



NEW BRUNSWICK RISK SHARING POOL

MAY 2016 OPERATIONAL REPORT

ACTUARIAL HIGHLIGHTS

Related Bulletin: [F16-041 New Brunswick RSP May 2016 Operational Report](#)

Related Quarterly Valuation Highlights:

[Actuarial Quarterly Valuation Highlights Risk Sharing Pools as at March 31, 2016](#)

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ACTUARIAL HIGHLIGHTS
RSP NEW BRUNSWICK
OPERATIONAL REPORT
MAY 2016

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1 Summary

1.1 Valuation Schedule (Fiscal Year 2016)

The May 2016 Operational Report incorporates the results of an updated valuation (as at March 31, 2016) – the impact of the implementation of the valuation is discussed in section 1.2. The table immediately below summarizes the implemented valuations and future scheduled valuations for fiscal year 2016.

NEW BRUNSWICK RISK SHARING POOL FISCAL YEAR 2016 – SCHEDULE OF VALUATIONS			
Valuation Date	Discount Rate (per annum)	Operational Report	Description of Changes
Sep. 30, 2015 (completed)	0.73% mfad: 25 bp	Oct. 2015	updated valuation (roll forward): accident year 2015 loss ratio increased 0.6 points to 83.5%; discount rate decreased by 17 basis points; no change to selected margins for adverse deviations
Dec. 31, 2015 (completed)	0.67% mfad: 25 bp	Mar. 2016	updated valuation: accident year 2015 loss ratio decreased 5.0 points to 78.5%; accident year 2016 loss ratio decreased 3.0 points to 77.6%; discount rate decreased by 6 basis points; no change to selected margins for adverse deviations
Mar. 31, 2016 (completed)	0.63% mfad: 25 bp	May 2016	updated valuation (roll forward): accident year 2016 loss ratio increased 0.7 points to 78.3%; discount rate decreased by 4 basis points; no change to selected margins for adverse deviations
Jun. 30, 2016		Aug. 2016	update valuation:
Sep. 30, 2016		Oct. 2016	update valuation (roll forward):

Under the proposed schedule for fiscal year 2016, the “off-half” valuation quarters ending March 31, 2016 and September 30, 2016 would not reflect a full valuation update of assumptions, but would rather “roll-forward” key assumptions from the previous valuation.

1.2 New Valuation

A valuation of the New Brunswick Risk Sharing Pool (“RSP”) as at March 31, 2016 has been completed since last month’s Operational Report and the results of that valuation have been incorporated into this month’s Report. The valuation was completed by the Facility Association’s internal actuarial group in conjunction with, and approved by, the appointed actuary, under the hybrid model for actuarial services. Additional detail will be provided in an “Actuarial Highlights – Quarterly Valuation” report to be posted to the FA website at the same time as this report.

The valuation implementation impact is summarized in the tables at the top of the next page.

Summary of Impact (\$000s) of Implementing Result of Valuation as at March 31, 2016¹

NB	unfav / (fav) for the month and ytd					
	IMPACT in \$000s from changes in:					
	ults & payout patterns			dsct rate	margins	
	Nominal	apv adj.	sub-tot	apv adj.	apv adj.	TOTAL
[1]	[2]	[3]	[4]	[5]	[6]	
PAYs	(279)	(43)	(322)	16	-	(306)
CAY	31	2	33	5	-	38
Prem Def	22	3	25	4	-	29
TOTAL	(226)	(38)	(264)	25	-	(239)

As indicated in the table above, the incorporation of the new valuation had an estimated **\$0.2 million favourable impact** on the month's net result from operations, subtracting an estimated 5.5 points (see table immediately below) to the **year-to-date Combined Operating Ratio** to end at **52.0%**.

Summary of Impact (% YTD EP) of Implementing Result of Valuation as at March 31, 2016

NB	ytd EP 4,331 (actual)					
	IMPACT unfav / (fav) as % ytd EP from changes in:					
	ults & payout patterns			dsct rate	margins	
	Nominal	apv adj.	sub-tot	apv adj.	apv adj.	TOTAL
[1]	[2]	[3]	[4]	[5]	[6]	
PAYs	(6.4%)	(1.0%)	(7.4%)	0.4%	-	(7.1%)
CAY	0.7%	-	0.8%	0.1%	-	0.9%
Prem Def	0.5%	0.1%	0.6%	0.1%	-	0.7%
TOTAL	(5.2%)	(0.9%)	(6.1%)	0.6%	-	(5.5%)

The impact of the nominal changes is shown in column [1] of the two preceding summary tables. The change in the selected nominal ultimates was favourable by \$0.2 million overall. This reflects the impact attributable to the change in the selected ultimate loss ratio (i.e. for each accident year, it is the product of life-to-date earned premium for the accident year and the change in the selected ultimate loss ratio).

The prior accident years overall showed a \$0.3 million favourable variance, which is attributed to recorded activity process variance. This favourable change is 1.9% of the prior accident years' nominal unpaid balance of \$15.9 million determined at the end of last month (April 2016). As a smaller pool, it is subject to higher levels of process variance, driving volatility in the ultimate selection.

The current accident year and premium deficiency impacts are a result of the changes in the selected loss ratios for accident years **2016** (up 0.7 points from 77.6% to 78.3%) and for accident year **2017**

¹In these tables, "PAYs" refers to prior accident years, "CAY" refers to the current accident year, and "Prem Def" refers to the provision for premium deficiency or the deferred policy acquisition asset (as applicable). "Nominal" refers to changes excluding any actuarial present value adjustments, whereas "apv adj." refers to actuarial present value adjustments.

