PUB (MPI)

## PUB (MPI) 1-1 Reference: Quarterly Report

Please file the Corporation's quarterly report for the period ending May 31, 2014.

## RESPONSE:

Please see attached.

# Quarterly Financial Report 1st QUARTER 

Three months ended
May 31, 2014

Manitoba
Public Insurance

## Management Discussion and Analysis

Management's discussion and analysis provides a review of the financial results and future outlook of Manitoba Public Insurance. It should be read in conjunction with the unaudited condensed interim financial statements and supporting notes for the first quarter ended May 31, 2014 included herein and the annual audited financial statements and supporting notes included in the Corporation's 2013 Annual Report. Certain information in this report may consist of forward-looking statements. These statements are based on various techniques and assumptions including predictions about future events which may not occur. Actual results could deviate significantly from the forward-looking statements.

## Goal 1



## Goal 2

The Basic plan will return at least 85 per cent of premium revenue to Manitobans in the form of claims benefits.

Why? Over the long-term, returns within this range strike the right balance. We pay back to Manitobans substantially more of their premiums than would private insurers, while keeping a sound financial footing.

Past results for the $\mathbf{1 2}$ months ending

| $\begin{gathered} 96 \% \\ \text { Q2.12/13 } \end{gathered}$ | $\begin{gathered} 95 \% \\ \text { Q3.12/13 } \end{gathered}$ | $\begin{aligned} & 103 \% \\ & \text { Q } 4 \cdot 12 / 13 \end{aligned}$ | $\begin{aligned} & 110 \% \\ & \text { Q1 } 13 / 14 \end{aligned}$ | $\begin{aligned} & 103 \% \\ & \text { Q2.13/14 } \end{aligned}$ | $\begin{aligned} & 104 \% \\ & \text { Q3.13/14 } \end{aligned}$ | $\begin{aligned} & 114 \% \\ & \text { Q4.13/14 } \end{aligned}$ | $\begin{gathered} 110 \% \\ \text { Q1•14/15 } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

## Goal 3

Manitoba Public Insurance will be a leader in automobile insurance and vehicle and driver licensing, providing Manitobans with superior products, coverage and service.

Why? By measuring key performance indicators, we can track the public's view of our performance.


## Goal 4

Manitoba Public Insurance will provide service that is responsive, fair, courteous and convenient. Manitoba Public Insurance will meet customer service standards that are based on customer expectations.

Overall, How Often We Meet/Exceed Standards


Why? We value our customers and put their interests first. Also, Manitobans expect more from us than from private insurers, because Manitoba Public Insurance is their company. We believe their higher expectations are justified.

Past Results (in per cent)

| $97 \%$ | $97 \%$ <br> $\mathrm{Q} 3 \cdot 12 / 13$ | $95 \%$ <br> $\mathrm{Q} 4 \cdot 12 / 13$ | $95 \%$ <br> $\mathrm{Q} 1 \cdot 13 / 14$ | $95 \%$ <br> $\mathrm{Q} 2 \cdot 13 / 14$ | $95 \%$ <br> $\mathrm{Q} 3 \cdot 13 / 14$ | $94 \%$ <br> $\mathrm{Q} 4 \cdot 13 / 14$ | $95 \%$ <br> $\mathrm{Q} 1 \cdot 14 / 15$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |


| Goal 5 <br> Retained earnings and Rate Stabilization Reserve will be maintained within established target levels. |  | Basic Rate Stabilization Reserve |  |  |  | Why? Ou <br> objective even finan to be fina sufficient. the RSR w target ran control ra costs rise Manitoba stable, aff premiums long term | term <br> reak <br> and <br> self- <br> taining <br> ts <br> ps us <br> en claim <br> antially. <br> erve <br> e <br> he |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 155.7M Q2•12/13 | $\begin{gathered} \text { 169.0M } \\ \text { Q3. } 12 / 13 \end{gathered}$ | $\begin{gathered} 149.8 \mathrm{M} \\ \mathrm{Q} 4 \cdot 12 / 13 \end{gathered}$ | 127.6M $\mathrm{Q} 1 \cdot 13 / 14$ | $\begin{gathered} 172.0 \mathrm{M} \\ \mathrm{Q} 2 \cdot 13 / 14 \end{gathered}$ | $\begin{gathered} \text { 172.OM } \\ \text { Q3.13/14 } \end{gathered}$ | $\begin{aligned} & 99.9 \mathrm{M} \\ & \mathrm{Q} 4 \cdot 13 / 14 \end{aligned}$ | $\begin{aligned} & 100.2 \\ & \mathrm{Q} 1 \cdot 14 / 15 \end{aligned}$ |
| Extension Retained Earnings |  |  |  | SRE Retained Earnings |  |  |  |
| 117.3M $\mathrm{Q} 2 \cdot 12 / 13$ | $\begin{gathered} 121.8 \mathrm{M} \\ \mathrm{Q} 3 \cdot 12 / 13 \end{gathered}$ | $\begin{gathered} 132.4 \mathrm{M} \\ \mathrm{Q} 4 \cdot 12 / 13 \end{gathered}$ | 141.9M <br> Q1•13/14 | 54.0M Q2.12/13 | $\begin{aligned} & 53.1 \mathrm{M} \\ & \text { Q3.12/13 } \end{aligned}$ | $\begin{aligned} & 57.1 \mathrm{M} \\ & \mathrm{Q} 4 \cdot 12 / 13 \end{aligned}$ | 56.5M <br> Q1•13/14 |
| $\begin{gathered} 152.4 \mathrm{M} \\ \text { Q2. } 13 / 14 \end{gathered}$ | 159.7M Q3. 13/14 | $\begin{gathered} \text { 169.1M } \\ \text { Q4.13/14 } \end{gathered}$ | 179.5M <br> Q1•14/15 | $\begin{gathered} 60.6 \mathrm{M} \\ \text { Q2. } 13 / 14 \end{gathered}$ | $\begin{aligned} & 62.8 \mathrm{M} \\ & \mathrm{Q} 3.13 / 14 \end{aligned}$ | $\begin{aligned} & 51.5 \mathrm{M} \\ & \text { Q4.13/14 } \end{aligned}$ | $55.0 \mathrm{M}$ <br> Q1•14/15 |

## Goal 6

Manitoba Public Insurance will offer an environment and career opportunities that will encourage employees to strive for excellence. Our people will be treated with respect and fairness and their contributions will be recognized.

Why? We value our employees.

Past Results

| 76 |
| :---: | :---: | :---: |
| $\mathrm{Q} 4 \cdot 07 / 08$ | | 74 |
| :---: |
| $\mathrm{Q} 4 \cdot 09 / 10$ |

## Goal 7

Manitoba Public Insurance will lead driver and vehicle safety initiatives that reduce risk and protect Manitobans, their streets and their neighbourhoods. Manitobans will recognize the Corporation is living its mission.

Why? Pursuing traffic safety and loss-prevention programs reflects our long standing commitment to the well-being of Manitobans and to affordable auto insurance. Manitobans have told us they support these efforts.

Past Results (in per cent)

## $90 \%$

Q4•10/11

## 90\% <br> Q4.11/12

Public Support for Road Safety


## Results of Operations

Manitoba Public Insurance reported net income of \$14.2 million for the three months ended May 31, 2014 compared to net loss of $\$ 33.9$ million for the same period last year. This includes net income of $\$ 0.3$ million (2012 - net loss of $\$ 41.5$ million) from the Basic insurance line of business. Corporate net income increased from the previous year by $\$ 48.1$ million due to:
i) an increase in earned revenues of $\$ 14.0$ million, offset by an increase in total expenses of $\$ 1.1$ million;
ii) a decrease in claims cost of $\$ 26.6$ million;
iii) a rise in investment income of $\$ 8.6$ million mainly due to the $\$ 14.4$ million unrealized gain on Fair Value Through Profit or Loss bonds, a $\$ 2.2$ million gain on sale of Fair Value Through Profit or Loss bonds, and a $\$ 3.4$ million unrealized gain on infrastructure, offset by a $\$ 11.3$ million decrease in gains on the sale of equities.

At the end of the fiscal year 2012/2013, the Manitoba Public Insurance adopted the IAS 19 amendment policy whereby actuarial gains and losses on the measurement of employee future benefits is now recognized in other comprehensive income in the year in which they occurred. The Corporation adopted IAS 19R on March 1, 2013 on a retrospective basis. The adoption of IAS 19R resulted in a restatement in the comparative figures. The results for prior quarters in these interim financial statements have been restated to reflect this change.

Prior year statements have also been restated due to a change in Weighted Customer Call Centre Contact Ratio, the allocation percentage used as part of the cost allocation methodology. It was adjusted to better reflect actual call center activity.

## Current Year and Last Year

Total earned revenues for the three months ended May increased from the previous year by $\$ 14.0$ million. This increase is primarily attributed to motor vehicle earned revenues which increased by $\$ 11.8$ million or $5.3 \%$. The increase in earned revenues is primarily due to the growth in the number of vehicles on the road in Manitoba, and the value of these vehicles and movement of drivers down the Drivers Safety Rating scale resulted in higher premiums.

Claims costs for the three months ended May 31, 2014 decreased by $\$ 26.6$ million compared to last year due primarily to a decrease of $\$ 35.7$ million or $36.0 \%$ in bodily injury claims incurred, offset by an increase of $\$ 9.6$ million or $8.1 \%$ in physical damage claims incurred. Claims expense and road safety and loss prevention expenses collectively decreased by $\$ 0.5$ million or $1.5 \%$ from the previous year. The increase in physical damage claims incurred is primarily due to severe winter driving conditions and greater severity of claims.

Total expenses increased by $\$ 1.2$ million compared to last year due primarily to an increase of $\$ 0.7$ million or $3.8 \%$ in commission expenses and $\$ 0.4$ million or $5.8 \%$ in premium taxes.

## Retained Earnings

Retained earnings of $\$ 334.7$ million (May 31, 2013 - $\$ 320.5$ million) are comprised of $\$ 100.2$ million for Basic insurance (May 31, 2013 - $\$ 127.6$ million) and $\$ 234.5$ million for non-Basic lines (May 31, 2013-\$192.9 million). Basic insurance retained earnings are comprised of the Rate Stabilization Reserve of $\$ 100.2$ million. The non-Basic lines retained earnings are allocated to a capital reserve of $\$ 114.0$ million and $\$ 120.5$ million to retained earnings.

## Outlook

The Corporation remains committed to achieving its seven Corporate goals. Actual results will be monitored, and corrective actions taken when necessary, to ensure that expected outcomes are realized.

Manitoba experienced a long winter with severe driving conditions; this has resulted in an increase in collision claims of 5.0 per cent and claims costs of 13.5 per cent. As a result, Manitoba Public Insurance is asking the Public Utilities Board (PUB) for a basic rate increase of 2.4 per cent and a rate stabilization reserve rebuilding fee of 1.0 per cent.

## Overall:

- More than half of the policy holders will see a rate increase of $\$ 20$ or less, or a premium decrease
- 2.4 per cent of the rate increase will be directed to Basic insurance
- 1.0 per cent will be used to replenish the Rate Stabilization Reserve (RSR) Fund
- The average vehicle premium will be $\$ 949$ if the rate application is approved
- Motorcycle rates will decrease 6.1 per cent or $\$ 61$ per vehicle, the average motorcycle rate will decrease to \$939 from \$1,000
- If approved rate changes will take effect March 1, 2015

Manitoba Public Insurance is committed to keeping rates stable over the long term. The RSR and corporate efficiencies have helped to avoid passing the full 13.5 per cent increase in claims costs on to vehicle owners.

## Condensed Interim Financial Statements Condensed Interim Statement of Financial Position

| (Unaudited - in thousands of Canadian dollars) | Notes | May 31, 2014 | February 28, 2014 |
| :---: | :---: | :---: | :---: |
| Assets |  |  |  |
| Cash and investments | 5 | 1,680,633 | 1,695,988 |
| Equity \& pooled real estate funds investments | 5 | 740,604 | 712,625 |
| Investment property | 5 | 38,088 | 38,312 |
| Due from other insurance companies |  | 19 | 4,080 |
| Accounts receivable |  | 349,713 | 334,137 |
| Prepaid expenses |  | 129 | 1,049 |
| Deferred policy acquisition costs |  | 24,358 | 24,742 |
| Reinsurers' share of unearned premiums |  | 13,361 | 61 |
| Reinsurers' share of unpaid claims |  | 16,714 | 24,741 |
| Property and equipment |  | 122,810 | 123,850 |
| Deferred development costs |  | 68,166 | 68,586 |
|  |  | 3,054,595 | 3,028,171 |
| Liabilities |  |  |  |
| Due to other insurance companies |  | 10,457 | 1,934 |
| Accounts payable and accrued liabilities |  | 50,552 | 63,026 |
| Financing lease obligation |  | 4,410 | 4,425 |
| Unearned premiums |  | 503,149 | 497,811 |
| Provision for employee current benefits |  | 22,255 | 21,800 |
| Provision for employee future benefits |  | 336,866 | 333,138 |
| Provision for unpaid claims | 4 | 1,698,339 | 1,708,714 |
|  |  | 2,626,028 | 2,630,848 |
| Equity |  |  |  |
| Retained Earnings |  |  |  |
| Basic Insurance Retained Earnings |  |  |  |
| Rate Stabilization Reserve |  | 100,212 | 99,878 |
| Retained Earnings |  | - | - |
|  |  | 100,212 | 99,878 |
| Non-Basic Retained Earnings |  |  |  |
| Capital Reserve |  | 114,000 | 114,000 |
| Retained Earnings |  | 120,508 | 106,594 |
|  |  | 234,508 | 220,594 |
|  |  | 334,720 | 320,472 |
| Accumulated Other Comprehensive Income |  | 93,847 | 76,851 |
| Total Equity |  | 428,567 | 397,323 |
|  |  | 3,054,595 | 3,028,171 |

The accompanying notes are an integral part of these financial statements.

## Condensed Interim Statement of Operations

|  | Three Months Ended |  |  |
| :---: | :---: | :---: | :---: |
| (Unaudited - in thousands of Canadian dollars) | Notes | May 31, 2014 | May 31, 2013 <br> Restated |
| Earned Revenues |  |  |  |
| Gross premiums written |  | 281,011 | 266,155 |
| Premiums ceded to reinsurers |  | $(17,767)$ | $(17,461)$ |
| Net premiums written |  | 263,244 | 248,694 |
| (Increase) decrease in gross unearned premiums |  | $(30,760)$ | $(29,530)$ |
| Increase (decrease) in reinsurers' share of unearned premiums |  | 13,300 | 13,005 |
| Net premiums earned |  | 245,784 | 232,169 |
| Service fees \& other revenue |  | 6,932 | 6,538 |
| The Drivers and Vehicles Act operations recovery |  | 6,975 | 6,975 |
| Total Earned Revenues |  | 259,691 | 245,682 |
| Claims Costs |  |  |  |
| Direct claims incurred |  | 194,402 | 218,388 |
| Claims incurred ceded to reinsurers |  | $(2,699)$ | (633) |
| Net claims incurred |  | 191,703 | 217,755 |
| Claims Expense |  | 32,728 | 32,840 |
| Loss prevention/Road safety |  | 2,865 | 3,309 |
| Total Claims Costs |  | 227,296 | 253,904 |
| Expenses |  |  |  |
| Operating |  | 29,583 | 29,478 |
| Commissions |  | 18,493 | 17,808 |
| Premium taxes |  | 7,508 | 7,099 |
| Regulatory/Appeal |  | 728 | 772 |
| Total Expenses |  | 56,312 | 55,157 |
| Underwriting loss |  | $(23,917)$ | $(63,379)$ |
| Investment income | 6 | 38,165 | 29,491 |
| Net Income (Loss) |  | 14,248 | $(33,888)$ |

## Condensed Interim Statement of Comprehensive Income (Loss)

|  | Three Months Ended |  |
| :--- | :---: | ---: |
| May 31, 2013 |  |  |
| (Unaudited - in thousands of Canadian dollars) | May 31,2014 | Restated |
| Net income (loss) after surplus distribution | $\mathbf{1 4 , 2 4 8}$ | $(33,888)$ |
| Other Comprehensive Income (Loss) | $\mathbf{2 0 , 0 5 2}$ | $\mathbf{7 , 8 9 0}$ |
| Unrealized gains (losses) on Available for Sale assets  <br> Reclassification of net realized (gains) losses related to $\mathbf{( 3 , 0 5 6 )}$ <br> Available for Sale assets $\mathbf{1 6 , 9 9 6}$ |  |  |
| Other Comprehensive Income (Loss) for the period | $\mathbf{3 1 , 2 4 4}$ | $(1,272)$ |
| Total Comprehensive Income (Loss) | $\mathbf{2 7 , 2 7 0}$ |  |

The accompanying notes are an integral part of these financial statements.

## Condensed Interim Statement of Changes in Equity



The accompanying notes are an integral part of these financial statements.

## Condensed Interim Statement of Cash Flows

| (Unaudited - in thousands of Canadian dollars) | Notes | Three months ended |  |
| :---: | :---: | :---: | :---: |
|  |  | May 31, 2014 | May 31, 2013 <br> Restated |
| Cash Flows from (to) Operating Activities: |  |  |  |
| Net income after surplus distribution |  | 14,248 | $(33,888)$ |
| Non-cash items: |  |  |  |
| Depreciation of property and equipment |  | 1,655 | 1,672 |
| Amortization of deferred development costs |  | 3,633 | 2,212 |
| Amortization of bond discount and premium |  | 467 | 921 |
| (Gain) loss on sale of investments |  | $(6,462)$ | $(15,517)$ |
| Unrealized (gain) loss on Fair Value Through Profit or Loss bonds |  | $(6,944)$ | 7,524 |
| Unrealized (gain) loss on investment in real estate |  | $(4,051)$ | $(6,397)$ |
| Unrealized (gain) loss on investment in infrastructure |  | $(3,525)$ | (134) |
| Write-down of investments |  | - | - |
|  |  | (979) | $(43,607)$ |
| Net change in non-cash balances: |  |  |  |
| Due from other insurance companies |  | 4,061 | (260) |
| Accounts receivable and prepaid expenses |  | $(14,656)$ | $(7,518)$ |
| Deferred policy acquisition costs |  | 384 | (805) |
| Reinsurers' share of unearned premiums and unpaid claims |  | $(5,273)$ | $(13,352)$ |
| Due to other insurance companies |  | 8,523 | 8,614 |
| Accounts payable and accrued liabilities |  | $(12,473)$ | 4,000 |
| Unearned premiums |  | 5,338 | 5,139 |
| Provision for employee current benefits |  | 455 | 788 |
| Provision for employee future benefits |  | 3,728 | 3,760 |
| Provision for unpaid claims |  | $(10,376)$ | 34,492 |
|  |  | $(20,289)$ | 34,858 |
|  |  | $(21,268)$ | $(8,749)$ |
| Cash Flows from (to) Investing Activities: |  |  |  |
| Purchase of investments |  | $(249,656)$ | $(576,246)$ |
| Proceeds from sale of investments |  | 191,918 | 452,485 |
| Acquisition of property and equipment net of proceeds from disposals |  | (616) | $(1,365)$ |
| Financing lease obligation |  | (15) | (14) |
| Deferred development costs incurred |  | $(3,213)$ | $(8,597)$ |
|  |  | $(61,582)$ | $(133,737)$ |
| Increase (decrease) in Cash and Short-Term Investments |  | $(82,850)$ | $(142,486)$ |
| Cash and short-term investments beginning of year |  | 93,208 | 170,882 |
| Cash and Short-Term Investments end of period | 5 | 10,358 | 28,396 |

The accompanying notes are an integral part of these financial statements.

