a 95% confidence level on a lagging 24-month basis.

The CAY **recorded** variance (right chart above) was outside of one standard deviation this month. The activity was reviewed and confirmed, with the variance 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, additional charts at the top of the next page related to levels influencing **recorded** activity. Note in particular the increase in the level of PAYs 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 beginning prior accident years’ IBNR as **recorded** activity “comes out of” IBNR. Changes in the prior accident years’ beginning IBNR (see upper left chart above) occur for several possible reasons:

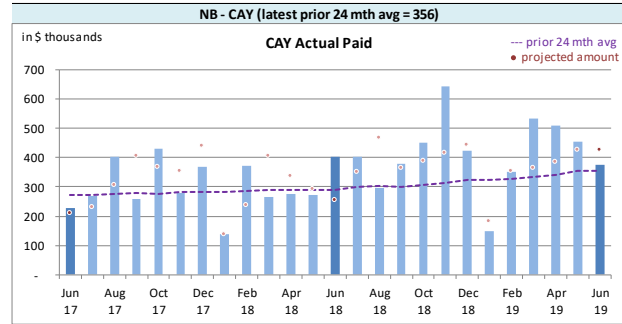
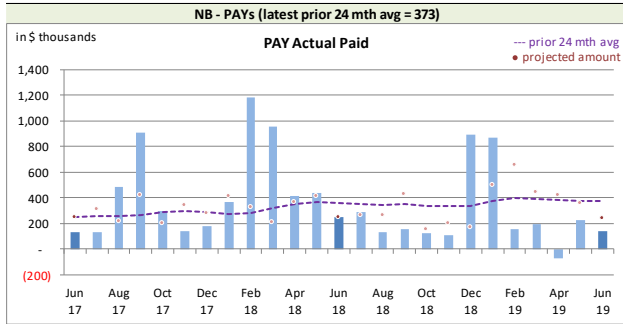
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a current accident year becomes a prior accident year (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of prior accident years’ ultimate (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.

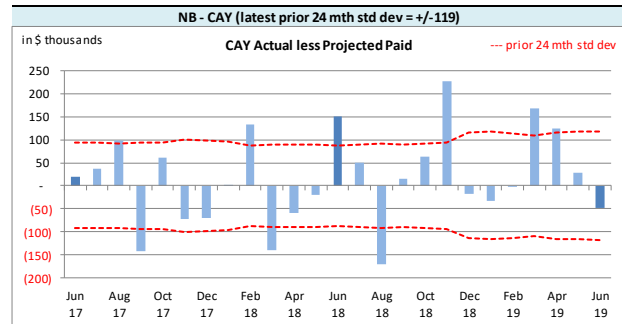
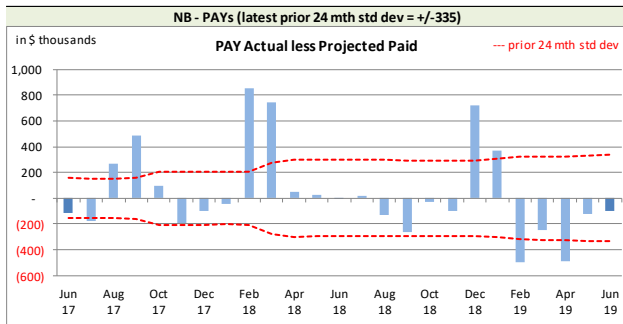
⁷Our recorded activity projections for the prior accident years are based on selected ratios of recorded activity to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date IBNR to year-to-date selected ultimate (i.e. selected LR x earned 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 immediately 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)		373	356
std dev		335	119
A-P <> std dev		9	9
% <> std dev		36.0%	36.0%
norm <> std dev		31.7%	31.7%

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 table on the left above), 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 lagging 24-month basis.

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

We have included, for reference, additional charts at the top of the next page related to levels influencing **paid** activity.

New Brunswick RSP Levels that influence⁸ Paid activity by Calendar Month



We track beginning prior accident years’ unpaid balance (case and IBNR) as **paid** activity “comes out of” the unpaid balance. Changes in the prior accident years’ 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 current accident year becomes a prior accident year (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of prior accident years’ ultimate (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 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 at the top of the next page summarizes variances in provisions included in this month’s Operational Report 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”.

associated one-month projections from last month’s Report.