The columns under the heading "ults & payout patterns" reflect the impact of changes in the valuation selected ultimates and claims payment patterns (i.e. based on unchanged selection of discount rates and margins for adverse deviation). The column "dsct rate" reflects the impact of the change in the selected discount rate and the column "margins" reflects the impact of any changes in selected margins for adverse deviations.

(down 0.4 points from 78.5% to **78.1%**). Again, as a smaller pool, one can expect more volatility around projections of current and future expected loss ratios.

The impacts related to actuarial present value adjustments are split into the impact prior to any change in the selected discount rate and margin changes (at the level they were selected i.e. coverage and accident half-year), the impact of then updating the discount rate, and finally the impact of any changes to the margins (at the level they were selected). The changes in actuarial present value adjustments are shown in the summary tables in columns [2], [4], and [5].

Column [2] recognizes that changing the nominal selections also changed the unpaid estimates (including changes to the relative mix by government line, which has an impact on the weighted-average margins for adverse deviations or “MfADs”). It also reflects the fact that we updated the projected emergence of claims payments, resulting in a change in the projected cash flows. These changes generated a favourable change of \$38 thousand in the actuarial present value adjustments, prior to any changes in the selected discount rate and/or margins for adverse deviations (“MfADs”).

Claims payment emergence patterns were updated and cash flows were reviewed against the selected risk-free yield curve, derived from Government of Canada benchmark bond yields monthly series using values for March 2016. Column [4] accounts for the change in the **discount rate** selected (decreased 4 basis points to **0.63%**), indicating an unfavourable impact of \$25 thousand. The impact *related only to claims liabilities* (i.e. PAYs plus CAY) was \$21 thousand (projected \$20 thousand impact at December 31, 2016) – this compares to the \$20 thousand change one would estimate as the impact by interpolation using the interest rate sensitivity table provided in last month’s Actuarial Highlights.

Column [5] accounts for any changes to selected MfADs. The selected **investment rate MfAD** was **left unchanged at 25 basis points** and the selected **claims development MfADs** at the coverage and accident year level were **left unchanged** as well.

Consideration was given to recent legal decisions and changes in legislation / regulation as outlined in section 1.4.

1.3 Appointed Actuary and Hybrid Actuarial Services Model

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.

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

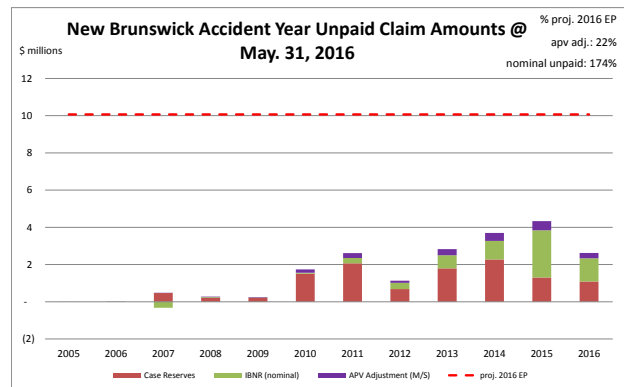
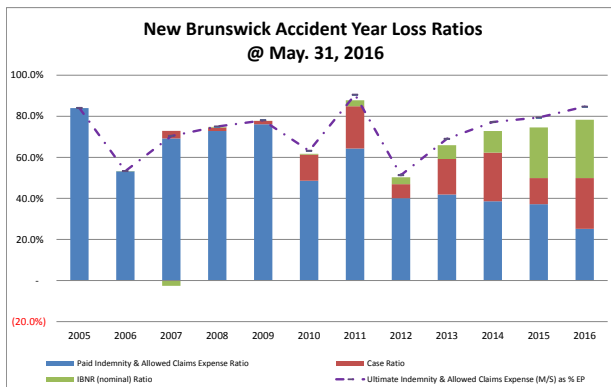
Consideration and assessment of potential impacts of legal decisions and changes in legislation / regulation constitutes a regular part of the valuation process. Descriptions of some of the more recent changes are provided below.

New Brunswick Regulation 2013-37 was filed by the Government of New Brunswick on May 7, 2013, amending Regulation 2003-20 (Injury Regulation), made under the Insurance Act. The

Regulation introduced a new Part 2 which applies to all injuries arising from motor vehicle accidents occurring on or after August 1, 2013. The new Part 2 re-defines “minor personal injury”, raises the maximum non-pecuniary damages recoverable by those suffering a “minor personal injury”, and sets out a process for annually indexing the monetary cap for inflation. At the December 31, 2015 valuation, reform adjustments (originally introduced with the June 30, 2014 valuation) were explicitly taken into account with the updated industry trend analysis (completed using industry data as at June 30, 2015), impacting the selection of ultimates.

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 2016 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 (\$2.2 million – see table immediately below) represents 22% of the earned premium projected for the full year 2016 (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	11,607	59.0%
ibnr	5,901	30.0%
M/S apv adjust.	2,160	11.0%
M/S total	19,668	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 is in case reserves for this pool. Approximately 64% of the IBNR balance relates to accident years 2015 and 2016 (see Exhibit B). Approximately 74% of the M/S

claim liabilities are related to accident years 2012-2016 inclusive (i.e. the most recent 5 accident years).