## Notes to Financial Statements

## 1) Status of the Corporation

The Manitoba Public Insurance Corporation (the "Corporation") was incorporated as a Crown Corporation under The Automobile Insurance Act in 1970. In 1974, The Automobile Insurance Act was revised and became The Manitoba Public Insurance Corporation Act (Chapter A180 of the continuing consolidation of the Statutes of Manitoba). In 1988, the Act was re-enacted in both official languages as Chapter P215 of the Statutes of Manitoba. The address of the Corporation's registered office is 234 Donald Street, Winnipeg, Manitoba.

Under the provisions of its Act and regulations, the Corporation operates an automobile insurance division and a discontinued general insurance division. The lines of business for the automobile insurance division provide for basic universal compulsory automobile insurance, extension and special risk coverages. For financial accounting purposes, the lines of business for the automobile insurance division and the discontinued general insurance division are regarded as separate operations and their revenues and expenses are allocated on a basis described in the summary of significant accounting policies. For financial reporting purposes, due to the immateriality of the financial results of the discontinued general insurance operations, the operations are reported as part of the Special Risk Extension line of business. The basic universal compulsory automobile insurance line of business rates are approved by the Public Utilities Board of Manitoba.

Under The Drivers and Vehicles Act, the Corporation is responsible for operations pertaining to driver safety, vehicle registration and driver licensing, including all related financial, administrative and data processing services.

## 2) Basis of Reporting

## Statement of Compliance

The financial statements of the Corporation are in such form as prescribed by Section 43(1) of The Manitoba Public Insurance Corporation Act and are presented in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB).

## Basis of Presentation

The Corporation presents its Statement of Financial Position broadly in order of liquidity.

These statements are presented in thousands of Canadian dollars except as otherwise specified.

## Seasonality

The automobile insurance business, that reflects the primary business of the Corporation, is seasonal in nature. While net premiums earned are generally stable from quarter to quarter, underwriting income is typically highest in the first and second quarter of each year and lowest in the fourth quarter of each year. This is driven mainly by weather conditions which may vary significantly between quarters.

## Basis of Measurement

The Corporation prepares its financial statements as a going concern, using the historical cost basis, except for financial instruments. Measurement of the financial instruments is detailed in Note 4 of the 2013 Annual Report.

## Estimates and Judgments

The preparation of financial statements requires management to make estimates and judgments that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

## 3) Summary of Significant Accounting Policies

Refer to the 2013 Annual Audited Financial Statements for a summary outlining those accounting policies followed by the Corporation that have a significant effect on the condensed interim financial statements.

## 4) Provision for Unpaid Claims

The provision for unpaid claims, including adjustment expenses, represents an estimate for the full amount of all costs and the projected final settlement of claims incurred.

The provision for unpaid claims, including adjustment expenses, is subject to variability. This variability is related to future events that arise from the date the loss was reported to the ultimate settlement of the claims. Accordingly, short-tail claims such as physical damage claims tend to be more reasonably predictable than long-tail claims such as Personal Injury Protection Plan (PIPP) and public liability claims. Factors such as the receipt of additional claims information during the claims settlement process, changes in severity and frequencies of claims from historical trends, and effects of inflationary trends contribute to this variability.

The determination of the provision for unpaid claims, including adjustment expenses, relies on judgment, analysis of historical claim trends, investment rates of return and expectation on the future development of claims. The process of establishing this provision necessarily involves risks which could cause the actual results to deviate, perhaps substantially, from the best determinable estimate.

## 5) Cash and Investments

Cash consists of cash net of cheques issued in excess of amounts on deposit.
Short-term investments have a total principal amount of $\$ 20.1$ million (2013 - $\$ 26.0$ million) comprised of provincial short-term deposits with effective interest rates of $0.92 \%$ to $0.93 \%$ ( $2013-0.92 \%$ to $0.94 \%$ ), with interest receivable at varying dates.

The Corporation has an unsecured operating line of credit with its principal banker in the amount of \$5.0 million (2013-\$5.0 million). There were no drawdowns against this line of credit at May 31, 2014 (2013 - nil).

## Cash and Investments

|  | Financial Instruments |  |  | Non- <br> Financial Instruments | Total Carrying Value |
| :---: | :---: | :---: | :---: | :---: | :---: |
| As at May 31, 2014 | Classified as Available for Sale | Classified as <br> Held to <br> Maturity | Classified as Fair Value Through Profit or Loss |  |  |
| Cash and short-term investments | 10,358 | - | - | - | 10,358 |
| Bonds |  |  |  |  |  |
| Federal | - | - | 85,276 | - | 85,276 |
| Manitoba: |  |  |  |  |  |
| Provincial | - | - | 274,676 | - | 274,676 |
| Municipal | - | 12,548 | 18,702 | - | 31,250 |
| Hospitals | - | - | 11,328 | - | 11,328 |
| Schools | - | 598,132 | - | - | 598,132 |
| Other provinces: |  |  |  |  |  |
| Provincial | - | - | 467,403 | - | 467,403 |
| Municipal | - | - | 95,148 | - | 95,148 |
| Corporations | - | - | 49,583 | - | 49,583 |
|  | - | 610,680 | 1,002,116 | - | 1,612,796 |
| Other investments | 3,876 | - | - | - | 3,876 |
| Infrastructure | - | - | 53,603 | - | 53,603 |
| Cash and investments | 14,234 | 610,680 | 1,055,719 | - | 1,680,633 |
| Equity investments | 543,633 | - | - | - | 543,633 |
| Pooled Real Estate Fund | - | - | 196,971 | - | 196,971 |
| Investment property | - | - | - | 38,088 | 38,088 |
|  | 557,867 | 610,680 | 1,252,690 | 38,088 | 2,459,325 |


|  | Financial Instruments |  |  | Non-Financial Instruments | Total Carrying Value |
| :---: | :---: | :---: | :---: | :---: | :---: |
| As at May 31, 2013 | Classified as Available for Sale | Classified as Held to Maturity | Classified as Fair Value Through Profit or Loss |  |  |
| Cash and short-term investments | 28,396 | - | - | - | 28,396 |
| Bonds |  |  |  |  |  |
| Federal | - | - | 109,739 | - | 109,739 |
| Manitoba: |  |  |  |  |  |
| Provincial | - | - | 260,361 | - | 260,361 |
| Municipal | - | 15,092 | 29,423 | - | 44,515 |
| Hospitals | - | - | 11,957 | - | 11,957 |
| Schools | - | 552,805 | - | - | 552,805 |
| Other provinces: |  |  |  |  |  |
| Provincial | - | - | 357,134 | - | 357,134 |
| Municipal | - | - | 62,706 | - | 62,706 |
| Corporations | - | - | 45,580 | - | 45,580 |
|  | - | 567,897 | 876,900 | - | 1,444,797 |
| Other investments | 4,022 | - | - | - | 4,022 |
| Infrastructure | - | - | 45,720 | - | 45,720 |
| Cash and investments | 32,418 | 567,897 | 922,620 | - | 1,522,935 |
| Equity investments | 586,476 | - |  | - | 586,476 |
| Pooled Real Estate Fund | - | - | 179,398 | - | 179,398 |
| Investment property | - | - | - | 35,881 | 35,881 |
|  | 618,894 | 567,897 | 1,102,018 | 35,881 | 2,324,690 |

## Fair Value Measurement

Financial instruments that are measured at fair value are classified by their level within the fair value hierarchy. The fair value hierarchy consists of three levels that are defined on the basis of the type of inputs used to measure fair value. The classification cannot be higher than the lowest level of input that is significant to the measurement:

Level 1 - Fair value is determined based on unadjusted quoted prices of identical assets in active markets. Inputs include prices from exchanges where equity and debt securities are actively traded.

Level 2 - Level 2 valuations utilize inputs other than quoted market prices included in Level 1 that are observable, directly or indirectly, for the asset. These inputs include quoted prices for similar assets in active markets and observable inputs other than quoted prices, such as interest rates and yield curves. The fair values for some Level 2 securities were obtained from a pricing service. Pricing service inputs may include benchmark yields, reported trades, broker/dealer quotes and bid/ask spreads.

Level 3 - Fair value measurements using significant inputs that are not based on observable market data are Level 3. This mainly consists of derivatives and private equity investments. In these cases prices may be determined by internal pricing models utilizing all available financial information, including direct comparison and industry sector data. For some investments, valuations are obtained annually. For periods between valuations, management assesses the validity of the valuation for current reporting purposes.

The following table presents financial instruments measured at fair value in the Statement of Financial Position, classified by level within the fair value hierarchy.

| As at May 31, 2014 <br> (in thousands of Canadian dollars) | Level 1 | Level 2 | Level 3 |
| :---: | :---: | :---: | :---: |
| FVTPL financial assets |  |  |  |
| Bonds | 69,450 | 917,246 | 15,420 |
| Infrastructure | - | - | 53,603 |
| Pooled Real Estate Fund | - | 196,971 | - |
| Total FVTPL financial assets | 69,450 | 1,114,217 | 69,023 |
| AFS financial assets |  |  |  |
| Cash and short term investments | 10,358 | - | - |
| Other investments | - | - | 3,876 |
| Equity investments | 543,633 | - | - |
| Total AFS financial assets | 553,991 | - | 3,876 |
| Total assets measured at fair value | 623,441 | 1,114,217 | 72,899 |


| As at May 31, 2013 <br> (in thousands of Canadian dollars) | Level 1 | Level 2 | Level 3 |
| :---: | :---: | :---: | :---: |
| FVTPL financial assets |  |  |  |
| Bonds | 119,699 | 740,916 | 16,285 |
| Infrastructure | - | - | 45,720 |
| Pooled Real Estate Fund | - | 179,398 | - |
| Total FVTPL financial assets | 119,699 | 920,314 | 62,005 |
| AFS financial assets |  |  |  |
| Cash and short term investments | 28,396 | - | - |
| Other investments | - | - | 4,022 |
| Equity investments | 586,476 | - | - |
| Total AFS financial assets | 614,872 | - | 4,022 |
| Total assets measured at fair value | 734,571 | 920,314 | 66,027 |


|  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: |
| Fair value measurement of instruments included in Level 3 | FVTPL | AFS |  |  |
| (in thousands of Canadian dollars) | 2014 | 2013 | 2014 | 2013 |
| Balance at March 1 | 63,469 | 38,716 | $\mathbf{3 , 8 7 6}$ | 4,099 |
| Total gains/(losses) |  |  |  |  |
| Included in net income | $\mathbf{3 , 5 2 5}$ | 134 | - | -- |
| Included in other comprehensive income | - | - | - | - |
| Purchases | $\mathbf{2 , 0 2 9}$ | 23,155 | - | - |
| Sales | - | - | - | $(77)$ |
| Balance at May 31 | $\mathbf{6 9 , 0 2 3}$ | 62,005 | $\mathbf{3 , 8 7 6}$ | $\mathbf{4 , 0 2 2}$ |

The fair value of HTM bonds, which include schools and certain municipalities, is based on their carrying value, which approximates market value.
6) Investment Income

|  | May 31, | May 31, |
| :--- | ---: | ---: |
| (in thousands of Canadian dollars) | $\mathbf{2 0 1 4}$ | $\mathbf{2 0 1 3}$ |
| Interest income | $\mathbf{1 2 , 8 0 9}$ | 11,830 |
| Gain (loss) on sale of Fair Value Through Profit or Loss bonds | $\mathbf{3 , 4 0 7}$ | 1,146 |
| Unrealized gain (loss) on Fair Value Through Profit or Loss bonds | $\mathbf{6 , 9 4 4}$ | $\mathbf{( 7 , 5 2 4 )}$ |
| Unrealized gain (loss) on investment property | $\mathbf{4 , 0 5 1}$ | 6,397 |
| Gain (loss) on infrastructure investments | $\mathbf{3 4 5}$ | 147 |
| Unrealized gain (loss) on infrastructure investments | $\mathbf{3 , 5 2 5}$ | 134 |
| Dividend income | $\mathbf{3 , 9 8 0}$ | 3,377 |
| Gain (loss) on sale of equities | $\mathbf{3 , 0 5 5}$ | 14,371 |
| Gain (loss) on foreign exchange | $\mathbf{( 1 7 )}$ | - |
| Income from investment property | $\mathbf{7 7 8}$ | $\mathbf{8 3 0}$ |
| Write-down of investments | $\mathbf{-}$ | - |
| Investment management fees | $\mathbf{( 7 1 2 )}$ | $\mathbf{( 1 , 2 1 7 )}$ |
| Total | $\mathbf{3 8 , 1 6 5}$ | $\mathbf{2 9 , 4 9 1}$ |

## 7) Employee Future Benefits Expense

The total benefits costs included in expenses are as follows:

| (Unaudited - in thousands of Canadian dollars) | May 31, | May 31, |
| :--- | ---: | ---: |
|  | 2014 | 2013 |
| Pension benefits | 5,963 | 5,721 |
| Other post-employment benefits | 7 | 596 |
| Total | 5,970 | 6,317 |

## 8) Depreciation and Amortization

The total depreciation and amortization included in expenses are as follows:

| (Unaudited - in thousands of Canadian dollars) | May 31, | May 31, |
| :--- | ---: | ---: | ---: |
|  | 2014 | 2013 |
| Amortization - Deferred Development | 3,633 | 2,212 |
| Depreciation - Property and equipment | 1,655 | 1,672 |
| Total | 5,288 | 3,884 |

## Manitoba Public Insurance Locations

Customer Service
Winnipeg
Tel: 204-985-7000
Outside Winnipeg
Tel: 800-665-2410
Deaf Access TTY/TDD
Tel: 204-985-8832
Out-of-Province Claims
Tel: 800-661-6051
Administrative Offices
Winnipeg
234 Donald Street
Box 6300
R3C 4A4
Brandon
731-1st Street
R7A 6C3

| Service Locations | Flin Flon Claim Centre |
| :---: | :---: |
| Winnipeg | 8 Timber Lane |
| Service Centres |  |
| 15 Barnes Street | Portage la Prairie |
| 40 Lexington Park | Claim Centre |
| 1284 Main Street | 2007 Saskatchewan Avenue |
| 930 St. Mary's Road | West |
| 125 King Edward Street East |  |
| 1103 Pacific Avenue | Driver and Vehicle Licensing |
| 420 Pembina Highway | Centre |
|  | 25 Tupper Street North |
| cityplace |  |
| Service Centre - Main Floor | Selkirk |
| ID Verification and Data | Service Centre |
| Integrity | 1008 Manitoba Avenue |
| Rehabilitation Management | Steinbach |
| Serious and Long-Term Case | Claim Centre |
| Management Centre | 91 North Front Drive |
| Bodily Injury Centre |  |
| 234 Donald Street | Service Centre |
|  | 165 Park Road West |
| Physical Damage Centre | Clearspring Village Mall, Unit 2 |
| Holding Compound/Receiving |  |
| Salvage | Swan River |
| Commercial Claims | Claim Centre |
| 1981 Plessis Road | 125-4th Avenue North |
| Arborg | The Pas |
| Service Centre | Claim Centre |
| 323 Sunset Boulevard | 424 Fischer Avenue |
| Beausejour | Thompson |
| Service Centre | Service Centre |
| 848 Park Avenue | 53 Commercial Place |
| Brandon | Winkler |
| Service Centre | Service Centre |
| 731-1st Street | 355 Boundary Trail |
| Dauphin |  |
| Service Centre |  |
| 217 Industrial Road |  |

For more information contact:
Manitoba Public Insurance Corporate Communications
Room 820, 234 Donald Street P.O. Box 6300

Winnipeg, MB R3C 4A4

## PUB (MPI) 1-2 Reference: Meeting Minutes

Please file the Corporation's Board of Directors and Audit Committee meeting minutes for 2013/14 that relate to:
a) IT Optimization/BTO Projects;
b) Gartner Scorecard and all reports to the Board related to IT Spending;
c) RSR Targets/DCAT;
d) Cost Containment; and
e) Approval of the 2015 GRA.

## RESPONSE:

a), b) and d) Please refer to PUB (MPI) 1-3.
c) and e) See the attached.

MINUTES OF THE FOUR HUNDRED AND TWENTY-THIRD MEETING OF THE DIRECTORS OF THE MANITOBA PUBLIC INSURANCE CORPORATION HELD ON THE $5^{\text {TH }}$ DAY OF JUNE AT 1:45 P.M AND RECONVENED ON THE $6^{\text {TH }}$ DAY OF JUNE, 2014 AT 8:15 A.M. AT THE VICTORIA INN, 160 HIGHWAY \#10-A NORTH, FLIN FLON, MANITOBA.

Dynamic
Ms. Reichert presented Agenda Item 4.2 "Dynamic Capital Adequacy Test (DCAT) - Basic Autopac". The four plausible risk areas are:

- Declining or sustained low interest rates;
- Declines in equity asset values;
- Claims incurred over budget; and
- Combined adverse interest rates, declining equity returns and high claims incurred.

The opinion of the Chief Actuary is the financial condition of Basic is not satisfactory due to:
i) The base rate stabilization reserve forecast is projected to fall below the Regulator's minimum rate stabilization reserve requirement in the 2014/15 and 2015/16 fiscal years; and
ii) There are adverse scenarios that cause the total equity of Basic to fall below zero after including assumed management and regulatory action.

The Chief Actuary recommends that:
i) Basic hold a minimum rate stabilization reserve of $\$ 194$ million which is the largest reduction in retained earnings identified from all the plausible adverse scenarios; and
ii) Basic hold a minimum total equity of $\$ 213$ million, which is based on the largest reduction in total equity identified from all plausible adverse scenarios.

Moved by Ms. Mintz and seconded by Mr. Saunders that Members approve a Basic Rate Stabilization Reserve target of $\$ 194$ million as at February 28, 2014; a minimum Basic total equity target of $\$ 213$ million; and a maximum Basic total equity target equal to $100 \%$ of the Basic Minimum Capital Test or $\$ 323$ million.

## CARRIED

2015/16 Basic Rate Stabilization Reserve

14-127

Mr. Guimond presented Agenda Item 4.1 "2015/16 Basic Rate Stabilization Reserve". An extensive discussion ensued amongst Members.

Moved by Ms. Johnson and seconded by Mr. Saunders that the Members approve the rebuilding of the Rate Stabilization Reserve in furtherance of Minute 14-108 as follows:

1. To apply an RSR Rebuilding Fee of $1 \%$ on a percentage basis to each of the proposed 2015/16 Basic Autopac rates; and
2. To communicate to the Public Utilities Board in its 2015/16 Basic General Rate Application, that if the Public Utilities Board approves a Rate Stabilization Reserve minimum target, based on the DCAT which contains an agreed to safety margin above the DCAT result, then the Board of Directors will authorize transferring some Extension and SRE excess retained earnings to increase the Basic Rate Stabilization Reserve and;
3. To return to the Board of Directors after the PUB issues its Order in the 2015/16 rate hearing to approve the amounts to be transferred.

## CARRIED

July 31, 2014

2015/16 Basic Autopac Program and Rates

Ms. Reichert presented Agenda Item 4.2 " $2015 / 16$ Basic Autopac Program and Rates". An extensive presentation with substantial discussion occurred.