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

Table 02

Accident Year	IBNR		actuarial present value adjustments				IBNR + actuarial present value adjustments	
	Actual	Actual less Projected	Discount Amount		Provisions for Adverse Deviations		Actual	Actual less Projected
			Actual	Actual less Projected	Actual	Actual less Projected		
Prior	2,319	154	(273)	2	1,049	1	3,095	157
2017	1,102	(15)	(164)	(2)	472	6	1,410	(11)
2018	2,511	(20)	(226)	(2)	590	7	2,875	(15)
2019	1,794	139	(174)	-	421	-	2,041	139
TOTAL	7,726	258	(837)	(2)	2,532	14	9,421	270

The IBNR provision is \$0.3 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:

- (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 immediately below 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 Projected	Actual	Actual less Projected	Actual	Actual less Projected
balance:	(1,705)	4	398	(2)	(1,307)	2
balance as % unearned premium:	(20.6%)	-	4.8%	-	(15.8%)	-
actual unearned premium:	8,263					
less projected:	(19)					

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 below 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 78.9% rather than 76.5% (the valuation ultimate ratio for accident year 2019), as the calendar year-to-date earned premium includes prior accident year earned premium adjustments. (Note that the ratios in this table may differ slightly from those shown in the New Brunswick RSP Summary of Operations due to rounding.)

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

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	516	6.9%	452	6.0%	968	12.9%	(38)	(3.2%)
CAY	5,929	78.9%	247	3.3%	6,176	82.2%	1,026	-
TOTAL	6,445	85.8%	699	9.3%	7,144	95.1%	988	(3.2%)

(“% 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

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.

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 May. 2019	Actual Jun. 2019	Projected Jul. 2019	Projected Aug. 2019	Projected Dec. 2019
	2005	(2)	(2)	(2)	(2)	(2)
	2006	-	-	-	-	-
	2007	(4)	(4)	(4)	(4)	(4)
	2008	11	11	11	11	11
	2009	42	42	40	40	38
	2010	55	55	53	52	50
	2011	170	173	169	168	159
	2012	104	148	141	139	128
	2013	228	229	224	222	213
discount rate	2014	363	392	376	370	340
1.44%	2015	733	730	693	686	583
	2016	1,321	1,321	1,294	1,281	1,150
interest rate margin	2017	1,459	1,410	1,384	1,370	1,253
25 basis pts	2018	2,950	2,875	2,813	2,736	2,455
	2019	1,568	2,041	2,486	2,893	3,887
	TOTAL	8,998	9,421	9,678	9,962	10,261
	Change		423	257	284	

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 May. 2019	Actual Jun. 2019	Projected Jul. 2019	Projected Aug. 2019	Projected Dec. 2019
	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
	85.9%	2009	14	14	13	13	12
	58.6%	2010	44	44	42	41	39
	88.1%	2011	36	39	37	36	34
	54.3%	2012	66	114	108	106	97
	77.7%	2013	52	54	51	50	47
	64.2%	2014	265	296	281	275	249
	65.5%	2015	609	608	572	566	476
	71.3%	2016	1,151	1,152	1,129	1,118	1,000
	80.7%	2017	1,152	1,102	1,080	1,069	975
	75.3%	2018	2,583	2,511	2,461	2,387	2,134
	76.5%	2019	1,364	1,794	2,197	2,560	3,399
		TOTAL	7,334	7,726	7,969	8,219	8,460
		Change		392	243	250	

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

EXHIBIT C

Premium Liabilities

TABLE EXHIBIT C

	Amounts in \$000s				
	Actual May. 2019	Actual Jun. 2019	Projected Jul. 2019	Projected Aug. 2019	Projected Dec. 2019
Premium Liabilities					
(1) unearned premium (UP)	8,114	8,263	8,286	8,426	7,857
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	84.1%	84.2%	84.3%	84.4%	85.0%
(3) expected future costs {(1) x (2)}	6,823	6,956	6,983	7,113	6,676
(4) premium deficiency / (deferred policy acquisition cost)	(1,291)	(1,307)	(1,303)	(1,313)	(1,181)
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	79.3%	79.4%	79.5%	79.6%	80.1%
(6) expected future costs {(1) x (5)}	6,433	6,558	6,583	6,706	6,293
(7) premium deficiency / (deferred policy acquisition cost)	(1,681)	(1,705)	(1,703)	(1,720)	(1,564)

EXHIBIT D

Projected Year-end Policy Liabilities

The table below presents the projected policy liabilities as at December 31, 2019, broken down by component.