The tables at the top of the next page summarize the premium liabilities and the total policy

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.

liabilities.

premium liabilities (\$000s)			policy liabilities (\$000s)		
	amt	%		amt	%
unearned prem	4,534	112.7%	claim	17,508	73.9%
prem def/(dpac)	(859)	(21.4%)	premium	3,675	15.5%
M/S apv adjust.	350	8.7%	M/S apv adjust.	2,510	10.6%
M/S total	4,025	100.0%	M/S total	23,693	100.0%

2 Activity During the Month of May 2016

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	-	-	447	345	(348)	(254)	99	91
2014	(1)	(1)	12	(20)	(9)	9	3	(11)
2015	(11)	(11)	25	(18)	(186)	(143)	(161)	(161)
2016	843	(42)	241	(3)	101	37	342	34
TOTAL	831	(53)	726	304	(442)	(351)	283	(47)

(Recorded transaction amounts exclude IBNR & other actuarial provisions)

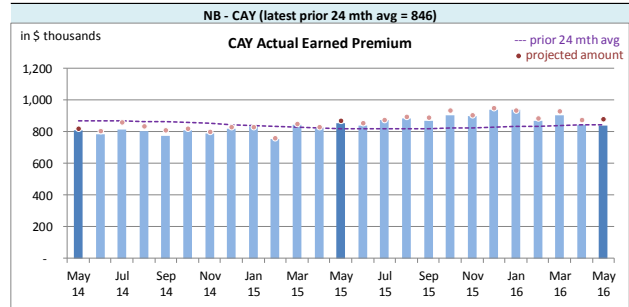
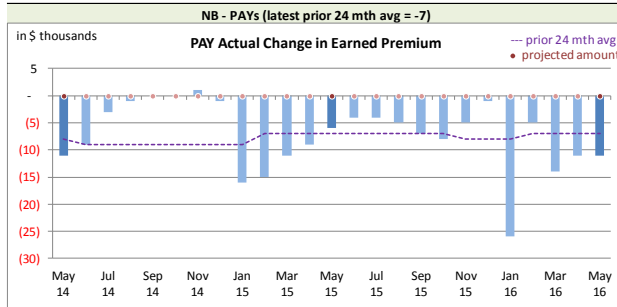
Claims transaction activity is generally volatile and changes from one month to the next are anticipated due to this natural "process variance" (this is particularly true where volumes are low). Each month, the projection variances are reviewed for signs of projection bias and to identify potential ways 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 at the top of the next page 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.

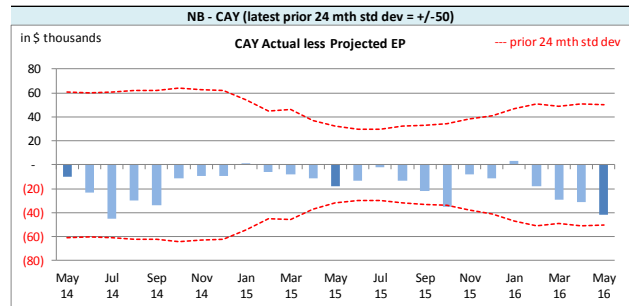
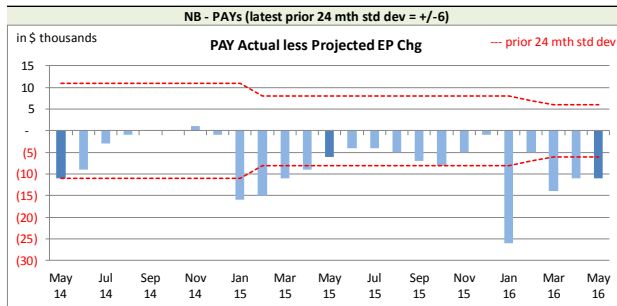
³There may be rounding differences in values in this document compared with the associated Bulletin and/or Operational Report.

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 seem to occur in January each year.

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


On Latest \$ thousands			
Earned Premium	PAYs	CAY	
Mthly Avg EP Chg (prior 24 mths)	(7)	846	
std dev	6	50	
A-P <> std dev	8	1	
% <> std dev	32.0%	4.0%	
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 bias⁵, with actuals generally lower than our projections. However, the magnitude is not high relative to monthly premium, and the

variances are within the prior 24-month standard deviation more often than indicated by a normal distribution (see charts above). Over time, we may consider other projection approaches to narrow monthly variance levels further, but it is not currently deemed a priority.

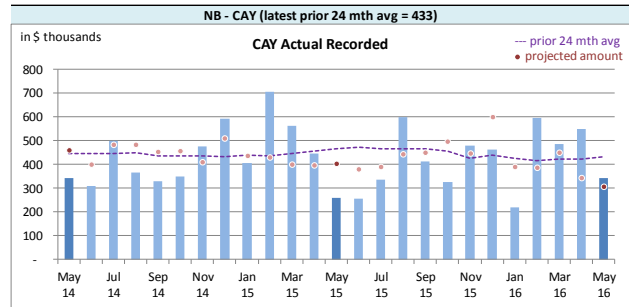
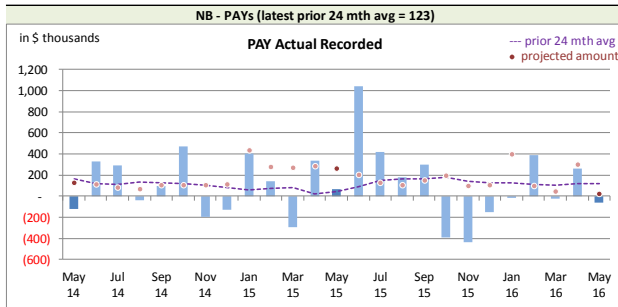
2.1.b AvsP: Recorded Indemnity & Allowed Claims Expense

Actual **recorded** activity (**paid** and case reserve changes) over the last 25-month period are shown in

⁵The prior accident years (PAYs) variances will show bias as the projection upload forces all earned premium projections to be attributed to the current accident year.