Moved by Mr. Paterson and seconded by Mr. Saunders that the Members approve:

## A. RATE CHANGES

The application to the Public Utilities Board for 2015/16 rates for the Basic Autopac Program as set out below:

1. Classification and experience rate adjustments which result in an overall $2.4 \%$ increase to average rates for Basic Autopac written premiums.
2. As part of a plan to rebuild the RSR within four years, for the first year of the plan, an RSR Rebuilding Fee of up to $2.5 \%$ is to be applied on a percentage basis to each of the proposed 2015/16 Basic Autopac rates.
3. Rates for individual risk classifications to be adjusted based on statistically determined experience indicators.
4. Classification changes to be implemented on a revenue neutral basis.

## B. CLASSIFICATION CHANGES

The following classification changes to the Basic Autopac program as of March 1, 2015 for Vehicle Rating Factors:

1. Revisions to the relationship between rates and rate group (Rate Line) for passenger vehicles, light trucks, motor homes, motorcycles, heavy trucks, trailers (over $\$ 2,500$ ) and buses.
2. Adjustments to passenger vehicle and light truck rate groups based on the Canadian Loss Experience Automobile Rating (CLEAR) indicators, as provided by the Insurance Bureau of Canada (IBC). Adjustments will consist of an increase of one rate group for vehicles requiring an increase, and a decrease to the required CLEAR indicator for vehicles requiring a decrease.
3. Passenger vehicle and light truck rate group methodology changes:
a. CLEAR rating recommendations from IBC for an additional five model years. For 2015/16 rate groups, CLEAR indicators will be used to determine rate groups for model years 1996 to 2015.

Page 3
b. Revisions to the CLEAR injury rating matrix to accommodate the change to IBC's injury rating recommendations. IBC now provides two separate ratings, one for Ontario and one for Alberta and Atlantic provinces. As Manitoba injury benefit relativities are relatively flat between rate groups, it was decided to use the smaller range of 1 to 14 provided for Alberta and Atlantic Canada.
c. Revision of the CLEAR Collision/Comprehensive weighting for 80/20 to 81/19.
4. Annual adjustment to heavy truck rate tables.
5. Motorcycle body style corrections as provided by the Insurance Bureau of Canada.

CARRIED

## PUB (MPI) 1-3

Reference: PFT of Dan Guimond, slide 4

Please provide an expanded Organization Chart including department level detail (e.g. Pricing \& Economics) and identify the individual currently holding each position shown on the chart.

## RESPONSE:

Basic insurance rates are set prospectively based on pro forma financial projections of expenses and revenues and actuarial modeling. This information request has no bearing on the reasonableness of the financial projections or actuarial modeling used to determine rates effective March 1, 2015. This is consistent with the Corporation's understanding of the PUB's mandate as stated in The Crown Corporations Public Review and Accountability Act and by the Court of Appeal. Considerable information of an operational nature was provided in the filing, though rate setting does not entail an operational review or audit of Manitoba Public Insurance. For these reasons, the Corporation declines to incur the additional staff effort and operating expenses associated with responding to this information request.

## PUB (MPI) 1-4

## Reference: Pro-Forma Scenarios

a) Please provide a restated PF.1, PF. 2 and PF. 3 separating the vehicle premiums from the RSR Rebuilding Fees, and separating out amounts relating to the premium deficiency reserves.
b) Using the presentation from a) above, please provide a restated PF.1, PF. 2 and PF. 3 with a $0.0 \%$ rate change in 2015/16 and no RSR Rebuilding Fee.
c) Using the presentation from a) above, please provide a restated PF.1, PF. 2 and PF. 3 with a $0.0 \%$ rate change in 2015/16 and the applied for $1.0 \%$ RSR Rebuilding Fee.
d) Using the presentation from a) above, please provide a restated PF.1, PF. 2 and PF. 3 with a $1.4 \%$ rate change in 2015/16 and the applied for $1.0 \%$ RSR Rebuilding Fee.
e) Using the presentation from a) above, please provide a restated PF.1, PF. 2 and PF. 3 with the applied for $2.4 \%$ rate change in 2015/16 and no RSR Rebuilding Fee.
f) Using the presentation from a) above, please provide a restated PF.1, PF. 2 and PF. 3 with the applied for $2.4 \%$ rate change in $2015 / 16$ and a $2.0 \%$ RSR Rebuilding Fee starting in 2015/16.

## RESPONSE:

a) Please refer to attachment.
b) Please refer to attachment.
c) Please refer to attachment.
d) Please refer to attachment.
e) Please refer to attachment.
f) Please refer to attachment.

## Manitoba Public Insurance

## Multi-year Statements

For the Years Ended February,

## 2015/16-2.4\% Rate Change and 1\% RSR Rebuilidng Fee

(C\$ 000s, except where noted)

## BASIC <br> Motor Vehicles <br> RSR Rebuilding Fee <br> Drivers <br> Reinsurance Ceded <br> Total Net Premiums Written

Net Premiums Earned
Motor Vehicles
RSR Rebuilding Fee
Drivers
Reinsurance Ceded
Total Net Premiums Earned
Service Fees \& Other Revenues
Total Earned Revenues

Net Claims Incurred
Claims Expense
Road Safety/Loss Prevention
Total Claims Costs
Expenses
Operating
Commissions
Premium Taxes
Regulatory/Appeal
Total Expenses
Underwriting Income (Loss)
Investment Income

Net Income (Loss) from Operations

| For the Years Ended February, |  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: |
|  | $\underline{\mathbf{2 0 1 4 A}}$ | $\underline{\mathbf{2 0 1 5 F}}$ | $\underline{\mathbf{2 0 1 6 P}}$ | $\underline{\mathbf{2 0 1 7 P}}$ | $\underline{\mathbf{2 0 1 8 P}}$ |
| $\mathbf{7 5 6 , 6 4 2}$ | 795,233 | 850,848 | 888,903 | $\mathbf{2 0 1 9 P}$ |  |
|  |  | 8,549 | 8,925 | 9,344 | 969,862 |
| 41,520 | 46,992 | 51,284 | 55,427 | 59,418 | 9,727 |
| $(13,422)$ | $(13,661)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| $\mathbf{7 8 4 , 7 4 0}$ | 828,564 | 896,747 | $\mathbf{9 3 9 , 0 4 2}$ | $\mathbf{9 8 2 , 7 8 2}$ | $\mathbf{1 , 0 2 7 , 7 8 3}$ |


| 741,077 | 769,872 | 824,709 | 871,017 | 909,913 | 950,442 |
| ---: | ---: | ---: | ---: | ---: | ---: |
|  |  | 4,531 | 8,748 | 9,133 | 9,534 |
| 37,015 | 44,330 | 49,138 | 53,355 | 57,422 | 61,201 |
| $(13,422)$ | $(13,722)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| 764,670 | 800,480 | 864,444 | 918,908 | 961,971 | $\mathbf{1 , 0 0 6 , 3 9 0}$ |
| 20,384 | 19,799 | 21,079 | 22,815 | 24,671 | 26,786 |
| $\mathbf{7 8 5 , 0 5 3}$ | $\mathbf{8 2 0 , 2 7 9}$ | 885,523 | $\mathbf{9 4 1 , 7 2 3}$ | $\mathbf{9 8 6}, 641$ | $\mathbf{1 , 0 3 3 , 1 7 6}$ |
|  |  |  |  |  |  |
| 747,435 | 624,777 | 672,137 | 725,356 | 748,183 | 826,983 |
| 114,552 | 116,249 | 120,486 | 126,010 | 127,314 | 138,319 |
| 12,816 | 11,350 | 10,514 | 10,564 | 10,606 | 10,648 |
| $\mathbf{8 7 4 , 8 0 3}$ | $\mathbf{7 5 2 , 3 7 6}$ | $\mathbf{8 0 3 , 1 3 7}$ | $\mathbf{8 6 1 , 9 3 0}$ | $\mathbf{8 8 6 , 1 0 2}$ | $\mathbf{9 7 5 , 9 5 0}$ |


| 67,982 | 73,568 | 74,791 | 79,063 | 81,043 | 87,298 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 32,057 | 33,496 | 34,173 | 35,970 | 37,450 | 38,991 |
| 23,342 | 24,426 | 26,351 | 27,994 | 29,294 | 30,635 |
| 3,766 | 3,261 | 3,314 | 3,380 | 3,447 | 3,516 |
| $\mathbf{1 2 7 , 1 4 7}$ | $\mathbf{1 3 4 , 7 5 1}$ | $\mathbf{1 3 8 , 6 3 0}$ | $\mathbf{1 4 6 , 4 0 6}$ | $\mathbf{1 5 1 , 2 3 3}$ | $\mathbf{1 6 0 , 4 4 0}$ |
|  |  |  |  |  |  |
| $\mathbf{( 2 1 6 , 8 9 7 )}$ | $\mathbf{( 6 6 , 8 4 9 )}$ | $\mathbf{( 5 6 , 2 4 5 )}$ | $\mathbf{( 6 6 , 6 1 4 )}$ | $\mathbf{( 5 0 , 6 9 4 )}$ | $\mathbf{( 1 0 3 , 2 1 3 )}$ |
|  |  |  |  |  |  |
| $\mathbf{1 4 7 , 7 3 5}$ | $\mathbf{2 8 , 8 0 7}$ | $\mathbf{4 9 , 9 0 7}$ | 84,606 | $\mathbf{7 7 , 3 4 5}$ | $\mathbf{1 2 8 , 2 5 9}$ |
|  |  |  |  |  |  |
| $\mathbf{( 6 9 , 1 6 2 )}$ | $\mathbf{( 3 8 , 0 4 2 )}$ | $\mathbf{( 6 , 3 3 7 )}$ | $\mathbf{1 7 , 9 9 3}$ | $\mathbf{2 6 , 6 5 1}$ | $\mathbf{2 5 , 0 4 6}$ |

## Manitoba Public Insurance <br> Multi-year Statements - Balance Sheet

2015/16-2.4\% Rate Change and 1\% RSR Rebuilidng Fee
(C\$ 000s, except where noted)

## BASIC

Assets
Cash and investments
Equity investments
Investment property
Due from other insurance companies
Accounts receivable
Prepaid expenses
Deferred policy acquisition costs
Reinsurers' share of unearned premiums

| For the Years Ended February, |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :---: | :---: | :---: |
| $\underline{2014 \mathrm{~A}} \quad \underline{2015 \mathrm{P}} \quad \underline{2016 \mathrm{P}} \quad$ 2017P | $\underline{2018 \mathrm{P}}$ | $\underline{2019 \mathrm{P}}$ |  |  |  |  |  |  |

Reinsurers' share of unearned claims
Property and equipment
Deferred development costs

| $1,424,341$ | $1,309,921$ | $1,259,116$ | $1,350,897$ | $1,383,624$ | $1,487,184$ |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 600,483 | 619,956 | 699,482 | 673,811 | 718,685 | 739,054 |
| 32,226 | 31,192 | 30,943 | 30,700 | 30,488 | 30,343 |
| 1,755 | - | - | - | - | - |
| 235,616 | 249,289 | 266,732 | 277,983 | 289,586 | 301,525 |
| 731 | 568 | 568 | 568 | 568 | 568 |
| - | - | - | - | - | - |
| - | - | - | - | - | - |
| 17,625 | - | - | - | - | - |
| 80,108 | 85,033 | 85,517 | 83,746 | 82,549 | 80,948 |
| 54,685 | 70,701 | 81,714 | 86,063 | 90,579 | 77,606 |
| $2,447,570$ | $2,366,660$ | $2,424,071$ | $2,503,768$ | $2,596,080$ | $2,717,227$ |

## Liabilities

Due to other insurance companies
Accounts payable and accrued liabilites
Financing lease obligation
Unearned premiums and fees
Provision for employee current benefits
Provision for employee future benefits
Provision for unpaid claims

## Equity

| 1,213 | 1,596 | 1,596 | 1,596 | 1,596 | 1,596 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 35,769 | 35,673 | 38,169 | 39,780 | 41,440 | 43,148 |
| 2,841 | 3,079 | 3,020 | 2,956 | 2,887 | 2,814 |
| 402,982 | 438,580 | 474,105 | 497,716 | 522,278 | 547,717 |
| 15,389 | 16,544 | 17,653 | 18,782 | 19,931 | 21,103 |
| 235,172 | 249,058 | 262,114 | 276,474 | 291,389 | 306,958 |
| $1,584,042$ | $1,489,392$ | $1,494,005$ | $1,520,131$ | $1,534,939$ | $1,592,384$ |
| $2,277,408$ | $2,233,923$ | $2,290,663$ | $2,357,435$ | $2,414,460$ | $2,515,721$ |

Retained earnings
Basic Insurance Retained Earnings
Rate Stabilization Reserve
Retained Earnings
Information Technology Optimization Fund

Accumulated Other Comprehensive Income Total Equity

| 99,878 | 61,836 | 55,499 | 73,492 | 100,142 | 125,188 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| - | - | - | - | - | - |
| 99,878 | 61,836 | 55,499 | 73,492 | 100,142 | 125,188 |
| 70,284 | 70,902 | 77,909 | 72,842 | 81,480 | 76,319 |
| 170,162 | 132,737 | 133,408 | 146,333 | 181,620 | 201,507 |
|  |  |  |  |  |  |
| $2,447,570$ | $2,366,660$ | $2,424,071$ | $2,503,768$ | $2,596,080$ | $2,717,228$ |

# Manitoba Public Insurance <br> Statement of Retained Earnings 

| 2015/16-2.4\% Rate Change and 1\% RSR Rebuilidng Fee |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014A | 2015P | 2016P | 2017P | 2018P | 2019P |
| RATE STABILIZATION RESERVE (RSR) |  |  |  |  |  |  |
| Basic Insurance Rate Stabilization Reserve |  |  |  |  |  |  |
| Beginning Balance | 149,800 | 99,878 | 61,836 | 55,499 | 73,492 | 100,142 |
| Transfer from(to) Basic Retained Earnings | $(49,922)$ | $(38,042)$ | $(6,337)$ | 17,993 | 26,651 | 25,046 |
| Ending Balance | 99,878 | 61,836 | 55,499 | 73,496 | 100,142 | 125,188 |
| MinimumRSR based on PUB rules | 78,500 | 82,300 | 89,000 | 93,200 | 97,600 | 102,100 |
| Maximum RSR based on PUB rules | 156,900 | 165,700 | 179,300 | 187,800 | 196,500 | 205,600 |
| MPI RSR Target | 172,000 | 194,000 | 194,000 | 194,000 | 194,000 | 194,000 |

## Retained Earnings

| Beginning Balance | 19,240 |  |  | $(38,042)$ | - |  | - |  | - |  | - |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Net Income (Loss) fromannual operations |  | $(69,162)$ |  |  |  | $(6,337)$ |  | 17,993 |  | 26,651 |  | 25,046 |
| Retained Earnings Prior to Transfers |  | $(49,922)$ |  | $(38,042)$ |  | $(6,337)$ |  | 17,993 |  | 26,651 |  | 25,046 |
| Transfer from(to) Rate Stabilization Reserve |  | 49,922 |  | 38,042 |  | 6,337 |  | $(17,993)$ |  | $(26,651)$ |  | $(25,046)$ |
| Balance of Fund |  | - |  | - |  | - |  | - |  | - |  | - |
|  | \$ | 99,878 | \$ | 61,836 | \$ | 55,499 |  | 73,492 | \$ | 100,142 | \$ | 125,188 |

## Manitoba Public Insurance

Multi-year Statements
For the Years Ended February,
2015/16-0\% Rate Change and no RSR Rebuilidng Fee
(C\$ 000s, except where noted)

## BASIC

Motor Vehicles
RSR Rebuilding Fee
Drivers
Reinsurance Ceded
Total Net Premiums Written

Net Premiums Earned
Motor Vehicles
RSR Rebuilding Fee
Drivers
Reinsurance Ceded
Total Net Premiums Earned
Service Fees \& Other Revenues
Total Earned Revenues

Net Claims Incurred
Claims Expense
Road Safety/Loss Prevention
Total Claims Costs

Expenses
Operating
Commissions
Premium Taxes
Regulatory/Appeal
Total Expenses
Underwriting Income (Loss)

Investment Income

Net Income (Loss) from Operations

| For the Years Ended February, |  |  |  |  |  |
| ---: | :---: | :---: | :---: | :---: | :---: |
|  | $\underline{\mathbf{2 0 1 4 A}}$ | $\underline{\mathbf{2 0 1 5 F}}$ | $\underline{\mathbf{2 0 1 6 P}}$ | $\underline{\mathbf{2 0 1 7 P}}$ | $\underline{\mathbf{2 0 1 8 P}}$ |
|  |  |  | $\underline{\mathbf{2 0 1 9 P}}$ |  |  |
| 756,642 | 795,233 | 830,811 | 867,985 | 906,707 | 947,065 |
|  |  | - | - | - | - |
| 41,520 | 46,992 | 51,284 | 55,427 | 59,418 | 62,982 |
| $(13,422)$ | $(13,661)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| $\mathbf{7 8 4 , 7 4 0}$ | $\mathbf{8 2 8 , 5 6 4}$ | $\mathbf{8 6 8 , 1 6 1}$ | $\mathbf{9 0 9 , 1 9 9}$ | $\mathbf{9 5 1 , 6 2 8}$ | $\mathbf{9 9 5 , 2 6 0}$ |


| 741,077 | 769,872 | 814,090 | 850,513 | 888,508 | 928,097 |
| ---: | ---: | ---: | :---: | ---: | :---: |
|  |  | - | - | - | - |
| 37,015 | 44,330 | 49,138 | 53,355 | 57,422 | 61,201 |
| $(13,422)$ | $(13,722)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| 764,670 | 800,480 | 849,293 | 889,656 | 931,433 | 974,511 |
| 20,384 | 19,799 | 21,079 | 22,622 | 24,463 | 26,561 |
| 785,053 | 820,279 | 870,372 | 912,278 | 955,896 | $1,001,072$ |
|  |  |  |  |  |  |
| 747,435 | 624,776 | 672,134 | 725,429 | 749,613 | 825,221 |
| 114,552 | 116,249 | 120,486 | 126,010 | 127,314 | 138,320 |
| 12,816 | 11,350 | 10,514 | 10,564 | 10,606 | 10,648 |
| 874,803 | 752,376 | 803,134 | 862,003 | 887,533 | 974,189 |


| 67,982 | 73,568 | 74,791 | 79,063 | 81,043 | 87,298 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 32,057 | 33,496 | 33,772 | 35,016 | 36,455 | 37,952 |
| 23,342 | 24,426 | 25,897 | 27,116 | 28,378 | 29,679 |
| 3,766 | 3,261 | 3,314 | 3,380 | 3,447 | 3,516 |
| $\mathbf{1 2 7 , 1 4 7}$ | $\mathbf{1 3 4 , 7 5 1}$ | $\mathbf{1 3 7 , 7 7 5}$ | $\mathbf{1 4 4 , 5 7 5}$ | $\mathbf{1 4 9 , 3 2 2}$ | $\mathbf{1 5 8 , 4 4 4}$ |
|  |  |  |  |  |  |
| $\mathbf{( 2 1 6 , 8 9 7 )}$ | $\mathbf{( 6 6 , 8 4 8 )}$ | $\mathbf{( 7 0 , 5 3 6 )}$ | $\mathbf{( 9 4 , 3 0 0 )}$ | $\mathbf{( 8 0 , 9 5 8 )}$ | $\mathbf{( 1 3 1 , 5 6 1 )}$ |
|  |  |  |  |  |  |
| $\mathbf{1 4 7 , 7 3 5}$ | $\mathbf{2 8 , 8 0 7}$ | $\mathbf{4 9 , 8 9 3}$ | 83,171 | 89,396 | $\mathbf{1 1 0 , 6 3 1}$ |
|  |  |  |  |  |  |
| $\mathbf{( 6 9 , 1 6 2 )}$ | $\mathbf{( 3 8 , 0 4 2 )}$ | $\mathbf{( 2 0 , 6 4 2 )}$ | $\mathbf{( 1 1 , 1 2 8 )}$ | $\mathbf{8 , 4 3 8}$ | $\mathbf{( 2 0 , 9 3 0 )}$ |