New Brunswick ending 2019		Projected Balances as at Dec. 31, 2019 (\$000s)									
Acc Yr	nominal values			actuarial present value adjustments (apvs)						TOTAL	
	Case	IBNR	Total Unpaid	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs		
2005	-	(2)	(2)	-	-	-	-	-	-	(2)	
2006	-	-	-	-	-	-	-	-	-	-	
2007	-	(4)	(4)	-	-	-	-	-	-	(4)	
2008	72	4	76	(1)	-	8	-	8	7	83	
2009	315	12	327	(7)	1	33	(1)	32	26	353	
2010	90	39	129	(3)	1	13	-	13	11	140	
2011	1,568	34	1,602	(37)	6	160	(4)	156	125	1,727	
2012	317	97	414	(11)	2	41	(1)	40	31	445	
2013	2,112	47	2,159	(54)	9	216	(5)	211	166	2,325	
2014	968	249	1,217	(33)	5	122	(3)	119	91	1,308	
2015	1,012	476	1,488	(45)	7	149	(4)	145	107	1,595	
2016	719	1,000	1,719	(62)	10	210	(8)	202	150	1,869	
2017	2,467	975	3,442	(148)	24	420	(18)	402	278	3,720	
2018	2,127	2,134	4,261	(200)	34	511	(24)	487	321	4,582	
PAYs (sub-total):	11,767	5,061	16,828	(601)	99	1,883	(68)	1,815	1,313	18,141	
CAY (2019)	3,642	3,399	7,041	(345)	63	810	(40)	770	488	7,529	
claims liabilities:	15,409	8,460	23,869	(946)	162	2,693	(108)	2,585	1,801	25,670	
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	nominal development PfAD	development PfAD discount	development PfAD	Total apvs	TOTAL*	
premium liabilities:	7,857	(1,564)	6,293	(207)	37	572	(19)	553	383	6,676	
policy liabilities:			30,162	(1,153)	199	3,265	(127)	3,138	2,184	32,346	

*Total may not be sum of parts, as apvs apply to future costs within UPR

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 (Mar. 31, 2019)

Accident Year	Third Party Liability Margins	Accident Benefits Margins	Other Coverages Margins	Total Margins
2005	10.0%	10.0%	10.0%	10.0%
2006	10.0%	10.0%	10.0%	10.0%
2007	10.0%	10.0%	10.0%	10.0%
2008	10.0%	10.0%	10.0%	10.0%
2009	10.0%	10.0%	10.0%	10.0%
2010	10.0%	10.0%	10.0%	10.0%
2011	10.0%	10.0%	10.0%	10.0%
2012	10.0%	10.0%	10.0%	10.0%
2013	10.0%	10.0%	10.0%	10.0%
2014	10.0%	10.0%	9.9%	10.0%
2015	10.0%	10.0%	10.0%	10.0%
2016	12.5%	10.0%	10.9%	12.2%
2017	12.5%	10.0%	9.1%	12.2%
2018	12.5%	10.0%	8.9%	12.0%
2019	12.3%	10.0%	5.7%	11.5%
2020	11.8%	10.0%	5.1%	9.4%
prem liab	11.8%	10.0%	5.1%	9.4%

discount rate: 1.44%
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, 2019, and are based on more up-to-date information). We have included the most recent valuation selection (1.44%), the prior valuation assumption (1.93%) 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