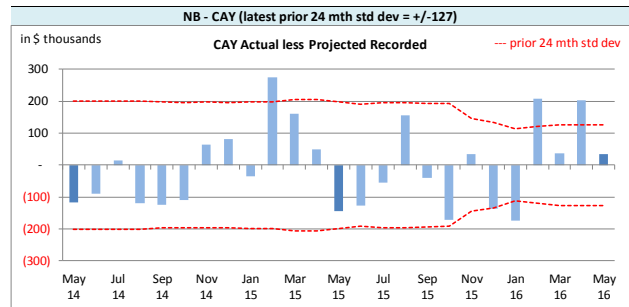
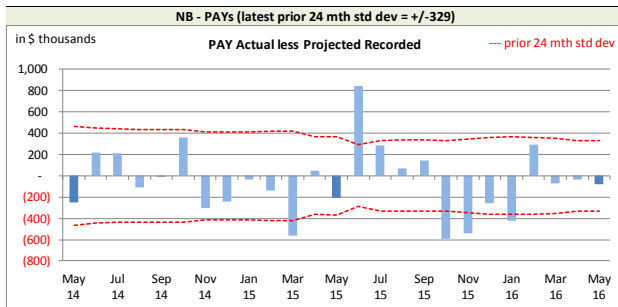
the charts immediately below, including the “prior 24-month average” level.

New Brunswick RSP Actual Recorded by Calendar Month



Recorded activity variances from the previous month’s projections are shown in the charts immediately below, including the “prior 24-month standard deviation” levels.

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



On Latest \$ thousands			
	Recorded	PAYs	CAY
Mthly Avg Recorded (prior 24 mths)		123	433
std dev		329	127
A-P <> std dev		5	5
% <> std dev		20.0%	20.0%
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

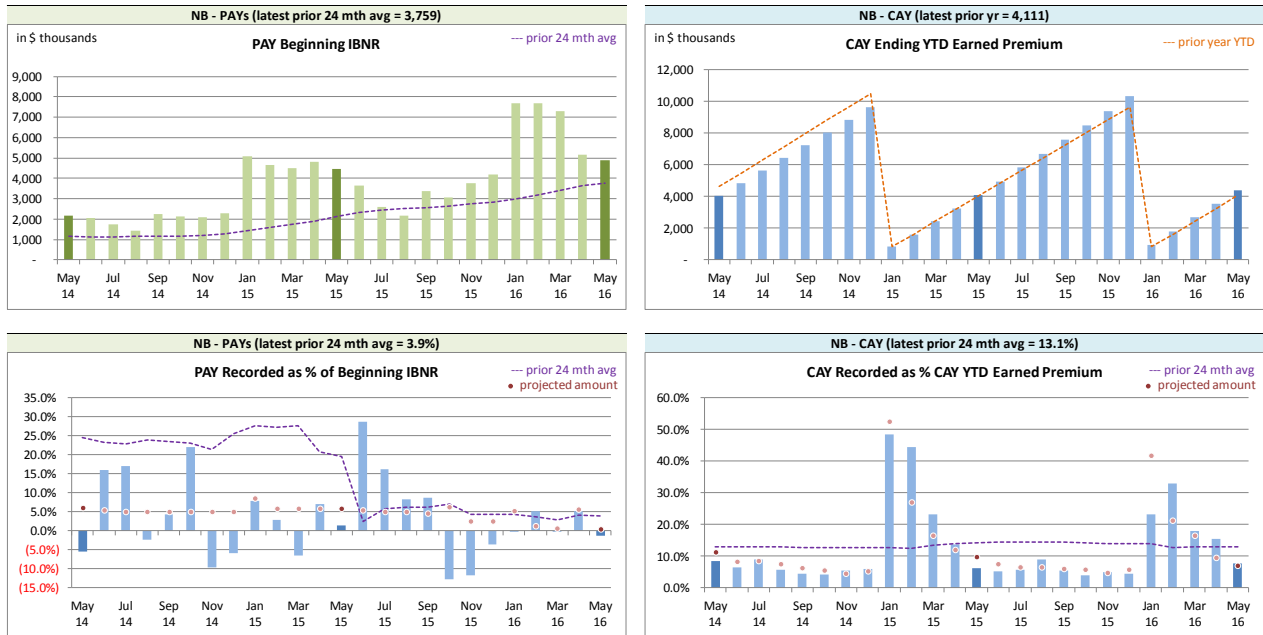
significant. That said, the prior accident years’ (PAYs) **recorded** variances (left chart above) do not appear to have bias, although 7 of the last 8 projections have proven higher than actual. At 20%, the percentage of months with variances beyond one standard deviation of the experience period activity suggests the projection process is somewhat better than projections based simply on a 24-month average.