# Manitoba Public Insurance <br> Multi-year Statements - Balance Sheet 

| 2015/16-0\% Rate Change and no RSR Rebuilidng Fee |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (C\$ 000s, except where noted) | 2014A | 2015P | 2016P | 2017P | 2018P | 2019P |
| BASIC |  |  |  |  |  |  |
| Assets |  |  |  |  |  |  |
| Cash and investments | 1,424,341 | 1,309,922 | 1,239,653 | 1,305,163 | 1,356,993 | 1,395,975 |
| Equity investments | 600,483 | 619,956 | 697,152 | 668,235 | 663,550 | 713,141 |
| Investment property | 32,226 | 31,192 | 30,840 | 30,509 | 30,207 | 29,974 |
| Due from other insurance companies | 1,755 | - | - |  | - | - |
| Accounts receivable | 235,616 | 249,289 | 259,908 | 270,859 | 282,150 | 293,761 |
| Prepaid ex penses | 731 | 568 | 568 | 568 | 568 | 568 |
| Deferred policy acquisition costs | - | - | - | - | - | - |
| Reinsurers' share of unearmed premiums | - | - | - | - | - | - |
| Reinsurers' share of uneamed claims | 17,625 | - | - | - | - | - |
| Property and equipment | 80,108 | 85,033 | 85,517 | 83,746 | 82,549 | 80,948 |
| Deferred development costs | 54,685 | 70,701 | 81,714 | 86,063 | 90,579 | 77,606 |
|  | 2,447,570 | 2,366,661 | 2,395,352 | 2,445,142 | 2,506,595 | 2,591,974 |
| Liabilities |  |  |  |  |  |  |
| Due to other insurance companies | 1,213 | 1,596 | 1,596 | 1,596 | 1,596 | 1,596 |
| Accounts payable and accrued liabilites | 35,769 | 35,673 | 37,193 | 38,760 | 40,376 | 42,037 |
| Financing lease obligation | 2,841 | 3,079 | 3,020 | 2,956 | 2,887 | 2,814 |
| Uneamed premiums and fees | 402,982 | 438,580 | 460,670 | 483,690 | 507,635 | 532,431 |
| Provision for employee current benefits | 15,389 | 16,544 | 17,653 | 18,782 | 19,931 | 21,103 |
| Provision for employee future benefits | 235,172 | 249,058 | 262,114 | 276,474 | 291,389 | 306,958 |
| Provision for unpaid claims | 1,584,042 | 1,489,392 | 1,494,004 | 1,520,200 | 1,536,489 | 1,592,126 |
|  | 2,277,408 | 2,233,923 | 2,276,250 | 2,342,459 | 2,400,303 | 2,499,065 |

## Equity

Retained eamings
Basic Insurance Retained Eamings
Rate Stabilization Reserve
Retained Eamings
Information Technology Optimization Fund

Accumulated Other Comprehensive Income
Total Equity

| 99,878 | 61,836 | 41,193 | 30,066 | 38,503 | 17,575 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| - | - | - | - | - | - |
| - | - | - | - | - | - |
| 99,878 | 61,836 | 41,193 | 30,066 | 38,503 | 17,575 |
| 70,284 | 70,902 | 77,909 | 72,619 | 67,793 | 75,334 |
| 170,162 | 132,738 | 119,102 | 102,685 | 106,297 | 92,909 |
|  |  |  |  |  |  |
| $2,447,570$ | $2,366,661$ | $2,395,352$ | $2,445,143$ | $2,506,600$ | $2,591,975$ |

# Manitoba Public Insurance <br> Statement of Retained Earnings 

| 2015/16-0\% Rate Change and no RSR Rebuilidng Fee (C\$ 000s, except where noted) | For the Years Ended February, |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2014A |  | 2015P |  | 2016P |  | 2017P |  | 2018P |  | 2019P |
| RATE STABILIZATION RESERVE (RSR) |  |  |  |  |  |  |  |  |  |  |  |  |
| Basic Insurance Rate Stabilization Reserve |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning Balance |  | 149,800 |  | 99,878 |  | 61,836 |  | 41,193 |  | 30,066 |  | 38,503 |
| Transfer from (to) Basic Retained Earnings |  | $(49,922)$ |  | $(38,042)$ |  | $(20,643)$ |  | $(11,127)$ |  | 8,438 |  | $(20,929)$ |
| Ending Balance |  | 99,878 |  | 61,836 |  | 41,193 |  | 30,066 |  | 38,503 |  | 17,575 |
| MinimumRSR based on PUB rules |  | 78,500 |  | 82,900 |  | 86,900 |  | 91,000 |  | 95,300 |  | 99,700 |
| Maximum RSR based on PUB rules |  | 156,900 |  | 165,600 |  | 173,500 |  | 181,700 |  | 190,200 |  | 198,900 |
| MPI RSR Target |  | 172,000 |  | 194,000 |  | 194,000 |  | 194,000 |  | 194,000 |  | 194,000 |
| Retained Earnings |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning Balance |  | 19,240 |  |  |  | - |  | - |  | - |  | - |
| Net Income (Loss) fromannual operations |  | $(69,162)$ |  | $(38,042)$ |  | $(20,643)$ |  | $(11,127)$ |  | 8,438 |  | $(20,929)$ |
| Retained Earnings Prior to Transfers |  | $(49,922)$ |  | $(38,042)$ |  | $(20,643)$ |  | $(11,127)$ |  | 8,438 |  | $(20,929)$ |
| Transfer from(to) Rate Stabilization Reserve |  | 49,922 |  | 38,042 |  | 20,643 |  | 11,127 |  | $(8,438)$ |  | 20,929 |
| Balance of Fund |  | - |  | - |  | - |  | - |  | - |  | - |
| Total Basic Retained Earnings | \$ | 99,878 | \$ | 61,836 | \$ | 41,193 | \$ | 30,066 | \$ | 38,503 | \$ | 17,575 |

## Manitoba Public Insurance

Multi-year Statements
For the Years Ended February,
2015/16-0\% Rate Change and 1\% RSR Rebuilidng Fee

| (C\$ 000s, except where noted) | For the Years Ended February, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014A | 2015F | 2016P | 2017P | 2018P | 2019P |
| BASIC |  |  |  |  |  |  |
| Motor Vehicles | 756,642 | 795,233 | 830,811 | 867,985 | 906,707 | 947,065 |
| RSR Rebuilding Fee |  |  | 8,349 | 8,716 | 9,099 | 9,499 |
| Drivers | 41,520 | 46,992 | 51,284 | 55,427 | 59,418 | 62,982 |
| Reinsurance Ceded | $(13,422)$ | $(13,661)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Wr itten | 784,740 | 828,564 | 876,510 | 917,915 | 960,727 | 1,004,759 |
| Net Premiums Ear ned |  |  |  |  |  |  |
| Motor Vehicles | 741,077 | 769,872 | 814,090 | 850,513 | 888,508 | 928,097 |
| RSR Rebuilding Fee |  |  | 4,425 | 8,543 | 8,919 | 9,311 |
| Drivers | 37,015 | 44,330 | 49,138 | 53,355 | 57,422 | 61,201 |
| Reinsurance Ceded | $(13,422)$ | $(13,722)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Ear ned | 764,670 | 800,480 | 853,718 | 898,199 | 940,352 | 983,821 |
| Service Fees \& Other Revenues | 20,384 | 19,799 | 21,079 | 22,680 | 24,525 | 26,628 |
| Total Earned Revenues | 785,053 | 820,279 | 874,797 | 920,879 | 964,877 | 1,010,449 |
| Net Claims Incurred | 747,435 | 624,776 | 672,135 | 725,510 | 748,659 | 826,265 |
| Claims Ex pense | 114,552 | 116,249 | 120,486 | 126,010 | 127,314 | 138,320 |
| Road Safety/Loss Prevention | 12,816 | 11,350 | 10,514 | 10,564 | 10,606 | 10,648 |
| Total Claims Costs | 874,803 | 752,376 | 803,135 | 862,084 | 886,578 | 975,232 |
| Expenses |  |  |  |  |  |  |
| Operating | 67,982 | 73,568 | 74,791 | 79,063 | 81,043 | 87,298 |
| Commissions | 32,057 | 33,496 | 33,889 | 35,295 | 36,745 | 38,256 |
| Premium Taxes | 23,342 | 24,426 | 26,030 | 27,372 | 28,645 | 29,958 |
| Regulatory/Appeal | 3,766 | 3,261 | 3,314 | 3,380 | 3,447 | 3,516 |
| Total Expenses | 127,147 | 134,751 | 138,024 | 145,110 | 149,880 | 159,027 |
| Underwriting Income (Loss) | $(216,897)$ | $(66,848)$ | $(66,362)$ | $(86,315)$ | $(71,581)$ | $(123,810)$ |
| Investment Income | 147,735 | 28,807 | 49,897 | 83,116 | 76,369 | 125,155 |
| Net Income (Loss) from Operations | $(69,162)$ | $(38,042)$ | $(16,464)$ | $(3,198)$ | 4,788 | 1,345 |

## Manitoba Public Insurance <br> Multi-year Statem ents - Balance Sheet

2015/16-0\% Rate Change and 1\% RSR Rebuilidng Fee
(C\$ 000s, except where noted)

## BASIC

Assets
Cash and investments
Equity investments
Investment property
Due from other insurance companies

Accounts receivable
Prepaid ex penses
Deferred policy acquisition costs
Reinsurers' share of uneamed premiums
Reinsurers' share of uneamed claims
Property and equipment
Deferred development costs

## Liabilities

Due to other insurance companies
Accounts payable and accrued liabilites
Financing lease obligation
Unearned premiums and fees
Provision for employee current benefits
Provision for employee future benefits
Provision for unpaid claims

| 2014A | 2015P | 2016P | 2017P | 2018P | 2019P |
| :---: | :---: | :---: | :---: | :---: | :---: |

# Manitoba Public Insurance <br> Statement of Retained Earnings 

| 2015/16-0\% Rate Change and 1\% RSR Rebuilidng Fee |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014A | 2015P | 2016P | 2017P | 2018P | 2019P |
| RATE STABILIZATION RESERVE (RSR) |  |  |  |  |  |  |
| Basic Insurance Rate Stabilization Reserve |  |  |  |  |  |  |
| Beginning Balance | 149,800 | 99,878 | 61,836 | 45,372 | 42,174 | 46,961 |
| Transfer from(to) Basic Retained Earnings | $(49,922)$ | $(38,042)$ | $(16,464)$ | $(3,198)$ | 4,788 | 1,345 |
| Ending Balance | 99,878 | 61,836 | 45,372 | 42,174 | 46,961 | 48,306 |
| MinimumRSR based on PUB rules | 78,500 | 82,900 | 86,900 | 91,000 | 95,300 | 99,700 |
| Maximum RSR based on PUB rules | 156,900 | 165,600 | 173,500 | 181,700 | 190,200 | 198,900 |
| MPI RSR Target | 172,000 | 194,000 | 194,000 | 194,000 | 194,000 | 194,000 |

## Retained Earnings

| Beginning Balance | 19,240 |  |  | - |  | - |  |  |  | - |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Net Income (Loss) fromannual operations |  | $(69,162)$ |  | $(38,042)$ |  | $(16,464)$ |  | $(3,198)$ |  | 4,788 |  | 1,345 |
| Retained Earnings Prior to Transfers |  | $(49,922)$ |  | $(38,042)$ |  | $(16,464)$ |  | $(3,198)$ |  | 4,788 |  | 1,345 |
| Transfer from(to) Rate Stabilization Reserve |  | 49,922 |  | 38,042 |  | 16,464 |  | 3,198 |  | $(4,788)$ |  | $(1,345)$ |
| Balance of Fund |  | - |  | - |  | - |  | - |  | - |  | - |
|  | \$ | 99,878 | \$ | 61,836 | \$ | 45,372 | \$ | 42,174 | \$ | 46,961 | \$ | 48,306 |

## Manitoba Public Insurance

Multi-year Statements
For the Years Ended February,

2015/16-1.4\% Rate Change and 1.0\% RSR Rebuilidng Fee
(C\$ 000s, except where noted)

BASIC
Motor Vehicles
RSR Rebuilding Fee
Drivers
Reinsurance Ceded

Total Net Premiums Written

## Net Premiums Ear ned

Motor Vehicles
RSR Rebuilding Fee

Drivers
Reinsurance Ceded
Total Net Premiums Ear ned
Service Fees \& Other Revenues
Total Earned Revenues

Net Claims Incurred
Claims Ex pense
Road Safety/Loss Prevention
Total Claims Costs

## Expenses

Operating
Commissions
Premium Taxes
Regulatory/Appeal
Total Expenses

Underwriting Income (Loss)

Investment Income

Net Income (Loss) from Operations

| $\underline{\text { 2014A }}$ | $\underline{\mathbf{2 0 1 5 F}}$ | $\underline{\mathbf{2 0 1 6 P}}$ | $\underline{\mathbf{2 0 1 7 P}}$ | $\underline{\mathbf{2 0 1 8 P}}$ | $\underline{\mathbf{2 0 1 9 P}}$ |
| ---: | ---: | ---: | ---: | ---: | ---: |
|  |  |  |  |  |  |
| 756,642 | 795,233 | 842,499 | 880,187 | 919,445 | 960,363 |
|  |  | 8,466 | 8,838 | 9,226 | 9,632 |
| 41,520 | 46,992 | 51,284 | 55,427 | 59,418 | 62,982 |
| $(13,422)$ | $(13,661)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| 784,740 | 828,564 | 888,315 | $\mathbf{9 3 0 , 2 3 9}$ | $\mathbf{9 7 3 , 5 9 2}$ | $\mathbf{1 , 0 1 8 , 1 9 0}$ |


| 741,077 | 769,872 | 820,284 | 862,474 | 900,994 | 941,132 |
| ---: | ---: | ---: | ---: | ---: | ---: |
|  |  | 4,487 | 8,663 | 9,044 | 9,441 |
| 37,015 | 44,330 | 49,138 | 53,355 | 57,422 | 61,201 |
| $(13,422)$ | $(13,722)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| 764,670 | 800,480 | 859,975 | 910,279 | 952,963 | 996,987 |
| 20,384 | 19,799 | 21,079 | 22,759 | 24,611 | 26,721 |
| 785,053 | 820,279 | 881,054 | 933,038 | 977,573 | $\mathbf{1 , 0 2 3 , 7 0 8}$ |
|  |  |  |  |  |  |
| 747,435 | 624,776 | 672,136 | 725,273 | 748,508 | 826,917 |
| 114,552 | 116,249 | 120,486 | 126,010 | 127,314 | 138,319 |
| 12,816 | 11,350 | 10,514 | 10,564 | 10,606 | 10,648 |
| 874,803 | 752,376 | 803,135 | 861,847 | 886,427 | 975,884 |

# Manitoba Public Insurance <br> Multi-year Statements - Balance Sheet 

| 2015/16-1.4\% Rate Change and 1.0\% RSR Rebuilidng Fee |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (C\$ 000s, except where noted) | 2014A | 2015P | 2016P | 2017P | 2018P | 2019P |
| BASIC |  |  |  |  |  |  |
| Assets |  |  |  |  |  |  |
| Cash and investments | 1,424,341 | 1,309,922 | 1,253,374 | 1,338,751 | 1,365,509 | 1,460,585 |
| Equity investments | 600,483 | 619,956 | 698,800 | 671,163 | 712,971 | 731,293 |
| Investment property | 32,226 | 31,192 | 30,913 | 30,645 | 30,408 | 30,238 |
| Due from other insurance companies | 1,755 | - | - |  | - | - |
| Accounts receivable | 235,616 | 249,289 | 264,719 | 275,882 | 287,393 | 299,235 |
| Prepaid ex penses | 731 | 568 | 568 | 568 | 568 | 568 |
| Deferred policy acquisition costs | - | - | - | - | - | - |
| Reinsurers' share of uneamed premiums | - | - | - |  | - |  |
| Reinsurers' share of uneamed claims | 17,625 | - | - | - | - | - |
| Property and equipment | 80,108 | 85,033 | 85,517 | 83,746 | 82,549 | 80,948 |
| Deferred development costs | 54,685 | 70,701 | 81,714 | 86,063 | 90,579 | 77,606 |
|  | 2,447,570 | 2,366,661 | 2,415,603 | 2,486,817 | 2,569,977 | 2,680,472 |
| Liabilities |  |  |  |  |  |  |
| Due to other insurance companies | 1,213 | 1,596 | 1,596 | 1,596 | 1,596 | 1,596 |
| Accounts payable and accrued liabilites | 35,769 | 35,673 | 37,881 | 39,479 | 41,126 | 42,821 |
| Financing lease obligation | 2,841 | 3,079 | 3,020 | 2,956 | 2,887 | 2,814 |
| Uneamed premiums and fees | 402,982 | 438,580 | 470,142 | 493,578 | 517,958 | 543,208 |
| Provision for employee current benefits | 15,389 | 16,544 | 17,653 | 18,782 | 19,931 | 21,103 |
| Provision for employee future benefits | 235,172 | 249,058 | 262,114 | 276,474 | 291,389 | 306,958 |
| Provision for unpaid claims | 1,584,042 | 1,489,392 | 1,494,005 | 1,520,046 | 1,535,228 | 1,592,563 |
|  | 2,277,408 | 2,233,923 | 2,286,411 | 2,352,911 | 2,410,117 | 2,511,063 |

## Equity

Retained eamings
Basic Insurance Retained Eamings
Rate Stabilization Reserve
Retained Eamings
Information Technology Optimization Fund

Accumulated Other Comprehensive Income Total Equity

| 99,878 | 61,836 | 51,283 | 61,332 | 78,657 | 93,319 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| - | - | - | - | - | - |
| - | - | - | - | - | - |
| 99,878 | 61,836 | 51,283 | 61,332 | 78,657 | 93,319 |
| 70,284 | 70,902 | 77,909 | 72,576 | 81,208 | 76,092 |
| 170,162 | 132,738 | 129,192 | 133,907 | 159,866 | 169,411 |
|  |  |  |  |  |  |
| $2,447,570$ | $2,366,661$ | $2,415,603$ | $2,486,818$ | $2,569,982$ | $2,680,473$ |