AY	Actuarial Present Value of Provisions at Various Discount Rates - Dec. 31, 2019 projected Unpaid							
	0.44%	0.94%	1.44%	1.94%	2.44%	2.94%	1.93%	2.29%
2005	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-
2007	1	1	1	1	1	1	1	1
2008	58	57	57	57	56	56	57	56
2009	115	115	114	113	112	111	113	112
2010	99	98	98	97	96	95	97	96
2011	1,260	1,250	1,240	1,230	1,220	1,210	1,230	1,223
2012	361	358	354	351	348	345	351	349
2013	1,860	1,844	1,828	1,812	1,797	1,782	1,813	1,801
2014	1,145	1,134	1,123	1,112	1,102	1,092	1,113	1,105
2015	1,444	1,428	1,414	1,399	1,385	1,372	1,400	1,389
2016	1,846	1,822	1,799	1,776	1,754	1,733	1,777	1,761
2017	3,803	3,745	3,689	3,634	3,581	3,530	3,636	3,597
2018	4,800	4,720	4,643	4,567	4,495	4,423	4,569	4,516
2019	7,930	7,792	7,660	7,532	7,407	7,287	7,535	7,445
Total	24,722	24,364	24,020	23,681	23,354	23,037	23,692	23,451
	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							
	0.44%	0.94%	1.44%	1.94%	2.44%	2.94%	1.93%	2.29%
Total	702	344	-	(339)	(666)	(983)	(328)	(569)
	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							
	0.44%	0.94%	1.44%	1.94%	2.44%	2.94%	1.93%	2.29%
2005	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-
2008	1.8%	-	-	-	(1.8%)	(1.8%)	-	(1.8%)
2009	0.9%	0.9%	-	(0.9%)	(1.8%)	(2.6%)	(0.9%)	(1.8%)
2010	1.0%	-	-	(1.0%)	(2.0%)	(3.1%)	(1.0%)	(2.0%)
2011	1.6%	0.8%	-	(0.8%)	(1.6%)	(2.4%)	(0.8%)	(1.4%)
2012	2.0%	1.1%	-	(0.8%)	(1.7%)	(2.5%)	(0.8%)	(1.4%)
2013	1.8%	0.9%	-	(0.9%)	(1.7%)	(2.5%)	(0.8%)	(1.5%)
2014	2.0%	1.0%	-	(1.0%)	(1.9%)	(2.8%)	(0.9%)	(1.6%)
2015	2.1%	1.0%	-	(1.1%)	(2.1%)	(3.0%)	(1.0%)	(1.8%)
2016	2.6%	1.3%	-	(1.3%)	(2.5%)	(3.7%)	(1.2%)	(2.1%)
2017	3.1%	1.5%	-	(1.5%)	(2.9%)	(4.3%)	(1.4%)	(2.5%)
2018	3.4%	1.7%	-	(1.6%)	(3.2%)	(4.7%)	(1.6%)	(2.7%)
2019	3.5%	1.7%	-	(1.7%)	(3.3%)	(4.9%)	(1.6%)	(2.8%)
Total	2.9%	1.4%	-	(1.4%)	(2.8%)	(4.1%)	(1.4%)	(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

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

RSP **New Brunswick**
AccountCode Desc **IBNR - Discounted**

M/S IBNR - in \$000s

AccYear	Values				Sum of Total Change	Sum of % Total Change	Sum of Current Month Final Amount
	Sum of Prior Month Actual Amount	Sum of Projected Change	Sum of Change Due to AvsP Variances	Sum of Change Due to Valuation Implementation			
2005	(2)	-	-	-	-	-	(2)
2006	-	-	-	-	-	-	-
2007	(4)	-	-	-	-	-	(4)
2008	11	-	-	-	-	-	11
2009	42	(2)	2	-	-	-	42
2010	55	(3)	3	-	-	-	55
2011	170	(5)	8	-	3	1.8%	173
2012	104	(6)	50	-	44	42.3%	148
2013	228	(6)	7	-	1	0.4%	229
2014	363	(20)	49	-	29	8.0%	392
2015	733	(15)	12	-	(3)	(0.4%)	730
2016	1,321	(26)	26	-	-	-	1,321
2017	1,459	(38)	(11)	-	(49)	(3.4%)	1,410
2018	2,950	(60)	(15)	-	(75)	(2.5%)	2,875
2019	1,568	334	139	-	473	30.2%	2,041
Grand Total	8,998	153	270	-	423	4.7%	9,421

EXHIBIT G

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

RSP		New Brunswick						IBNR - in \$000s
AccountCode Desc		IBNR - Undiscounted						
AccYear	Values							Sum of Current Month Final Amount
	Sum of Prior Month Actual Amount	Sum of Projected Change	Sum of Change Due to AvsP Variances	Sum of Change Due to Valuation Implementation	Sum of Total Change	Sum of % Total Change		
2005	(2)	-	-	-	-	-	(2)	
2006	-	-	-	-	-	-	-	
2007	(4)	-	-	-	-	-	(4)	
2008	4	-	-	-	-	-	4	
2009	14	(1)	1	-	-	-	14	
2010	44	(3)	3	-	-	-	44	
2011	36	(3)	6	-	3	8.3%	39	
2012	66	(5)	53	-	48	72.7%	114	
2013	52	(4)	6	-	2	3.8%	54	
2014	265	(19)	50	-	31	11.7%	296	
2015	609	(12)	11	-	(1)	(0.2%)	608	
2016	1,151	(23)	24	-	1	0.1%	1,152	
2017	1,152	(35)	(15)	-	(50)	(4.3%)	1,102	
2018	2,583	(52)	(20)	-	(72)	(2.8%)	2,511	
2019	1,364	291	139	-	430	31.5%	1,794	
Grand Total	7,334	134	258	-	392	5.3%	7,726	