The current accident year (CAY) **recorded** variances (right chart above), with 20% of months with variances outside of one standard deviation, suggest the projection process is better than projecting simply on a 24-month average. We do not see evidence of bias in the variances, although 4 of the 5 variances beyond one standard deviation were in relation to our 6 most recent projections. However, it is notable that the standard deviation of the prior 24 months’ activity has narrowed considerably in the most recent 6 periods (reduced by almost half).

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 immediately below 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 influence⁶ 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:

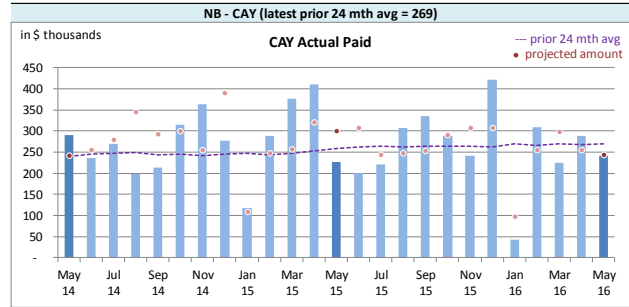
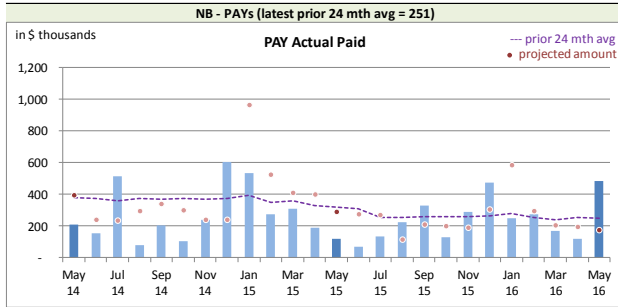
- to offset actual **recorded** activity (through loss ratio matching);
- the annual switchover as a current accident year becomes a prior accident year (occurs in January); and
- when a new valuation is implemented, where the valuation resulted in changes to the selection of prior accident years’ ultimate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

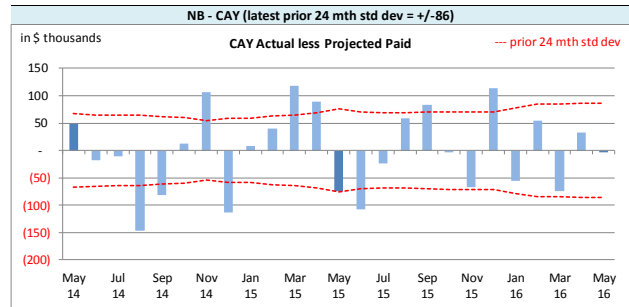
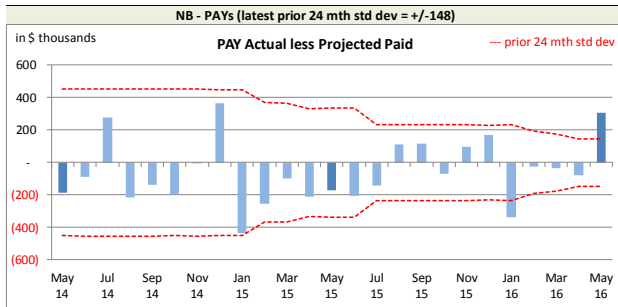
⁶Our recorded activity projections for the prior accident years are based on selected ratios of recorded activity to beginning unpaid balances, whereas the current accident year projections are based on selected ratios of year-to-date IBNR to year-to-date selected ultimate (i.e. selected LR x earned 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*



The charts immediately below show the actual less projected **paid** variances for the last 25 calendar months, along with bands for the “prior 24-month standard deviations” 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)	251	269
std dev	148	86
A-P <> std dev	2	9
% <> std dev	8.0%	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.

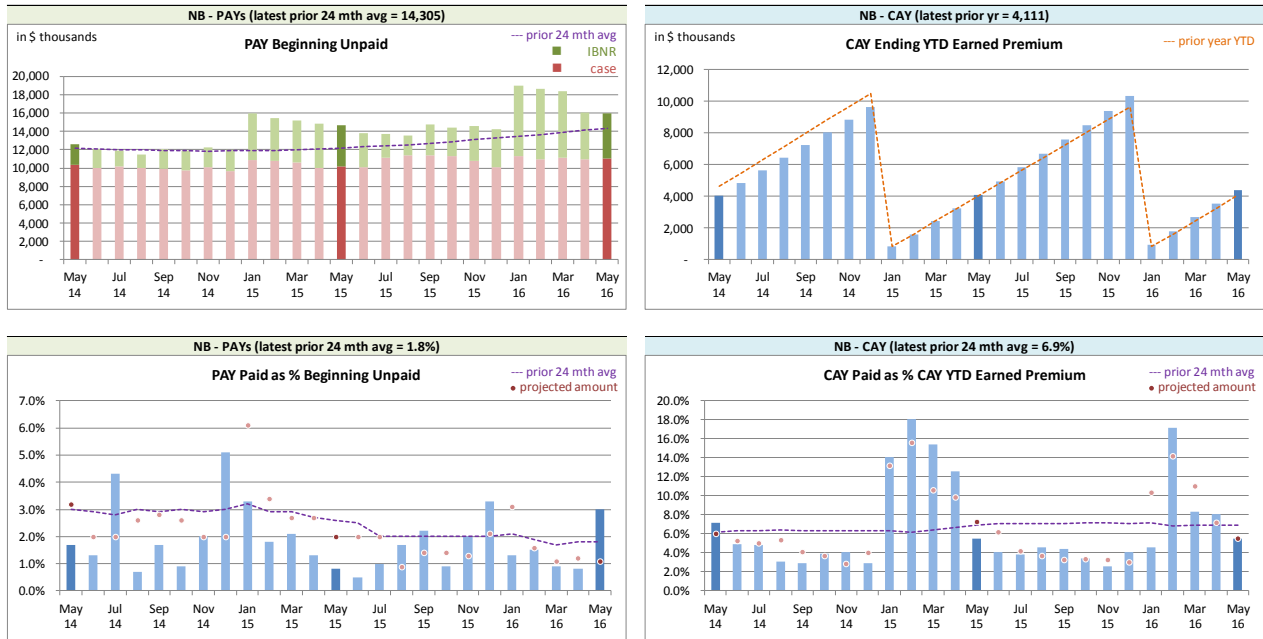
That said, the prior accident years’(PAYS) **paid** variances (left chart above) indicates some bias (actuals have tended to be lower than projections), but at 8%, the percentage of months with variances outside of the experience period’s standard deviation suggests the projection process performs better than projecting simply on average values.