# Manitoba Public Insurance <br> Statement of Retained Earnings 

| 2015/16-1.4\% Rate Change and 1.0\% RSR Rebuilidng Fee |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014A | 2015P | 2016P | 2017P | 2018P | 2019P |
| RATE STABILIZATION RESERVE (RSR) |  |  |  |  |  |  |
| Basic Insurance Rate Stabilization Reserve |  |  |  |  |  |  |
| Beginning Balance | 149,800 | 99,878 | 61,836 | 51,283 | 61,332 | 78,657 |
| Transfer from(to) Basic Retained Earnings | $(49,922)$ | $(38,042)$ | $(10,553)$ | 10,048 | 17,326 | 14,662 |
| Ending Balance | 99,878 | 61,836 | 51,283 | 61,332 | 78,657 | 93,319 |
| MinimumRSR based on PUB rules | 78,500 | 82,900 | 88,000 | 92,200 | 96,500 | 100,900 |
| Maximum RSR based on PUB rules | 156,900 | 165,600 | 175,800 | 184,100 | 192,700 | 201,500 |
| MPI RSR Target | 172,000 | 194,000 | 194,000 | 194,000 | 194,000 | 194,000 |

## Retained Earnings

| Beginning Balance | 19,240 |  |  | - |  |  |  | - | - |  |  | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Net Income (Loss) fromannual operations |  | $(69,162)$ |  | $(38,042)$ |  | $(10,553)$ |  | 10,048 |  | 17,326 |  | 14,662 |
| Retained Earnings Prior to Transfers |  | $(49,922)$ |  | $(38,042)$ |  | $(10,553)$ |  | 10,048 |  | 17,326 |  | 14,662 |
| Transfer from(to) Rate Stabilization Reserve |  | 49,922 |  | 38,042 |  | 10,553 |  | $(10,048)$ |  | $(17,326)$ |  | $(14,662)$ |
| Balance of Fund |  | - |  | - |  | $\bullet$ |  | - |  | - |  | - |
|  | \$ | 99,878 | \$ | 61,836 | \$ | 51,283 | \$ | 61,332 | \$ | 78,657 | \$ | 93,319 |

## Manitoba Public Insurance <br> Multi-year Statements <br> For the Years Ended February,

2015/16-2.4\% Rate Change and 0\% RSR Rebuilidng Fee
(C\$ 000s, except where noted)
BASIC
Motor Vehicles
RSR Rebuilding Fee
Drivers
Reinsurance Ceded
Total Net Premiums Written

Net Premiums Ear ned
Motor Vehicles
RSR Rebuilding Fee

Drivers
Reinsurance Ceded
Total Net Premiums Ear ned
Service Fees \& Other Revenues
Total Earned Revenues

Net Claims Incurred
Claims Ex pense
Road Safety/Loss Prevention
Total Claims Costs

Expenses
Operating
Commissions
Premium Taxes
Regulatory/Appeal

Total Expenses

Under writing Income (Loss)

Investment Income

Net Income (Loss) from Operations

| 旬4A |  |  |  |  |  |
| ---: | :---: | :---: | :---: | :---: | :---: |
|  | $\underline{\mathbf{2 0 1 5 F}}$ | $\underline{\mathbf{2 0 1 6 P}}$ | $\underline{\mathbf{2 0 1 7 P}}$ | $\underline{\mathbf{2 0 1 8 P}}$ | $\underline{\mathbf{2 0 1 9 P}}$ |
| $\mathbf{7 5 6 , 6 4 2}$ | 795,233 | 850,848 | 888,903 | 928,544 | 969,862 |
|  |  | - | - | - | - |
| 41,520 | 46,992 | 51,284 | 55,427 | 59,418 | 62,982 |
| $(13,422)$ | $(13,661)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| $\mathbf{7 8 4 , 7 4 0}$ | $\mathbf{8 2 8 , 5 6 4}$ | $\mathbf{8 8 8 , 1 9 8}$ | $\mathbf{9 3 0 , 1 1 7}$ | $\mathbf{9 7 3 , 4 6 5}$ | $\mathbf{1 , 0 1 8 , 0 5 7}$ |


| 741,077 | 769,872 | 824,709 | 871,017 | 909,913 | 950,442 |
| ---: | ---: | ---: | :---: | ---: | :---: |
|  |  | - | - | - | - |
| 37,015 | 44,330 | 49,138 | 53,355 | 57,422 | 61,201 |
| $(13,422)$ | $(13,722)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| 764,670 | 800,480 | 859,913 | 910,160 | 952,838 | 996,856 |
| 20,384 | 19,799 | 21,079 | 22,758 | 24,610 | 26,720 |
| 785,053 | 820,279 | 880,992 | 932,918 | 977,448 | $1,023,576$ |
|  |  |  |  |  |  |
| 7447,435 | 624,776 | 672,137 | 725,269 | 748,563 | 826,870 |
| 114,552 | 116,249 | 120,486 | 126,010 | 127,314 | 138,319 |
| 12,816 | 11,350 | 10,514 | 10,564 | 10,606 | 10,648 |
| 874,803 | 752,376 | 803,136 | 861,843 | 886,482 | 975,837 |


|  |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 67,982 | 73,568 | 74,791 | 79,063 | 81,043 | 87,298 |
| 32,057 | 33,496 | 34,053 | 35,685 | 37,152 | 38,680 |
| 23,342 | 24,426 | 26,215 | 27,731 | 29,020 | 30,349 |
| 3,766 | 3,261 | 3,314 | 3,380 | 3,447 | 3,516 |
| $\mathbf{1 2 7 , 1 4 7}$ | $\mathbf{1 3 4 , 7 5 1}$ | $\mathbf{1 3 8 , 3 7 4}$ | $\mathbf{1 4 5 , 8 5 9}$ | $\mathbf{1 5 0 , 6 6 2}$ | $\mathbf{1 5 9 , 8 4 3}$ |
|  |  |  |  |  |  |
| $(\mathbf{2 1 6 , 8 9 7 )}$ | $\mathbf{( 6 6 , 8 4 8 )}$ | $\mathbf{6 0 , 5 1 9 )}$ | $\mathbf{( 7 4 , 7 8 4 )}$ | $\mathbf{( 5 9 , 6 9 6 )}$ | $\mathbf{( 1 1 2 , 1 0 4 )}$ |
|  |  |  |  |  |  |
| 147,735 | 28,807 | 49,904 | 84,723 | 76,843 | 126,675 |
|  |  |  |  |  |  |
| $(69,162)$ | $(38,042)$ | $(10,615)$ | $\mathbf{9 , 9 3 9}$ | $\mathbf{1 7 , 1 4 7}$ | $\mathbf{1 4 , 5 7 2}$ |

## Manitoba Public Insurance Multi-year Statements - Balance Sheet

| 2015/16-2.4\% Rate Change and 0\% RSR Rebuilidng Fee |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (C\$ 000s, except where noted) | 2014A | 2015P | 2016P | 2017P | 2018P | 2019P |
| BASIC |  |  |  |  |  |  |
| Assets |  |  |  |  |  |  |
| Cash and investments | 1,424,341 | 1,309,922 | 1,253,292 | 1,338,582 | 1,365,225 | 1,460,239 |
| Equity investments | 600,483 | 619,956 | 698,789 | 671,125 | 712,874 | 731,155 |
| Investment property | 32,226 | 31,192 | 30,912 | 30,644 | 30,406 | 30,236 |
| Due from other insurance companies | 1,755 |  |  |  |  |  |
| Accounts receivable | 235,616 | 249,289 | 264,691 | 275,853 | 287,362 | 299,203 |
| Prepaid ex penses | 731 | 568 | 568 | 568 | 568 | 568 |
| Deferred policy acquisition costs | - |  |  |  |  |  |
| Reinsurers' share of unearned premiums | - |  |  | - |  |  |
| Reinsurers' share of uneamed claims | 17,625 | - | - | - | - | - |
| Property and equipment | 80,108 | 85,033 | 85,517 | 83,746 | 82,549 | 80,948 |
| Deferred development costs | 54,685 | 70,701 | 81,714 | 86,063 | 90,579 | 77,606 |
|  | 2,447,570 | 2,366,661 | 2,415,483 | 2,486,580 | 2,569,563 | 2,679,955 |
| Liabilities |  |  |  |  |  |  |
| Due to other insurance companies | 1,213 | 1,596 | 1,596 | 1,596 | 1,596 | 1,596 |
| Accounts payable and accrued liabilites | 35,769 | 35,673 | 37,877 | 39,475 | 41,122 | 42,816 |
| Financing lease obligation | 2,841 | 3,079 | 3,020 | 2,956 | 2,887 | 2,814 |
| Uneamed premiums and fees | 402,982 | 438,580 | 470,087 | 493,521 | 517,899 | 543,146 |
| Provision for employee current benefits | 15,389 | 16,544 | 17,653 | 18,782 | 19,931 | 21,103 |
| Provision for employee future benefits | 235,172 | 249,058 | 262,114 | 276,474 | 291,389 | 306,958 |
| Provision for unpaid claims | 1,584,042 | 1,489,392 | 1,494,005 | 1,520,044 | 1,535,232 | 1,592,561 |
|  | 2,277,408 | 2,233,923 | 2,286,352 | 2,352,848 | 2,410,056 | 2,510,994 |
| Equity |  |  |  |  |  |  |
| Retained eamings |  |  |  |  |  |  |
| Basic Insurance Retained Eamings |  |  |  |  |  |  |
| Rate Stabilization Reserve | 99,878 | 61,836 | 51,222 | 61,161 | 78,308 | 92,880 |
| Retained Eamings | - | - | - | - | - | - |
| Information Technology Optimization Fund | - | - | - | - | - | - |
|  | 99,878 | 61,836 | 51,222 | 61,161 | 78,308 | 92,880 |
| Accumulated Other Comprehensive Income | 70,284 | 70,902 | 77,909 | 72,572 | 81,204 | 76,083 |
| Total Equity | 170,162 | 132,738 | 129,131 | 133,733 | 159,513 | 168,963 |
|  | 2,447,570 | 2,366,661 | 2,415,483 | 2,486,581 | 2,569,568 | 2,679,956 |

# Manitoba Public Insurance <br> Statement of Retained Earnings 

| 2015/16-2.4\% Rate Change and 0\% RSR Rebuilidng Fee |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014A | 2015P | 2016P | 2017P | 2018P | 2019P |
| RATE STABILIZATION RESERVE (RSR) |  |  |  |  |  |  |
| Basic Insurance Rate Stabilization Reserve |  |  |  |  |  |  |
| Beginning Balance | 149,800 | 99,878 | 61,836 | 51,222 | 61,161 | 78,308 |
| Transfer from(to) Basic Retained Earnings | $(49,922)$ | $(38,042)$ | $(10,615)$ | 9,939 | 17,147 | 14,572 |
| Ending Balance | 99,878 | 61,836 | 51,222 | 61,161 | 78,308 | 92,880 |
| MinimumRSR based on PUB rules | 78,500 | 82,900 | 88,800 | 93,000 | 97,300 | 101,800 |
| Maximum RSR based on PUB rules | 156,900 | 165,600 | 177,400 | 185,700 | 194,300 | 203,200 |
| MPI RSR Target | 172,000 | 194,000 | 194,000 | 194,000 | 194,000 | 194,000 |

## Retained Earnings

Beginning Balance
Net Income (Loss) from annual operations
Retained Earnings Prior to Transfers
Transfer from (to) Rate Stabilization Reserve
Balance of Fund

| 19,240 | - | - | - | - | - |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $(69,162)$ | $(38,042)$ | $(10,615)$ | 9,939 | 17,147 | 14,572 |
| $(49,922)$ | $(38,042)$ | $(10,615)$ | 9,939 | 17,147 | 14,572 |
| 49,922 | 38,042 | 10,615 | $(9,939)$ | $(17,147)$ | $(14,572)$ |


| - | - | - | - | - |
| :---: | :---: | :---: | :---: | :---: | :---: |

## Total Basic Retained Earnings

| $\$$ | 99,878 | $\$$ | 61,836 | $\$$ | 51,222 | $\$$ | 61,161 | $\$$ | 78,308 | $\$$ | 92,880 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Manitoba Public Insurance

Multi-year Statements
For the Years Ended February,

| 2015/16-2.4\% Rate Change and 2.0\% RSR Rebuilidng Fee |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014A | 2015F | 2016P | 2017P | 2018P | 2019P |
| BASIC |  |  |  |  |  |  |
| Motor Vehicles | 756,642 | 795,233 | 850,848 | 888,903 | 928,544 | 969,862 |
| RSR Rebuilding Fee |  |  | 17,098 | 17,850 | 18,634 | 19,453 |
| Drivers | 41,520 | 46,992 | 51,284 | 55,427 | 59,418 | 62,982 |
| Reinsurance Ceded | $(13,422)$ | $(13,661)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Wr itten | 784,740 | 828,564 | 905,296 | 947,966 | 992,099 | 1,037,510 |
| Net Premiums Ear ned |  |  |  |  |  |  |
| Motor Vehicles | 741,077 | 769,872 | 824,709 | 871,017 | 909,913 | 950,442 |
| RSR Rebuilding Fee |  |  | 9,062 | 17,496 | 18,265 | 19,068 |
| Drivers | 37,015 | 44,330 | 49,138 | 53,355 | 57,422 | 61,201 |
| Reinsurance Ceded | $(13,422)$ | $(13,722)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Ear ned | 764,670 | 800,480 | 868,975 | 927,656 | 971,103 | 1,015,924 |
| Service Fees \& Other Revenues | 20,384 | 19,799 | 21,079 | 22,871 | 24,731 | 26,851 |
| Total Earned Revenues | 785,053 | 820,279 | 890,054 | 950,526 | 995,834 | 1,042,776 |
| Net Claims Incurred | 747,435 | 624,776 | 672,137 | 726,236 | 746,823 | 828,051 |
| Claims Ex pense | 114,552 | 116,249 | 120,486 | 126,010 | 127,314 | 138,319 |
| Road Safety/Loss Prevention | 12,816 | 11,350 | 10,514 | 10,564 | 10,606 | 10,648 |
| Total Claims Costs | 874,803 | 752,376 | 803,137 | 862,810 | 884,743 | 977,018 |
| Expenses |  |  |  |  |  |  |
| Operating | 67,982 | 73,568 | 74,791 | 79,063 | 81,043 | 87,298 |
| Commissions | 32,057 | 33,496 | 34,293 | 36,255 | 37,748 | 39,302 |
| Premium Taxes | 23,342 | 24,426 | 26,487 | 28,256 | 29,568 | 30,921 |
| Regulatory/Appeal | 3,766 | 3,261 | 3,314 | 3,380 | 3,447 | 3,516 |
| Total Expenses | 127,147 | 134,751 | 138,886 | 146,954 | 151,805 | 161,036 |
| Under writing Income (Loss) | $(216,897)$ | $(66,848)$ | $(51,969)$ | $(59,237)$ | $(40,714)$ | $(95,279)$ |
| Investment Income | 147,735 | 28,807 | 49,913 | 86,243 | 77,545 | 130,009 |
| Net Income (Loss) from Operations | $(69,162)$ | $(38,042)$ | $(2,055)$ | 27,006 | 36,832 | 34,730 |

# Manitoba Public Insurance <br> Multi-year Statements - Balance Sheet 

| 2015/16-2.4\% Rate Change and 2.0\% RSR Rebuilidng Fee |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (C\$ 000s, except where noted) | 2014A | 2015P | 2016P | 2017P | 2018P | 2019P |
| BASIC |  |  |  |  |  |  |
| Assets |  |  |  |  |  |  |
| Cash and investments | 1,424,341 | 1,309,922 | 1,264,946 | 1,366,854 | 1,404,549 | 1,517,029 |
| Equity investments | 600,483 | 619,956 | 700,174 | 674,135 | 723,008 | 745,186 |
| Investment property | 32,226 | 31,192 | 30,974 | 30,757 | 30,571 | 30,449 |
| Due from other insurance companies | 1,755 | - |  |  | - | - |
| Accounts receivable | 235,616 | 249,289 | 268,772 | 280,114 | 291,811 | 303,847 |
| Prepaid ex penses | 731 | 568 | 568 | 568 | 568 | 568 |
| Defered policy acquisition costs | - | - | - | - | - | - |
| Reinsurers' share of uneamed premiums | - | - | - |  | - | - |
| Reinsurers' share of uneamed claims | 17,625 | - | - | - | - | - |
| Property and equipment | 80,108 | 85,033 | 85,517 | 83,746 | 82,549 | 80,948 |
| Deferred development costs | 54,685 | 70,701 | 81,714 | 86,063 | 90,579 | 77,606 |
|  | 2,447,570 | 2,366,661 | 2,432,664 | 2,522,236 | 2,623,633 | 2,755,633 |
| Liabilities |  |  |  |  |  |  |
| Due to other insurance companies | 1,213 | 1,596 | 1,596 | 1,596 | 1,596 | 1,596 |
| Accounts payable and accrued liabilites | 35,769 | 35,673 | 38,462 | 40,084 | 41,758 | 43,481 |
| Financing lease obligation | 2,841 | 3,079 | 3,020 | 2,956 | 2,887 | 2,814 |
| Uneamed premiums and fees | 402,982 | 438,580 | 478,123 | 501,910 | 526,657 | 552,289 |
| Provision for employee current benefits | 15,389 | 16,544 | 17,653 | 18,782 | 19,931 | 21,103 |
| Provision for employee future benefits | 235,172 | 249,058 | 262,114 | 276,474 | 291,389 | 306,958 |
| Provision for unpaid claims | 1,584,042 | 1,489,392 | 1,494,006 | 1,521,010 | 1,534,508 | 1,592,977 |
|  | 2,277,408 | 2,233,923 | 2,294,974 | 2,362,813 | 2,418,726 | 2,521,217 |

## Equity

Retained eamings
Basic Insurance Retained Eamings

| Rate Stabilization Reserve | 99,878 | 61,836 | 59,781 | 86,787 | 123,619 | 158,349 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Retained Eamings | - | - | - |  | - |  |
| Information Technology Optimization Fund | - | - | - | - | - | - |
|  | 99,878 | 61,836 | 59,781 | 86,787 | 123,619 | 158,349 |
| Accumulated Other Comprehensive Income | 70,284 | 70,902 | 77,909 | 72,636 | 81,293 | 76,068 |
| Equity | 170,162 | 132,738 | 137,690 | 159,424 | 204,912 | 234,417 |
|  | 2,447,570 | 2,366,661 | 2,432,664 | 2,522,237 | 2,623,638 | 2,755,634 |

# Manitoba Public Insurance <br> Statement of Retained Earnings 

| 2015/16-2.4\% Rate Change and 2.0\% RSR Rebuilidng Fee |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014A | 2015P | 2016P | 2017P | 2018P | 2019P |
| RATE STABILIZATION RESERVE (RSR) |  |  |  |  |  |  |
| Basic Insurance Rate Stabilization Reserve |  |  |  |  |  |  |
| Beginning Balance | 149,800 | 99,878 | 61,836 | 59,781 | 86,787 | 123,619 |
| Transfer from(to) Basic Retained Earnings | $(49,922)$ | $(38,042)$ | $(2,055)$ | 27,006 | 36,832 | 34,730 |
| Ending Balance | 99,878 | 61,836 | 59,781 | 86,787 | 123,619 | 158,349 |
| MinimumRSR based on PUB rules | 78,500 | 82,900 | 88,800 | 93,000 | 97,300 | 101,800 |
| Maximum RSR based on PUB rules | 156,900 | 165,600 | 177,400 | 185,700 | 194,300 | 203,200 |
| MPI RSR Target | 172,000 | 194,000 | 194,000 | 194,000 | 194,000 | 194,000 |

## Retained Earnings

| Beginning Balance | 19,240 |  |  | - |  | - |  | - | - |  | - |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Net Income (Loss) fromannual operations |  | $(69,162)$ |  | $(38,042)$ |  | $(2,055)$ |  | 27,006 |  | 36,832 |  | 34,730 |
| Retained Earnings Prior to Transfers |  | $(49,922)$ |  | $(38,042)$ |  | $(2,055)$ |  | 27,006 |  | 36,832 |  | 34,730 |
| Transfer from(to) Rate Stabilization Reserve |  | 49,922 |  | 38,042 |  | 2,055 |  | $(27,006)$ |  | $(36,832)$ |  | $(34,730)$ |
| Balance of Fund |  | - |  | - |  | - |  | - |  | - |  | - |
|  | \$ | 99,878 | \$ | 61,836 | \$ | 59,781 | \$ | 86,787 | \$ | 123,619 | \$ | 158,349 |

## PUB (MPI) 1-5

## Reference: Pro-Formas, R. 1 Motor Vehicle Premium

a) Please provide a restated PF.1, PF. 2 and PF. 3 and R. 1 pages 5 and 6 "Motor Vehicle Premiums Written and Earned" to reflect a volume factor of 2.0\% throughout the forecast period.
b) Please provide a restated PF.1, PF. 2 and PF. 3 and R. 1 pages 5 and 6 "Motor Vehicle Premiums Written and Earned" to reflect an upgrade factor of 2.85\% throughout the forecast period.

## RESPONSE:

a) Please see attached for pro forms statements with $2.4 \%$ rate increase, $1 \%$ RSR Rebuilding Fee and $2.0 \%$ volume growth factor.
b) Please see attached for pro forma statements with $2.4 \%$ rate increase, $1 \%$ RSR Rebuilding Fee and 2.85\% upgrade factor.

Manitoba Public Insurance
Multi-year Statements
For the Years Ended February,

| $\mathbf{2 . 0}$ \% volume increase throughout the forecast period |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (C\$000s, except where noted) | For the Years Ended February, |  |  |  |  |  |
|  | 2014A | 2015F | 2016P | 2017P | 2018P | 2019P |
| BASIC |  |  |  |  |  |  |
| Motor Vehicles | 756,642 | 797,215 | 863,628 | 904,507 | 947,201 | 991,817 |
| Drivers | 41,520 | 46,992 | 51,284 | 55,427 | 59,418 | 62,982 |
| Reinsurance Ceded | $(13,422)$ | $(13,661)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Written | 784,740 | 830,546 | $\mathbf{9 0 0 , 9 7 8}$ | 945,721 | 992,122 | 1,040,012 |
| Net Premiums Earned |  |  |  |  |  |  |
| Motor Vehicles | 741,077 | 770,922 | 832,414 | 885,294 | 927,135 | 970,847 |
| Drivers | 37,015 | 44,330 | 49,138 | 53,355 | 57,422 | 61,201 |
| Reinsurance Ceded | $(13,422)$ | $(13,722)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Earned | 764,670 | 801,530 | 867,617 | $\mathbf{9 2 4 , 4 3 6}$ | $\mathbf{9 7 0 , 0 6 0}$ | 1,017,261 |
| Service Fees \& Other Revenues | 20,384 | 19,799 | 21,092 | 22,843 | 24,716 | 26,851 |
| Total Earned Revenues | 785,053 | 821,329 | 888,710 | 947,279 | 994,776 | 1,044,113 |
| Net Claims Incurred | 747,435 | 624,823 | 672,095 | 725,442 | 747,955 | 827,722 |
| Claims Expense | 114,552 | 116,249 | 120,486 | 126,010 | 127,314 | 138,319 |
| Road Safety/Loss Prevention | 12,816 | 11,350 | 10,514 | 10,564 | 10,606 | 10,648 |
| Total Claims Costs | 874,803 | 752,423 | 803,095 | 862,016 | $\mathbf{8 8 5 , 8 7 5}$ | 976,689 |
| Expenses |  |  |  |  |  |  |
| Operating | 67,982 | 73,568 | 74,791 | 79,063 | 81,043 | 87,298 |
| Commissions | 32,057 | 33,527 | 34,270 | 36,142 | 37,705 | 39,337 |
| Premium Taxes | 23,342 | 24,458 | 26,447 | 28,159 | 29,537 | 30,961 |
| Regulatory/Appeal | 3,766 | 3,261 | 3,314 | 3,380 | 3,447 | 3,516 |
| Total Expenses | 127,147 | 134,814 | 138,822 | 146,745 | 151,731 | 161,112 |
| Underwriting Income (Loss) | $(216,897)$ | $(65,907)$ | $(53,207)$ | $(61,481)$ | $(42,830)$ | $(93,688)$ |
| Investment Income | 147,735 | 28,801 | 49,910 | 86,289 | 77,447 | 129,804 |
| Net Income (Loss) from Operations | $(69,162)$ | $(37,107)$ | $(3,297)$ | 24,808 | 34,617 | 36,116 |

## Manitoba Public Insuranc <br> Multi-year Statements - Balance Sheet

| 2.0 \% volume increase throughout the forecast period(C\$ 000s, except where noted) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014A | 2015P | 2016P | $\underline{\text { 2017P }}$ | 2018P | 2019P |
| BASIC |  |  |  |  |  |  |
| Assets |  |  |  |  |  |  |
| Cash and investments | 1,424,341 | 1,311,281 | 1,263,726 | 1,363,661 | 1,401,777 | 1,515,416 |
| Equity investments | 600,483 | 620,098 | 699,954 | 673,371 | 721,284 | 744,028 |
| Investment property | 32,226 | 31,199 | 30,964 | 30,742 | 30,557 | 30,444 |
| Due from other insurance companies | 1,755 | - | - | - | - | - |
| Accounts receivable | 235,616 | 249,762 | 267,742 | 279,578 | 291,816 | 304,444 |
| Prepaid expenses | 731 | 568 | 568 | 568 | 568 | 568 |
| Deferred policy acquisition costs | - | - | - | - | - | - |
| Reinsurers' share of unearned premiums | - | - | - | - | - | - |
| Reinsurers' share of unearned claims | 17,625 | - | - | - | - | - |
| Property and equipment | 80,108 | 85,033 | 85,517 | 83,746 | 82,549 | 80,948 |
| Deferred development costs | 54,685 | 70,701 | 81,714 | 86,063 | 90,579 | 77,606 |
|  | 2,447,570 | 2,368,642 | 2,430,184 | 2,517,728 | 2,619,130 | 2,753,454 |

## Liabilities

Due to other insurance companies
Accounts payable and accrued liabilites
Financing lease obligation
Unearned premiums and fees
Provision for employee current benefits
Provision for employee future benefits
Provision for unpaid claims

| 1,213 | 1,596 | 1,596 | 1,596 | 1,596 | 1,596 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 35,769 | 35,741 | 38,314 | 40,008 | 41,759 | 43,566 |
| 2,841 | 3,079 | 3,020 | 2,956 | 2,887 | 2,814 |
| 402,982 | 439,511 | 476,094 | 500,855 | 526,667 | 553,465 |
| 15,389 | 16,544 | 17,653 | 18,782 | 19,931 | 21,103 |
| 235,172 | 249,058 | 262,114 | 276,474 | 291,389 | 306,958 |
| $1,584,042$ | $1,489,439$ | $1,494,010$ | $1,520,222$ | $1,534,802$ | $1,592,986$ |
| $2,277,408$ | $2,234,969$ | $2,292,801$ | $2,360,893$ | $2,419,032$ | $2,522,487$ |

## Equity

| Retained earnings |
| :--- |
| Basic Insurance Retained Earnings |
| Rate Stabilization Reserve |
| Retained Earnings |
| Information Technology Optimization Fund |
|  |
| Accumulated Other Comprehensive Income |
|  |
| Total Equity |

## Manitoba Public Ins urance <br> Statement of Retained Earnings

2.0 \% volume increase throughout the forecast period (C\$ 000s, except where noted)

## RATE STABILIZATION RESERVE (RSR)

Basic Insurance Rate Stabilization Reserve

| Beginning Balance | 149,800 | 99,878 | 62,771 | 59,474 | 84,282 | 118,899 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Transfer from(to) Basic Retained Earnings | $(49,922)$ | $(37,107)$ | $(3,297)$ | 24,808 | 34,617 | 36,116 |
| Ending Balance | 99,878 | 62,771 | 59,474 | 84,282 | 118,899 | 155,015 |
| MinimumRSR based on PUB rules | 78,500 | 83,100 | 90,100 | 94,600 | 99,300 | 104,100 |
| Maximum RSR based on PUB rules | 156,900 | 166,000 | 180,000 | 188,900 | 198,100 | 207,600 |
| MPI RSR Target | 172,000 | 194,000 | 194,000 | 194,000 | 194,000 | 194,000 |

## Retained Earnings



## Manitoba Public Insurance <br> Premiums Written and Earned

.0 \% volume increase throughout the forecast period
(C\$ 000s, except where noted)

|  | $\underline{2014 A}$ 2015P |  | 2016P | 2017P | 2018P | 2019P |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |
| Volume Change | 2.10\% | 2.00\% | 2.00\% | 2.00\% | 2.00\% | 2.00\% |
| Upgrading \& Other Changes | 2.17\% | 2.60\% | 2.60\% | 2.60\% | 2.60\% | 2.60\% |
| Rate Change | 0.00\% | 0.90\% | 2.40\% | 0.00\% | 0.00\% | 0.00\% |
| Change in RSR Rebuilding Fee |  |  | 1.00\% |  |  |  |
| Premiums Unearned during Year | 46.05\% | 47.00\% | 47.00\% | 47.00\% | 47.00\% | 47.00\% |
| Last Year Premiums Written | 742,114 | 772,268 | 815,328 | 881,915 | 922,941 | 965,876 |
| Volume Increase | 15,584 | 15,445 | 16,307 | 17,638 | 18,459 | 19,318 |
| Total Volume Written | 757,699 | 787,713 | 831,635 | 899,553 | 941,400 | 985,194 |
| Upgrading \& Other Changes | 16,442 | 20,481 | 21,623 | 23,388 | 24,476 | 25,615 |
| Total With Upgrading | 774,141 | 808,194 | 853,257 | 922,941 | 965,876 | 1,010,809 |
| Impact of Rate Change (Excludes Volume Increases) | 0 | 7,135 | 20,087 | 0 | 0 | 0 |
| Impact of Change in RSR Rebuilding Fee |  |  | 8,570 | 0 | 0 | 0 |
| Adjustments | $(1,873)$ | 0 | 0 | 0 | 0 | 0 |
| Total Premium Written Before Rebates | 772,268 | 815,328 | 881,915 | 922,941 | 965,876 | 1,010,809 |
| Fleet Rebates | $(10,560)$ | $(13,682)$ | $(14,408)$ | $(15,041)$ | $(15,706)$ | $(16,394)$ |
| Initiatives \& Other Charges | $(5,066)$ | $(4,432)$ | $(3,878)$ | $(3,393)$ | $(2,969)$ | $(2,598)$ |
| Total Premiums Written | 756,642 | 797,215 | 863,628 | 904,507 | 947,201 | $\mathbf{9 9 1 , 8 1 7}$ |
| Reinsurance Ceded | $(13,422)$ | $(13,661)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Written | 743,220 | 783,554 | 849,694 | 890,294 | 932,704 | $\underline{977,030}$ |
| Beginning Unearned Premium Balance | 332,834 | 348,398 | 374,691 | 405,905 | 425,118 | 445,185 |
| Premiums Written | 756,642 | 797,215 | 863,628 | 904,507 | 947,201 | 991,817 |
| Unearned Premiums during Year | 348,398 | 374,691 | 405,905 | 425,118 | 445,185 | 466,154 |
| Premiums Earned |  |  |  |  |  |  |
| Total Net Premiums Earned | 741,077 | 770,922 | 832,414 | 885,294 | 927,135 | 970,847 |

## Manitoba Public Insurance <br> Multi-year Statements

| 2.85 \% Upgrade increase throughout the forecast period |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (C\$ 000s, except where noted) | For the Years Ended February, |  |  |  |  |  |
|  | 2014A | $\underline{2015 F}$ | 2016P | 2017P | 2018P | 2019P |
| BASIC |  |  |  |  |  |  |
| Motor Vehicles | 756,642 | 797,215 | 863,681 | 904,543 | 947,220 | 991,816 |
| Drivers | 41,520 | 46,992 | 51,284 | 55,427 | 59,418 | 62,982 |
| Reinsurance Ceded | $(13,422)$ | $(13,661)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Written | 784,740 | 830,546 | 901,031 | 945,757 | 992,141 | 1,040,010 |
| Net Premiums Ear ned |  |  |  |  |  |  |
| Motor Vehicles | 741,077 | 770,922 | 832,442 | 885,338 | 927,162 | 970,855 |
| Drivers | 37,015 | 44,330 | 49,138 | 53,355 | 57,422 | 61,201 |
| Reinsurance Ceded | $(13,422)$ | $(13,722)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Ear ned | 764,670 | 801,530 | 867,646 | 924,480 | 970,087 | 1,017,269 |
| Service Fees \& Other Revenues | 20,384 | 19,799 | 21,092 | 22,843 | 24,716 | 26,851 |
| Total Ear ned Revenues | 785,053 | 821,329 | 888,738 | 947,323 | 994,803 | 1,044,121 |
| Net Claims Incurred | 747,435 | 624,823 | 672,094 | 726,367 | 746,925 | 827,844 |
| Claims Ex pense | 114,552 | 116,249 | 120,486 | 126,010 | 127,314 | 138,319 |
| Road Safety/Loss Prevention | 12,816 | 11,350 | 10,514 | 10,564 | 10,606 | 10,648 |
| Total Claims Costs | 874,803 | 752,423 | 803,094 | 862,941 | 884,845 | 976,810 |
| Expenses |  |  |  |  |  |  |
| Operating | 67,982 | 73,568 | 74,791 | 79,063 | 81,043 | 87,298 |
| Commissions | 32,057 | 33,527 | 34,271 | 36,144 | 37,706 | 39,337 |
| Premium Taxes | 23,342 | 24,458 | 26,447 | 28,161 | 29,538 | 30,962 |
| Regulatory/Appeal | 3,766 | 3,261 | 3,314 | 3,380 | 3,447 | 3,516 |
| Total Expenses | 127,147 | 134,814 | 138,824 | 146,747 | 151,733 | 161,112 |
| Underwriting Income (Loss) | $(216,897)$ | $(65,907)$ | $(53,180)$ | $(62,365)$ | $(41,775)$ | $(93,802)$ |
| Investment Income | 147,735 | 28,801 | 49,910 | 86,289 | 77,422 | 129,814 |
| Net Income (Loss) from Operations | $(69,162)$ | $(37,106)$ | $(3,269)$ | 23,924 | 35,647 | 36,012 |

## Manitoba Public Insurance <br> Multi-year Statements - B alance Sheet

2.85 \% Upgrade increase throughout the forecast period

| (C\$ 000s, except where noted) | For the Years Ended February, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014A | 2015P | 2016P | 2017P | 2018P | 2019P |
| BASIC |  |  |  |  |  |  |
| Assets |  |  |  |  |  |  |
| Cash and investments | 1,424,341 | 1,311,282 | 1,263,763 | 1,363,725 | 1,401,817 | 1,515,466 |
| Equity investments | 600,483 | 620,098 | 699,958 | 673,386 | 721,318 | 744,065 |
| Investment property | 32,226 | 31,199 | 30,964 | 30,742 | 30,558 | 30,444 |
| Due from other insurance companies | 1,755 | - | - | - | - | - |
| Accounts receivable | 235,616 | 249,762 | 267,754 | 279,586 | 291,820 | 304,444 |
| Prepaid expenses | 731 | 568 | 568 | 568 | 568 | 568 |
| Deferred policy acquisition costs | - | - | - | - | - | - |
| Reinsurers' share of unearned premiums | - | - | - | - | - | - |
| Reinsurers' share of unearned claims | 17,625 | - | - | - | - | - |
| Property and equipment | 80,108 | 85,033 | 85,517 | 83,746 | 82,549 | 80,948 |
| Deferred development costs | 54,685 | 70,701 | 81,714 | 86,063 | 90,579 | 77,606 |
|  | 2,447,570 | 2,368,643 | 2,430,238 | 2,517,816 | 2,619,209 | 2,753,541 |
| Liabilities |  |  |  |  |  |  |
| Due to other insurance companies | 1,213 | 1,596 | 1,596 | 1,596 | 1,596 | 1,596 |
| Accounts payable and accrued liabilites | 35,769 | 35,741 | 38,316 | 40,009 | 41,760 | 43,566 |
| Financing lease obligation | 2,841 | 3,079 | 3,020 | 2,956 | 2,887 | 2,814 |
| Unearned premiums and fees | 402,982 | 439,512 | 476,119 | 500,872 | 526,676 | 553,464 |
| Provision for employee current benefits | 15,389 | 16,544 | 17,653 | 18,782 | 19,931 | 21,103 |
| Provision for employee future benefits | 235,172 | 249,058 | 262,114 | 276,474 | 291,389 | 306,958 |
| Provision for unpaid claims | 1,584,042 | 1,489,439 | 1,494,009 | 1,521,146 | 1,534,695 | 1,593,001 |
|  | 2,277,408 | 2,234,969 | 2,292,826 | 2,361,835 | 2,418,935 | 2,522,502 |
| Equity |  |  |  |  |  |  |
| Retained earnings |  |  |  |  |  |  |
| Basic Insurance Retained Earnings |  |  |  |  |  |  |
| Rate Stabilization Reserve | 99,878 | 62,772 | 59,503 | 83,427 | 119,073 | 155,085 |
| Retained Earnings | - | - | - | - | - | - |
| Information Technology Optimization Fund | - | - | - | - | - | - |
|  | 2,447,570 | 2,368,643 | 2,430,238 | 2,517,816 | 2,619,209 | 2,753,541 |

## Manitoba Public Insurance <br> Statement of Retained Earnings

2.85 \% Upgrade increase throughout the forecast period
(C\$ 000s, except where noted)

| For the Years Ended February, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2014A | 2015P | 2016P | 2017P | 2018P | 2019P |
| 149,800 | 99,878 | 62,772 | 59,503 | 83,427 | 119,073 |
| $(49,922)$ | $(37,106)$ | $(3,269)$ | 23,924 | 35,647 | 36,012 |
| 99,878 | 62,772 | 59,503 | 83,427 | 119,073 | 155,085 |
| 78,500 | 83,100 | 90,100 | 94,600 | 99,200 | 104,000 |
| 156,900 | 166,000 | 180,000 | 188,900 | 198,100 | 207,600 |
| 172,000 | 194,000 | 194,000 | 194,000 | 194,000 | 194,000 |

Retained Earnings
Beginning Balance
Net Income (Loss) fromannual operations
Retained Earnings Prior to Transfers
Retained Earnings Prior to Transfers
Transfer from(to) Rate Stabilization Reserve

|  | $\begin{gathered} 19,240 \\ (69,162) \end{gathered}$ |  | $(37,106)$ |  | $(3,269)$ |  | $23,924$ |  | $35,647$ |  | $36,012$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $(49,922)$ |  | $(37,106)$ |  | $(3,269)$ |  | 23,924 |  | 35,647 |  | 36,012 |
|  | 49,922 |  | 37,106 |  | 3,269 |  | $(23,924)$ |  | $(35,647)$ |  | $(36,012)$ |
|  | - |  | - |  | - |  | - |  | - |  | - |
| \$ | 99,878 | \$ | 62,772 | \$ | 59,503 | \$ | 83,427 | \$ | 119,073 | \$ | 155,085 |