The PAY **paid** variance for the current month was outside the one standard deviation band. The activity was reviewed and confirmed, with the variance attributed to process variance.

The current accident year (CAY) **paid** variances (right chart above) do not appear to show bias, but at 36%, the percentage of months with variances falling outside of the experience period’s standard deviation suggests the projection process is performing worse than simply projecting a 24-month average.

We have included, for reference, additional charts at the top of the next page related to levels influencing **paid** activity. As can be noted, the main driver of changes in the monthly level of beginning unpaid balances is IBNR.

New Brunswick RSP Levels that influence⁷ 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 IBNR⁸, 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 the May 2016 Operational Report and the associated one-month projections from last month’s Report.

⁷Our 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.

⁸For ease of discussion, “IBNR” is used in place of “provisions for incurred but not recorded (IBNR) and development”.

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	1,114	(46)	(113)	9	1,071	(33)	2,072	(70)
2014	1,001	87	(56)	4	480	3	1,425	94
2015	2,536	(247)	(81)	12	576	(58)	3,031	(293)
2016	1,250	(36)	(51)	3	334	(1)	1,533	(34)
TOTAL	5,901	(242)	(301)	28	2,461	(89)	8,061	(303)

The IBNR provision is \$0.2 million lower than projected last month, counterbalancing the recorded claims activity and adjusting for the earned premium variance impacts indicated in section 2.1, and due to the valuation implementation.

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

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

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

The table immediately below summarizes the variances in the provisions for deferred policy acquisition cost asset included in the May 2016 Operational Report and the one-month projections from last month's Report. This RSP is in a deferred policy acquisition cost asset position (shown as a negative amount) prior to and after actuarial present value adjustments. Actuarial present value adjustments decrease the asset value as the adjustments increase the expected future policy obligations (costs) associated with the unearned premium. The variances noted are mainly driven by the unearned premium variance, and due to the valuation implementation.

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

Table 03

	Premium Deficiency / (Deferred Policy Acquisition Costs)		actuarial present value adjustments		Premium Deficiency / (DPAC) including actuarial present value adjustments	
	Actual	Actual less Projected	Actual	Actual less Projected	Actual	Actual less Projected
balance:	(859)	55	350	(6)	(509)	49
balance as % unearned premium:	(19.0%)	0.4%	7.7%	0.3%	(11.2%)	0.7%
actual unearned premium:	4,534					
less projected:	(168)					

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 loss⁹ 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 expenses¹⁰, 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 79.5% rather than 78.3% (the valuation ultimate ratio for accident year 2016), 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	(2,486)	(57.4%)	(342)	(7.9%)	(2,828)	(65.3%)	(370)	4.9%
CAY	3,445	79.5%	283	6.5%	3,728	86.1%	741	0.8%
TOTAL	959	22.1%	(59)	(1.4%)	900	20.8%	371	5.7%

(“% EP” based on 2016 calendar year-to-date earned premium; ratios may not total due to rounding)

The prior accident years (PAYs) changes from last month are due to the release of the actuarial present value adjustments with claims payments and due to the valuation implementation. The loss ratio change year-to-date reflects not only changes in the prior accident year levels, but also the increase in the calendar year-to-date earned premium with an additional month’s earned premium and due to the valuation implementation.

For the current accident year, changes in the year-to-date total reflects the additional month’s exposure and regular changes to actuarial present value adjustments as the year ages and due to the valuation implementation.

5 Current Operational Report – Additional Exhibits

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

⁹“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).

¹⁰Allowed 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.