# Manitoba Public Insurance <br> Premiums Written and Earned 

| 2.85 \% Upgrade increase throughout the forecast period (C\$ 000s, except where noted) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014A | 2015P | 2016P | 2017P | 2018P | $\underline{2019 P}$ |
| BASIC |  |  |  |  |  |  |
| Volume Change | 1.41\% | 1.75\% | 1.75\% | 1.75\% | 1.75\% | 1.75\% |
| Upgrading \& Other Changes | 2.69\% | 2.85\% | 2.85\% | 2.85\% | 2.85\% | 2.85\% |
| Rate Change | 0.00\% | 0.90\% | 2.40\% | 0.00\% | 0.00\% | 0.00\% |
| Change in RSR Rebuilding Fee |  |  | 1.00\% |  |  |  |
| Premiums Unearned during Year | 46.05\% | 47.00\% | 47.00\% | 47.00\% | 47.00\% | 47.00\% |
| Last Year Premiums Written | 742,114 | 772,268 | 815,329 | 881,967 | 922,978 | 965,895 |
| Volume Increase | 15,584 | 13,515 | 14,268 | 15,434 | 16,152 | 16,903 |
| Total Volume Written | 757,699 | 785,782 | 829,597 | 897,402 | 939,130 | 982,798 |
| Upgrading \& Other Changes | 16,442 | 22,395 | 23,644 | 25,576 | 26,765 | 28,010 |
| Total With Upgrading | 774,141 | 808,177 | 853,241 | 922,978 | 965,895 | 1,010,808 |
| Impact of Rate Change (Excludes Volume Increases) | 0 | 7,152 | 20,135 | 0 | 0 | 0 |
| Impact of Change in RSR Rebuilding Fee |  |  | 8,591 | 0 | 0 | 0 |
| Adjustments | $(1,873)$ | 0 | 0 | 0 | 0 | 0 |
| Total Premium Written Before Rebates | 772,268 | 815,329 | 881,967 | 922,978 | 965,895 | 1,010,808 |
| Fleet Rebates | $(10,560)$ | $(13,682)$ | $(14,408)$ | $(15,041)$ | $(15,706)$ | $(16,394)$ |
| Initiatives \& Other Charges | $(5,066)$ | $(4,432)$ | $(3,878)$ | $(3,393)$ | $(2,969)$ | $(2,598)$ |
| Total Premiums Written | 756,642 | 797,215 | 863,681 | 904,543 | 947,220 | 991,816 |
| Reinsurance Ceded | $(13,422)$ | $(13,661)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Written | 743,220 | 783,554 | 849,747 | 890,330 | 932,723 | 977,028 |
| Beginning Unearned Premium Balance | 332,834 | 348,398 | 374,691 | 405,930 | 425,135 | 445,193 |
| Premiums Written | 756,642 | 797,215 | 863,681 | 904,543 | 947,220 | 991,816 |
| Unearned Premiums during Year | 348,398 | 374,691 | 405,930 | 425,135 | 445,193 | 466,153 |
| Premiums Earned | 741,077 | 770,922 | 832,442 | 885,338 | 927,162 | 970,855 |
| Reinsurance Ceded | $(13,422)$ | $(13,722)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |

## PUB (MPI) 1-6 Reference: Revenues

a) Why are the "Impact of Rate Change" and the "Impact of Change in RSR Rebuilding Fee Adjustments" calculated to exclude volume increases? [R.1, Page 5]
b) Why is ceded written premium not equal to ceded earned premium as forecasted for 2014/15? [R.1, Page 6]
c) How is the analysis of historical fleet rebates and surcharges affected by historical and proposed changes in average rate level? [R.1.3, Page 14]
d) To what does the Corporation attribute the decline in the fleet rebate ratio in fiscal year 2013/14? [R.1.3, Page 14]
e) "There is a strong indication that the DSR program is very close to its 'steady state' distribution of drivers on the DSR scale." [R.2, Page 21] Given this assertion, why is the forecasted distribution in DSR level 15 showing significant growth, and the forecasted distribution in DSR levels 10 to 14 showing significant decline? [R.2, Page 22]
f) "The written driver premium forecast is calculated by multiplying the policy year projected earned driver units by the driver licence premiums at each DST level." [R.2, Page 23] Why are earned driver units used to calculate written driver premiums?
g) How does the Corporation test the need for changes to service fees and other revenue sources i.e. how does the Corporation compare the cost of delivering a service with the fees collected in providing the service? [R.4, Pages 28 to 32]
h) "The motor vehicle transaction fees forecast is based on historical average growth rates" [R.4, Page 28] Given this assertion, why does the forecast growth rate vary between $0.9 \%$ and $6.5 \%$ over the forecast period? [R.4, Page 29]
i) Please provide an illustrative derivation of the projected amounts of Quarterly Financing Interest and Monthly Financing Interest. [R.4, Page 31]

## RESPONSE:

a) The calculations are performed this way in order to isolate the impact of the rate increase and RSR rebuilding fee. Volume growth and vehicle upgrade occur regardless of the rate change proposed by the Corporation.
b) The ceded written and ceded earned premium amounts should match in 2014/15. The addition of the statement of financial position to the financial model required a minor adjustment to ceded premium in 2014/15 and does not impact the ceded premium in the rating years.
c) The historical fleet rebate and surcharges are impacted by actual changes in the average rate level relative to changes in the actual observed loss costs. The observed percentage of rebates, surcharges, and net rebates for the fleet program have been very stable over time and the Corporation is assuming this trend will continue in making its forecast. The Corporation believes this assumption is reasonable in light of the historical fleet experience.
d) There was a sharp increase in the claims incurred for fleets of approximately $12 \%$ in the 2012/13 policy year, which reduced the average fleet rebates paid in the 2013/14 fiscal year.
e) The statement is referring to the improved stability of the movement of drivers from one DSR level to another DSR in a given year. The main reason for the increasing number of drivers at DSR +15 is because of the initial placement of drivers on the DSR scale in 2010. At the initiation of the DSR program there was a large block of drivers placed at +10 on the DSR scale. This segment of drivers has been gradually moving up the scale and will reach DSR +15 in the 2015/16 policy year. As shown in Volume II Revenues, Appendix A - Distribution of Earned Drivers, this large segment of drivers accounts for $12.8 \%$ of units at DSR
+13 in 2013/14, then 11.09\% of units at DSR +14 in 2014/15, and then results in a large increase to DSR +15 in the 2015/16 year.

The actual proportion of drivers between DSR +10 and DSR +15 remains relatively stable over the forecast period, ranging from $49.57 \%$ to $52.02 \%$ of drivers over the forecast period.
f) The policy year earned units (which are earned subject to staggered renewals over a two year period) are used as an approximation of the number of written units in that fiscal year.
g) When new service fees are introduced they are priced according to work effort to complete on a cost recovery principle, for example the pricing and introduction of special license plates fees was based on a review of the costs to implement and administer each new plate. Service fees are only reviewed when the associated work load changes significantly enough to warrant review.
h) Motor Vehicle Transaction fees are comprised of various types of fees (15 types). Some of these fees can fluctuate from year to year based on transaction counts and they all bring in a range of revenues, thus the variable forecasted growth.
i) Please see attached.

## Financing Interest Calculations

## 2013/14 (a) 2014/15 2015/16 2016/17 2017/18 2018/19

| Compound Growth Rate * |  | 10.49\% | 9.87\% | 11.53\% | 13.16\% | 13.27\% |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Basic \% |  | 69.31\% | 69.83\% | 70.93\% | 71.33\% | 71.73\% |
| Quarterly Financing Interest |  |  |  |  |  |  |
| Corporate | 2,424 | 2,679 | 2,943 | 3,282 | 3,714 | 4,207 |
| Basic | 1,706 | 1,857 | 2,055 | 2,328 | 2,649 | 3,017 |
| Monthly Financing Interest |  |  |  |  |  |  |
| Corporate | 10,338 | 11,423 | 12,550 | 13,996 | 15,839 | 17,941 |
| Basic | 7,277 | 7,918 | 8,764 | 9,927 | 11,297 | 12,868 |
| * Compounded growth rate comprised of interest rate as well as premium growth considerations |  |  |  |  |  |  |
| Prior year's Corporate interest amount is multiplied by the growth rate for the current year to arrive at the current year interest. |  |  |  |  |  |  |

## PUB (MPI) 1-7

Reference: PF.6, 2015/16
Comparative Statement
a) Please explain why $80 \%$ and not $100 \%$ of IBM Data Centre Costs are transferred to Normal operations.
b) Basic Operating expenses increased by $\$ 4.9$ million from last year's projection to this year's forecast. Please provide a detailed comparative schedule similar to E2.1 reflecting the changes.

## RESPONSE:

a) As described in Volume II Expense, E. 1 Expenses Overview, ongoing expenses transfer to normal operations upon completion of a project. The transfer of $80 \%$ of IBM Data Centre costs to normal operations during 2013/14 is reflective of the degree of project completion. This is based on the proportion (approximately $80 \%$ ) of IBM servers that became operational and available for use by the Corporation. Hence an equivalent portion of the related expenses were classified as normal operations expenses. The remainder (approximately 20\%) of the servers is related to the High Availability portion of the project that was still in transition in 2013/14. Therefore these expenses were classified as ongoing expenses. Once the High Availability portion of the project is completed these ongoing expenses will transfer into normal operations.
b) Refer to Volume II Expenses, Appendix 1 (page 14).

## PUB (MPI) 1-8

Reference: PF.4, AI.6, 2014 Basic Annual Report , p. 15, Note 24

Please explain why the allowance for doubtful accounts on the Basic Annual Report (page 15) is $\$ 15.1$ million at February 28, 2014.

## RESPONSE:

The allowance for doubtful accounts amount quoted on page 15 of the Basic Annual Report is a typo at $\$ 15.1$ million. The correct number is accurately reflected in note 24 (page 36) at $\$ 4.9$ million.

## PUB (MPI) 1-9 Reference: PFT of Dan Guimond, p. 16

Mr. Guimond has stated that "... management will not contemplate, for example, any of the following cost-cutting opportunities: ... arbitrarily increase the Basic deductible to avoid claims ..."
a) Under what circumstances would the Corporation consider an increase to the Basic deductible?
b) To provide context for this issue, please provide an estimate of the indicated overall change in average rate level if a $\$ 100$ increase in Basic deductible was being proposed for 2015/16 (vs. $+2.4 \%$ as filed).

## RESPONSE:

a) The Corporation is very concerned about the current financial condition of the Basic line of business. In particular:

- Basic has sustained net losses of approximately $\$ 70 \mathrm{M}$ in each of the past two years.
- If interest rates do not rise as forecast by the five major banks and the PUB considers this to be a significant risk, then the PUB must be prepared for retained earnings to decrease by a further $\$ 16 \mathrm{M}$, unless a risk tolerance adjustment is adopted. Although the Rate Application is prepared using the approach from Order 151/13, this is one assumption Mr. Guimond, in his testimony, has asked the PUB to reconsider its position on, recognizing the high risk of volatility and its impact on Basic rates. Importantly, if a risk tolerance adjustment to the interest rate forecast is not applied by the PUB, there is a very significant risk that the applied for rates are deficient by at least $1.9 \%$ (even with the $2.4 \%$ applied for).
- Basic premiums are deficient by $2.4 \%$, but could be deficient by over $4.0 \%$ if assumed interest rate increases do not materialize.
- Basic's current capital level of $\$ 99.9 \mathrm{M}$ is deficient. Even if the Board approves the Corporation's 2015/16 rate increase of 2.4\% in addition to the 1\% RSR

Rebuilding Fee, the Rate Stabilization Reserve is projected to decline to a low of $\$ 62 \mathrm{M}$ in $2015 / 16$ and even lower to $\$ 55 \mathrm{M}$ by $2016 / 17$. The RSR will decline even further if projected interest rate increases do not materialize. The DCAT, in which the Corporation has actively collaborated with the PUB, includes an actuarial opinion of a minimum Basic capital requirement of $\$ 194$ million. The Minimum Capital Test, a capital target used by private and public insurers in Canada, indicates a minimum capital requirement for Basic in excess of \$300M (assuming 100\% MCT score).

- The deficient Basic premiums and capital levels have resulted in a loss of rate predictability and stability for our customers.

The rate application provides concrete solutions for the PUB's consideration to ensure the Corporation and the PUB are both able to move forward and achieve the mutual objectives of both organizations. Specifically, the Corporation will address the RSR deficiency through transfers of excess retained earnings to Basic from other lines of business outside the jurisdiction of the PUB.* The PUB is asked to approve Basic rates that will put an end to the deficiency in Basic premiums.

If this approach is unsuccessful, the Corporation may consider recommending to the Government to raise the deductible. Changing coverage, and in particular, decreasing coverage, would likely be a last resort. The Corporation would recommend such an approach most reluctantly as it would have a negative impact on the ratepayers and the economy of Manitoba.

In discussing the increase to the deductible, the Corporation notes that it does not consider changes to Basic coverage as this is the exclusive purview of the Legislature of Manitoba through amendments to The Manitoba Public Insurance Corporation Act and regulations thereunder. The Corporation administers the universal compulsory automobile plan and implements changes as legislated by Government.
b) Please refer to the last paragraph in the above response.
*as per the sequence outlined on page 8 of Mr. Guimond's pre-filed testimony

## PUB (MPI) 1-10 Reference: Interest Rate Forecasts

a) Please file a copy of each of the forecasts utilized by MPI in setting the interest rate forecast.
b) Please indicate the frequency and timing of updates to the 5 Major Banks and Global Insight interest rate forecasts used by MPI.
c) Please file the interest rate forecast eliminating the highest forecast interest rate for each quarter and provide a comparison of the results with the current proposed interest rate forecast for each of short term and long term interest rates.

## RESPONSE:

a) Please find below the individual interest rates forecasts from the five Major Banks and Global Insight. In addition, find attached a copy of the individual forecasts.

Standard Interest Rate Forecast

|  | 10 Year Canada |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | BMO NB | CIBC | Global | RBC | Scotia | TD | Average |
| 2014 Q1 | 2.49\% | 2.51\% | 2.81\% | 2.70\% | 2.55\% | 2.65\% | 2.62\% |
| Q2 | 2.66\% | 2.70\% | 2.93\% | 3.00\% | 2.75\% | 2.80\% | 2.81\% |
| Q3 | 2.90\% | 2.85\% | 3.05\% | 3.20\% | 2.90\% | 3.00\% | 2.98\% |
| Q4 | 3.16\% | 3.00\% | 3.12\% | 3.40\% | 3.05\% | 3.10\% | 3.14\% |
| 2015 Q1 | 3.39\% | 3.10\% | 3.19\% | 3.50\% | 3.25\% | 3.25\% | 3.28\% |
| Q2 | 3.59\% | 3.35\% | 3.25\% | 3.65\% | 3.35\% | 3.35\% | 3.42\% |
| Q3 | 3.78\% | 3.45\% | 3.35\% | 3.90\% | 3.50\% | 3.45\% | 3.57\% |
| Q4 | 3.96\% | 3.55\% | 3.52\% | 4.10\% | 3.60\% | 3.55\% | 3.71\% |
| 2016 Q1 |  |  | 3.70\% |  |  |  | 3.70\% |
| Q2 |  |  | 3.83\% |  |  |  | 3.83\% |
| Q3 |  |  | 3.97\% |  |  |  | 3.97\% |
| Q4 |  |  | 4.12\% |  |  |  | 4.12\% |
| 2017 Q1 |  |  | 4.32\% |  |  |  | 4.32\% |
| Q2 |  |  | 4.50\% |  |  |  | 4.50\% |
| Q3 |  |  | 4.62\% |  |  |  | 4.62\% |
| Q4 |  |  | 4.62\% |  |  |  | 4.62\% |
| 2018 Q1 |  |  | 4.62\% |  |  |  | 4.62\% |
| Q2 |  |  | 4.62\% |  |  |  | 4.62\% |
| Q3 |  |  | 4.62\% |  |  |  | 4.62\% |
| Q4 |  |  | 4.62\% |  |  |  | 4.62\% |

Standard Interest Rate Forecast

|  | T-Bill Canada |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | BMO NB | CIBC | Global | $\boldsymbol{R B C}$ | Scotia | TD | Average |
| 2014 Q1 | 0.88\% | 0.83\% | 0.86\% | 1.00\% | 0.90\% | 0.95\% | 0.90\% |
| Q2 | 0.88\% | 0.90\% | 0.89\% | 1.05\% | 0.95\% | 0.95\% | 0.94\% |
| Q3 | 0.88\% | 0.95\% | 0.94\% | 1.10\% | 1.00\% | 0.95\% | 0.97\% |
| Q4 | 0.88\% | 0.95\% | 0.99\% | 1.10\% | 1.05\% | 0.95\% | 0.99\% |
| 2015 Q1 | 0.88\% | 1.05\% | 1.00\% | 1.10\% | 1.10\% | 0.95\% | 1.01\% |
| Q2 | 0.88\% | 1.20\% | 1.00\% | 1.35\% | 1.10\% | 1.05\% | 1.10\% |
| Q3 | 1.14\% | 1.45\% | 1.08\% | 1.60\% | 1.20\% | 1.40\% | 1.31\% |
| Q4 | 1.40\% | 1.70\% | 1.40\% | 1.85\% | 1.55\% | 1.40\% | 1.55\% |
| 2016 Q1 |  |  | 2.17\% |  |  |  | 2.17\% |
| Q2 |  |  | 2.59\% |  |  |  | 2.59\% |
| Q3 |  |  | 3.07\% |  |  |  | 3.07\% |
| Q4 |  |  | 3.54\% |  |  |  | 3.54\% |
| 2017 Q1 |  |  | 4.12\% |  |  |  | 4.12\% |
| Q2 |  |  | 4.51\% |  |  |  | 4.51\% |
| Q3 |  |  | 4.50\% |  |  |  | 4.50\% |
| Q4 |  |  | 4.50\% |  |  |  | 4.50\% |
| 2018 Q1 |  |  | 4.50\% |  |  |  | 4.50\% |
| Q2 |  |  | 4.50\% |  |  |  | 4.50\% |
| Q3 |  |  | 4.50\% |  |  |  | 4.50\% |
| Q4 |  |  | 4.50\% |  |  |  | 4.50\% |

b) The five Major Banks and Global Insight typically update their interest rate forecasts on a monthly basis.
c) Please find below the interest rate forecasts eliminating the highest forecasted interest rate and comparison of results for short term and long term interest rates.