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

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

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

6 EXHIBITS

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

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

EXHIBIT A

IBNR for Member Sharing – includes Actuarial Present Value Adjustments

TABLE EXHIBIT A

		Amounts in \$000s					
IBNR + M/S actuarial present value adjustments		Accident Year	Actual Apr. 2016	Actual May. 2016	Projected Jun. 2016	Projected Jul. 2016	Projected Dec. 2016
	2005		(2)	(2)	(2)	(2)	(2)
	2006		12	12	11	10	10
	2007		(147)	(307)	(291)	(276)	(233)
	2008		84	69	67	64	55
	2009		85	39	39	38	34
	2010		141	227	224	220	200
discount rate	2011		544	556	539	523	463
0.63%	2012		417	451	433	416	362
	2013		1,027	1,027	987	952	823
interest rate margin	2014		1,349	1,425	1,370	1,309	1,156
25 basis pts	2015		3,329	3,031	2,835	2,637	2,316
	2016		1,134	1,533	1,935	2,271	2,725
	TOTAL		7,973	8,061	8,147	8,162	7,909
	Change			88	86	15	

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

EXHIBIT B

IBNR

TABLE EXHIBIT B

Amounts in \$000s

IBNR	Ultimate Loss Ratio	Accident Year	Actual Apr. 2016	Actual May. 2016	Projected Jun. 2016	Projected Jul. 2016	Projected Dec. 2016
	84.0%	2005	(2)	(2)	(2)	(2)	(2)
	53.3%	2006	11	11	10	9	9
	70.3%	2007	(165)	(324)	(308)	(293)	(249)
	74.8%	2008	53	39	37	35	28
	77.8%	2009	55	13	12	11	9
	61.7%	2010	(41)	49	47	45	38
	87.8%	2011	243	287	273	259	221
	50.2%	2012	305	339	322	306	263
	65.9%	2013	709	702	667	634	544
	72.8%	2014	928	1,001	951	894	792
	74.6%	2015	2,783	2,536	2,346	2,158	1,910
	78.3%	2016	908	1,250	1,597	1,882	2,222
		TOTAL	5,787	5,901	5,952	5,938	5,785
		Change		114	51	(14)	

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

EXHIBIT C

Premium Liabilities

TABLE EXHIBIT C

	Amounts in \$000s				
	Actual Apr. 2016	Actual May. 2016	Projected Jun. 2016	Projected Jul. 2016	Projected Dec. 2016
Premium Liabilities					
(1) unearned premium (UP)	4,535	4,534	4,646	4,787	4,381
FOR MEMBER SHARING					
(2) expected future costs ratio {% of (1)}	88.0%	88.8%	88.7%	88.7%	88.5%
(3) expected future costs {(1) x (2)}	3,992	4,025	4,119	4,246	3,876
(4) premium deficiency / (deferred policy acquisition cost)	(543)	(509)	(527)	(541)	(505)
Excluding Actuarial Present Value Adjustments					
(5) expected future costs ratio {% of (1)}	80.5%	81.0%	81.0%	81.0%	80.8%
(6) expected future costs {(1) x (5)}	3,651	3,675	3,764	3,877	3,540
(7) premium deficiency / (deferred policy acquisition cost)	(884)	(859)	(882)	(910)	(841)

EXHIBIT D
Projected Year-end Policy Liabilities

The table below presents the projected policy liabilities as at December 31, 2016, broken down by component.

New Brunswick ending 2016		Projected Balances as at Dec. 31, 2016 (\$000s)							
		nominal values			actuarial present value adjustments (apvs)				TOTAL
Acc Yr	Case	IBNR	Total Unpaid	discount	investment PfAD	development PfAD	Total apvs		
2005	-	(2)	(2)	-	-	-	-	(2)	
2006	2	9	11	-	-	1	1	12	
2007	382	(249)	133	(1)	-	17	16	149	
2008	199	28	227	(2)	1	28	27	254	
2009	201	9	210	(2)	1	26	25	235	
2010	1,385	38	1,423	(19)	7	174	162	1,585	
2011	1,903	221	2,124	(30)	11	261	242	2,366	
2012	649	263	912	(13)	5	107	99	1,011	
2013	1,604	544	2,148	(34)	15	298	279	2,427	
2014	2,021	792	2,813	(48)	17	395	364	3,177	
2015	1,241	1,910	3,151	(66)	25	447	406	3,557	
PAYs (sub-total):	9,587	3,563	13,150	(215)	82	1,754	1,621	14,771	
CAY (2016)	1,944	2,222	4,166	(92)	37	558	503	4,669	
claims liabilities:	11,531	5,785	17,316	(307)	119	2,312	2,124	19,440	
	Unearned Premium	Premium Deficiency / (DPAC)	Total Provision	discount	investment PfAD	development PfAD	Total apvs	TOTAL *	
premium liabilities:	4,381	(841)	3,540	(55)	21	370	336	3,876	
*Total may not be sum of parts, as apvs apply to future costs within UPR									
policy liabilities:			20,856	(362)	140	2,682	2,460	23,316	

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, 2016 from the valuation), followed by the selected discount rate and the associated margin for investment income.

Accident Year	Selected Claims Development MfADs (Mar. 31, 2016)			Total
	Third Party Liability	Accident Benefits	Other Coverages	
2005	12.5%	10.0%	12.5%	12.5%
2006	12.5%	10.0%	12.5%	12.5%
2007	12.5%	10.0%	12.5%	12.5%
2008	12.5%	10.0%	12.5%	12.5%
2009	12.5%	10.0%	12.5%	12.4%
2010	12.5%	10.0%	5.0%	12.4%
2011	12.5%	10.0%	12.5%	12.5%
2012	12.5%	10.0%	9.3%	12.0%
2013	15.0%	10.0%	12.5%	14.1%
2014	15.0%	10.0%	15.0%	14.3%
2015	15.0%	10.0%	11.9%	14.5%
2016	14.8%	10.0%	6.3%	13.7%
2017	15.0%	10.0%	15.0%	15.0%
prem liab	13.8%	10.0%	5.1%	11.0%

discount rate: 0.63%
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, 2016 from the latest valuation date (projections in exhibits A to D are to Dec. 31, 2016 and based on more up-to-date information). We have included both the current valuation selection (0.63%), the prior valuation assumption (0.67%) and the prior fiscal year end valuation assumption (0.73%) for comparative purposes. A 25 basis point margin for investment return adverse deviation is used in all scenarios presented.

\$ Format: \$000s

Actuarial Present Value of Provisions at Various Discount Rates - Dec. 31, 2016 projected Unpaid								
AY	0.13%	0.63%	1.13%	1.63%	2.13%	2.63%	0.67%	0.73%
2005	-	-	-	-	-	-	-	-
2006	5	5	5	5	5	5	5	5
2007	102	101	100	99	99	98	101	101
2008	204	203	201	199	198	196	202	202
2009	204	203	201	199	197	196	202	202
2010	1,504	1,492	1,476	1,461	1,446	1,431	1,490	1,488
2011	1,985	1,967	1,946	1,924	1,903	1,882	1,966	1,963
2012	908	900	891	881	872	863	899	898
2013	2,389	2,365	2,336	2,308	2,280	2,253	2,363	2,359
2014	3,146	3,112	3,069	3,027	2,987	2,947	3,108	3,103
2015	4,000	3,947	3,882	3,819	3,758	3,698	3,942	3,934
2016	5,324	5,251	5,160	5,072	4,987	4,905	5,244	5,233
Total	19,771	19,546	19,267	18,994	18,732	18,474	19,522	19,488
	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	curr + 200bp	prior val assumption	prior fyr end assumption

Dollar Impact Relative to Valuation Assumption								
AY	0.13%	0.63%	1.13%	1.63%	2.13%	2.63%	0.67%	0.73%
Total	225	-	(279)	(552)	(814)	(1,072)	(24)	(58)
	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	curr + 200bp	prior val assumption	prior fyr end assumption

Percentage Impact Relative to Valuation Assumption								
AY	0.13%	0.63%	1.13%	1.63%	2.13%	2.63%	0.67%	0.73%
2005	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-
2007	1.0%	-	(1.0%)	(2.0%)	(2.0%)	(3.0%)	-	-
2008	0.5%	-	(1.0%)	(2.0%)	(2.5%)	(3.4%)	(0.5%)	(0.5%)
2009	0.5%	-	(1.0%)	(2.0%)	(3.0%)	(3.4%)	(0.5%)	(0.5%)
2010	0.8%	-	(1.1%)	(2.1%)	(3.1%)	(4.1%)	(0.1%)	(0.3%)
2011	0.9%	-	(1.1%)	(2.2%)	(3.3%)	(4.3%)	(0.1%)	(0.2%)
2012	0.9%	-	(1.0%)	(2.1%)	(3.1%)	(4.1%)	(0.1%)	(0.2%)
2013	1.0%	-	(1.2%)	(2.4%)	(3.6%)	(4.7%)	(0.1%)	(0.3%)
2014	1.1%	-	(1.4%)	(2.7%)	(4.0%)	(5.3%)	(0.1%)	(0.3%)
2015	1.3%	-	(1.6%)	(3.2%)	(4.8%)	(6.3%)	(0.1%)	(0.3%)
2016	1.4%	-	(1.7%)	(3.4%)	(5.0%)	(6.6%)	(0.1%)	(0.3%)
Total	1.2%	-	(1.4%)	(2.8%)	(4.2%)	(5.5%)	(0.1%)	(0.3%)
	curr - 50 bp	curr val assumption	curr + 50bp	curr + 100bp	curr + 150bp	curr + 200bp	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						M/S IBNR - in \$000s
AccountCode Desc		IBNR - Discour						
AccYear	Values	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		12	(1)	1	-	-	-	12
2007		(147)	7	(166)	(1)	(160)	108.8%	(307)
2008		84	(2)	(1)	(12)	(15)	(17.9%)	69
2009		85	(1)	(14)	(31)	(46)	(54.1%)	39
2010		141	(1)	(8)	95	86	61.0%	227
2011		544	(5)	80	(63)	12	2.2%	556
2012		417	(5)	17	22	34	8.2%	451
2013		1,027	(11)	(39)	50	-	-	1,027
2014		1,349	(18)	13	81	76	5.6%	1,425
2015		3,329	(5)	154	(447)	(298)	(9.0%)	3,031
2016		1,134	433	(72)	38	399	35.2%	1,533
Grand Total		7,973	391	(35)	(268)	88	1.1%	8,061

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			
2005	(2)	-	-	-	-	-	(2)
2006	11	(1)	1	-	-	-	11
2007	(165)	7	(166)	-	(159)	96.4%	(324)
2008	53	(1)	(1)	(12)	(14)	(26.4%)	39
2009	55	(1)	(14)	(27)	(42)	(76.4%)	13
2010	(41)	-	7	83	90	(219.5%)	49
2011	243	(2)	107	(61)	44	18.1%	287
2012	305	(3)	17	20	34	11.1%	339
2013	709	(7)	(42)	42	(7)	(1.0%)	702
2014	928	(14)	11	76	73	7.9%	1,001
2015	2,783	-	153	(400)	(247)	(8.9%)	2,536
2016	908	378	(67)	31	342	37.7%	1,250
Grand Total	5,787	356	6	(248)	114	2.0%	5,901