Standard Interest Rate Forecast

| 10 Year Canada |  |  |  |  |  |  | Average | Average wo highest | Difference |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | BMO NB | CIBC | Global | RBC | Scotia | TD |  |  |  |
| 2014 Q1 | 2.49\% | 2.51\% | 2.81\% | 2.70\% | 2.55\% | 2.65\% | 2.62\% | 2.58\% | -0.04\% |
| Q2 | 2.66\% | 2.70\% | 2.93\% | 3.00\% | 2.75\% | 2.80\% | 2.81\% | 2.77\% | -0.04\% |
| Q3 | 2.90\% | 2.85\% | 3.05\% | 3.20\% | 2.90\% | 3.00\% | 2.98\% | 2.94\% | -0.04\% |
| Q4 | 3.16\% | 3.00\% | 3.12\% | 3.40\% | 3.05\% | 3.10\% | 3.14\% | 3.09\% | -0.05\% |
| 2015 Q1 | 3.39\% | 3.10\% | 3.19\% | 3.50\% | 3.25\% | 3.25\% | 3.28\% | 3.24\% | -0.04\% |
| Q2 | 3.59\% | 3.35\% | 3.25\% | 3.65\% | 3.35\% | 3.35\% | 3.42\% | 3.38\% | -0.05\% |
| Q3 | 3.78\% | 3.45\% | 3.35\% | 3.90\% | 3.50\% | 3.45\% | 3.57\% | 3.51\% | -0.07\% |
| Q4 | 3.96\% | 3.55\% | 3.52\% | 4.10\% | 3.60\% | 3.55\% | 3.71\% | 3.64\% | -0.08\% |
| 2016 Q1 |  |  | 3.70\% |  |  |  | 3.70\% | 3.70\% | 0.00\% |
| Q2 |  |  | 3.83\% |  |  |  | 3.83\% | 3.83\% | 0.00\% |
| Q3 |  |  | 3.97\% |  |  |  | 3.97\% | 3.97\% | 0.00\% |
| Q4 |  |  | 4.12\% |  |  |  | 4.12\% | 4.12\% | 0.00\% |
| 2017 Q1 |  |  | 4.32\% |  |  |  | 4.32\% | 4.32\% | 0.00\% |
| Q2 |  |  | 4.50\% |  |  |  | 4.50\% | 4.50\% | 0.00\% |
| Q3 |  |  | 4.62\% |  |  |  | 4.62\% | 4.62\% | 0.00\% |
| Q4 |  |  | 4.62\% |  |  |  | 4.62\% | 4.62\% | 0.00\% |
| 2018 Q1 |  |  | 4.62\% |  |  |  | 4.62\% | 4.62\% | 0.00\% |
| Q2 |  |  | 4.62\% |  |  |  | 4.62\% | 4.62\% | 0.00\% |
| Q3 |  |  | 4.62\% |  |  |  | 4.62\% | 4.62\% | 0.00\% |
| Q4 |  |  | 4.62\% |  |  |  | 4.62\% | 4.62\% | 0.00\% |

Standard Interest Rate Forecast


## PUB (MPI) 1-11

## Reference: II.4.4, MUSH, Table 4.4

Please provide an update to table 4.4 including the actual results for the years 2009/10 to 2013/14.

## RESPONSE:

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-12

## Reference: II.5.1, Table 5.1

a) Please update the Canadian equity table to include fiscal years 2009/10 to 2013/14.
b) Please update table 5.3.1 adding an additional column including the corresponding actual calendar year for S\&P/TSX Canadian equity returns.

## RESPONSE:

a) and b)

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-13 Reference: II.6.3, US. Equity Returns

Please provide the supporting analysis for using Total Canadian equity return data for forecasting Total U.S. Equity Returns.

## RESPONSE:

There is no supporting analysis for using Total Canadian equity return data for forecasting total U.S. Equity returns. Prior to the 2013 GRA, the Corporation calculated separate Canadian and U.S. equity forecasted returns. This methodology was based on using a $1.5 \%$ equity risk premium (ERP) plus the average Government 10 year bond yield for both Canada and the U.S. However, this methodology provided rates of return that were considered to be too low for the equity asset classes in the 2013 GRA application. The table below indicates the forecasted equity returns using ERP methodology. Note that the ERP methodology produced very similar resuts for the Canadian and U.S. equities over each year (i.e. within $0.1 \%$ percent).

## Average Government 10 Year Bond Forecast + 1.5\% ERP

|  | Canadian Equity <br> (Using the <br> Government of <br> Canada 10 Year | U.s. Equity (Using the <br> U.s. 10 Year Treasury <br> Bond Rate |
| ---: | :---: | :---: |
| 2011 GRA | $6.14 \%$ | $6.16 \%$ |
| 2012 GRA | $6.10 \%$ | $6.10 \%$ |
| $\mathbf{2 0 1 3}$ GRA | $\mathbf{4 . 8 0 \%}$ | $\mathbf{4 . 7 0 \%}$ |
| 2014 GRA | $4.80 \%$ | $4.80 \%$ |
| 2015 GRA | $5.40 \%$ | $5.50 \%$ |

In the 2013 GRA, the ERP methodology generated a forecasted return of $4.8 \%$ for Canadian equities and a forecasted return of $4.7 \%$ U.S. equities, which was determined to be too low. As a result, the minimum equity return methodology was
developed in the 2013 GRA application. This methodology found support for a 6.2\% equity return that was relatively consistent based on previous forecasted equity returns using the ERP methodology. This return also was supported on the 20 year annualized $5^{\text {th }}$ percentile S\&P/TSX Total return index.

In the 2014 GRA application, it was found that there was an error in calculating the mimimum equity return in the 2013 GRA application, and the $5^{\text {th }}$ percentile return was $7.3 \%$ instead of the $6.2 \%$ return reported in the 2013 GRA application. Based on the PUB Order 157/12 (page 58) approving the minimum equity return methodology, and the continued reference to this same Order in PUB 151/13 (page 23 and 31), the Corporation changed the forecasted minimum equity return to be based on the $5^{\text {th }}$ percentile return (7.3\%) of the S\&P/TSX Composite Total Return Index. However, if interest rates increase, the ERP methodology for both Canadian and U.S. equities may provide a reasonable forecast for the rate of return in future applications.

## PUB (MPI) 1-14

## Reference: II. 6 U.S. Equities, Table 6.1

Please update the U.S. equity table to include fiscal years 2009/10 to 2013/14.

## RESPONSE:

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-15

## Reference: II.8.1 Infrastructure, Table 8.1

Please update the summary table 8.1 since the inception of infrastructure investments including the actual returns on the infrastructure investments.

## RESPONSE:

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-16

## Reference: II.9.2 Infrastructure,

 Table 9.2a) Please update the table of pension expense, including the pension expense for fiscal years 2009/10 through 2013/14.
b) Please provide the supporting documentation for the current pension discount rate of $4.2 \%$ and the related pension expense.

## RESPONSE:

a) Please refer to Volume II, Investment Income, Page 5 for the pension expense for the years 2009/10 through 2013/14. The 2012/13 pension expense disclosed is the original value; it was restated in 2013/14 to (\$10,956).
b) The pension discount rate is calculated internally based on the Discount Rate Assumption Guidance from the Canadian Institute of Actuaries. The Corporation uses high quality corporate bonds rated AA or higher to calculate discount rate. As the Canadian market has a lack of corporate bonds with maturities longer than ten years, and market capitalization of at least $\$ 100$ million, for maturities greater than ten years, Canadian provincial bonds rated AA can be used. A provincial-corporate spread adjustment is then applied to reflect the additional risk of AA rated corporate bonds.

The Bloomberg Composite Rating was used to determine the rating of the bonds. The plan duration used was 16 years.

## PUB (MPI) 1-17

Reference: II.9.5 Line of Business
Allocation
a) Please file table 9.5 for each of the four years used in the rolling average and provide the calculations for a three year and four year average.
b) Please indicate how investment income allocated to Basic would change based on a four-year rolling average.
c) Please provide a full description of the negative equity anomaly.
d) Please explain why the Basic investment income allocation is kept static at 83.8\% and was not changed based on forecasted changes in the balances to 2018/19 given that the balance sheet is now modeled.

## RESPONSE:

a) Please refer to the attachment for table 9.5 for each of the four years used in the rolling average. Calculations for a three year and four year average are provided below.

|  | Fiscal Year |  |  |  | 3 year average | 4 year average |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | $2010 / 2011$ | $\mathbf{2 0 1 1 / 2 0 1 2}$ | $\mathbf{2 0 1 2 / 2 0 1 3}$ | $\mathbf{2 0 1 3 / 2 0 1 4}$ |  |  |
| Basic | $87.36 \%$ | $85.10 \%$ | $82.00 \%{ }^{*}$ | $84.36 \%$ | $83.82 \%$ | $84.71 \%$ |
|  | A | B | C | D | $\mathrm{E}=(\mathrm{B}+\mathrm{C}+\mathrm{D}) / 3$ | $\mathrm{~F}=(\mathrm{A}+\mathrm{B}+\mathrm{C}+\mathrm{D}) / 4$ |

*Attachment shows $81.88 \%$ for 2012/2013. Difference is due to minor adjustment after forecast was completed.
b) Based on a four year average, the percentage of Investment Income allocated to Basic would be $84.71 \%$, compared to $83.82 \%$ when using a three year average. The change in Investment income allocated to Basic would be as follows:

|  | $\mathbf{2 0 1 4 / 1 5}$ | $\mathbf{2 0 1 5 / 1 6}$ | $\mathbf{2 0 1 6 / 1 7}$ | $\mathbf{2 0 1 7 / 1 8}$ |
| :--- | :---: | :---: | :---: | :---: |
| Corporate Total (\$000s) | Forecast |  |  |  |
|  | $\mathbf{3 4 , 3 6 7}$ | $\mathbf{5 9 , 5 4 1}$ | $\mathbf{1 0 0 , 9 3 7}$ | $\mathbf{9 2 , 2 7 5}$ |
|  | 29,112 | 50,437 | 85,504 | 78,166 |
| \% of Total (Four Year Average) | $84.71 \%$ | $84.71 \%$ | $84.71 \%$ | $84.71 \%$ |
| Basic Allocation Investment Income | 28,807 | 49,907 | 84,606 | 77,345 |
| \% of Total (Three Year Average) | $83.82 \%$ | $83.82 \%$ | $83.82 \%$ | $83.82 \%$ |
| Change $(\$ 000 s)$ | $\$ 305$ | $\$ 530$ | $\$ 898$ | $\$ 821$ |

c) Please refer to II.9.5 for a full description of the negative equity anomaly. As noted on line 23 the anomaly is that the line of business showed a negative equity in the first of the four years used to calculate the average; whereas the business does not now have negative equity and it is not predicted to have negative equity in the future. In order to avoid forecasting at a rate that is higher due to non-representative data, the negative equity anomaly was removed.
d) The Basic investment income allocation calculation is complex. The allocation involves allocating certain general ledger balance sheet accounts by line of business using account specific allocations to determine a net equity position. This complex process cannot be reproduced in the current version of the financial model as the model does not have account level detail and assumptions would need to be made that would undermine the calculation. As a result, the allocation percentage for future periods would be an estimate. The Corporation believes the current approach produces a reasonable estimate without adding complexity to the process.

Manitoba Public Insurance

Table 9.5 for each of the four years used in the rolling average are provided below.
YEARTO
DATE
FEBRUARY,
2014
$\frac{\text { Weighted }}{\text { Balances }}$
DirectLiabilities \& Equities
Unearned
Unpaid claims
Retained
Earnings
Accumulated Other Comprehensive Income

| Basic | Other Lines | Total |
| ---: | ---: | ---: |
|  |  |  |
|  |  |  |
| 385,813 | 91,995 | 477,809 |
| $1,488,908$ | 110,973 | $1,599,881$ |
| 162,074 | 214,810 | 376,884 |
| 44,444 | 1,773 | 46,217 |
| $2,081,238$ | 419,552 | $2,500,790$ |

## DirectAssets

Deferred Premium
Acquisition Costs
Reinsurers' share of
unearned premiums

| 4,475 | 23,629 | 28,104 |
| ---: | ---: | ---: |
| 6,152 | 1,862 | 8,014 |
| 26,257 | 7,581 | 33,838 |
| 23,395 | 0 | 23,395 |
| 60,278 | 33,072 | 93,350 |

Directly attributed to Line of Business
Allocated to Line of Business
\%
Total Investment Income

147,736
27,387
175,123

## YEAR TO DATE <br> FEBRUARY, 2013 <br> (in 000's)

| Weighted Balances | Basic | Other Lines | Total |
| :---: | :---: | :---: | :---: |
| Direct Liabilities \& Equities |  |  |  |
| Unearned premiums | 255,118 | 58.417 | 313,534 |
| Unpaid claims | 928,876 | 73,961 | 1,002,837 |
| Retained Earnings | 213,062 | 176.211 | 389,273 |
| Accumulated Other Comprehensive Income | 41,004 | 9.489 | 50,484 |
|  | 1,438,061 | 318,078 | 1,756,138 |
| Direct Assets |  |  |  |
| Deferred Premium Acquisition Costs | 13,057 | 12,730 | 25,787 |
| Reinsurers' share of unearned premiums | 4,371 | 1,288 | 5,660 |
| Reinsurers' share of unpaid claims | 19.485 | 5,062 | 24,547 |
| Deferred Development Costs - direct | 23,385 | 0 | 23,385 |
|  | 60,308 | 19,081 | 79,389 |
| Directly attributed to Line of Business Allocated to Line of Business | 1,377,753 | 298,997 | 1,676,750 |
|  | $(10,624)$ | 3,631 | $(6,993)$ |
|  | 1,367,129 | 302,628 | 1,669,757 |
| \% | 81.88\% | 18.12\% | 100.00\% |
| Investment Income to be Allocated | 68,095 | 15,073 | 83,168 |
| Direct Investment Income - Note 1 |  | 1 | 1 |
| Total Investment Income | 68,095 | 15,074 | 83,109 |

Note 1 -SRE directly attributable investment income and gains on foreign exchange for U.S. fronting deposits

## YEAR TO DATE <br> FEBRUARY, 2012 Schedule 1

| Weighted Balances | Basic | Other Lines | Total |
| :---: | :---: | :---: | :---: |
| Direct Liabilities \& Equities |  |  |  |
| Unearned premiums | 382,752,694 | 83,679,374 | 466,432,067 |
| Unpaid claims | 1,362,739,885 | 114,619,443 | 1,477,359,327 |
| Retained Earnings | 225,480,574 | 163,416,529 | 388,897,103 |
| Accumulated Other Comprehensive Income | 27,866,529 | 4,848,767 | 32,715,295 |
|  | 1,998,839,682 | 366,564,112 | 2,365,403,793 |
| Direct Assets |  |  |  |
| Deferred Premium Acquisition Costs | 28,720,378 | 17,656,140 | 46,376,518 |
| Reinsurers' share of unearned premiums | 5,014,326 | 1,401,656 | 6,415,982 |
| Reinsurers' share of unpaid claims | 36,035,951 | 7,386,984 | 43,422,935 |
| Deferred Development Costs - direct | 24,379,247 | 0 | 24,379,247 |
|  | 94,149,902 | 26,444,780 | 120,594,682 |
| Directly attributed to Line of Business Allocated to Line of Business | $\begin{array}{r} 1,904,689,780 \\ (26,182,345) \end{array}$ | $\begin{aligned} & 340,119,331 \\ & (11,449,999) \end{aligned}$ | $\begin{array}{r} 2,244,809,111 \\ (37,632,344) \\ \hline \end{array}$ |
|  | 1,878,507,435 | 328,669,333 | 2,207,176,767 |
| \% | 85.11\% | 14.89\% | 100.00\% |
| Investment Income to be Allocated | 101,244,455.00 | 17,714,035.53 | 118,958,490.53 |
| Direct Investment Income - Note 1 |  | 16,723.57 | 16,723.57 |
| Total Investment Income | 101,244,455.00 | 17,730,759.10 | 118,975,214.10 |

Note 1 - SRE directly attributable investment income and gains on foreign exchange for U.S. fronting deposits

## YEAR TO DATE <br> FEBRUARY, 2011

| Weighted Balances | Basic | Other Lines | Total |
| :---: | :---: | :---: | :---: |
| Direct Liabilities \& Equities |  |  |  |
| Unearned premiums | 370,948,308 | 80,032,826 | 450,981,133 |
| Unpaid claims | 1,454,872,675 | 125,528,086 | 1,580,400,761 |
| Retained Earnings | 328,624,804 | 148,120,194 | 476,744,997 |
| Accumulated Other Comprehensive Income | 42,068,896 | 6,175,855 | 48,244,751 |
|  | 2,196,514,682 | 359,856,960 | 2,556,371,642 |
| Direct Assets |  |  |  |
| Deferred Premium Acquisition Costs | 29,110,353 | 15,241,134 | 44,351,487 |
| Reinsurers' share of unearned premiums | 4,674,933 | 1,468,438 | 6,143,371 |
| Reinsurers' share of unpaid claims | 37,615,471 | 13,680,778 | 51,296,249 |
| Deferred Development Costs - direct | 26,853,464 | 0 | 26,853,464 |
|  | 98,254,221 | 30,390,351 | 128,644,571 |
| Directly attributed to Line of Business Allocated to Line of Business | $\begin{array}{r} 2,098,260,461 \\ (85,040,877) \\ \hline \end{array}$ | $\begin{gathered} 329,466,610 \\ (38,182,734) \end{gathered}$ | $\begin{gathered} 2,427,727,071 \\ (123,223,610) \\ \hline \end{gathered}$ |
|  | 2,013,219,585 | 291,283,876 | 2,304,503,460 |
| \% | 87.36\% | 12.64\% | 100.00\% |
| Investment Income to be Allocated | 88,077,662.01 | 12,743,569.04 | 100,821,231.05 |
| Direct Investment Income - Note 1 |  | (79,613.24) | (79,613.24) |
| Total Investment Income | 88,077,662.01 | 12,663,955.80 | 100,741,617.81 |

Note 1 - SRE directly attributable investment income and gains on foreign exchange for U.S. fronting deposits

## PUB (MPI) 1-18

## Reference: II.1.2, pp. 13, 14,

## ALM Study

a) Please file the Request for Proposal for the ALM Study.
b) Please describe the current status of the ALM Study.
c) Please file the expected scope of work for the study.

## RESPONSE:

a) b) and c)

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-19

## Reference: II. 17

Please provide the most current Investment Activity \& Performance Report.

## RESPONSE:

Please see attachment.

# Investment Activity \& Performance Report 

for period ending
February 28, 2014

Manitoba
Public Insurance

## Investment Fund's Dollar Value and Asset Allocation Mix at February 28, 2014

| Dollar Value and Asset Allocation Mix at February 28, 2014 | Market Value Plus Accrued Income |  | Current <br> Actual | Target Weight | Over/Under Minimum or Maximum Weight |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cash and Short Term | \$ | 57.1 | 2.3\% | 1.0\% |  |
| Fixed Income |  |  |  |  |  |
| Marketable Universe Bonds | \$ | 852.3 | 34.8\% | 29.0\% |  |
| Marketable Long-Term Bonds |  | 127.5 | 5.2\% | 10.0\% |  |
| Non-Marketable Bonds |  | 594.9 | 24.3\% | 20.0\% |  |
| Total Debt | \$ | 1,574.7 | 64.2\% | 59.0\% |  |
| Public Equities |  |  |  |  |  |
| Canadian | \$ | 381.5 | 15.6\% | 15.0\% |  |
| US |  | 138.3 | 5.6\% | 5.0\% |  |
| Total Public Equities | \$ | 519.8 | 21.2\% | 20.0\% |  |
| Alternative Investments |  |  |  |  |  |
| Canadian Real Estate | \$ | 244.2 | 10.0\% | 13.0\% |  |
| Private Equity |  | 3.9 | 0.2\% | 0.0\% |  |
| Infrastructure* |  | 52.4 | 2.1\% | 7.0\% |  |
| Total Alternative Investments | \$ | 300.5 | 12.3\% | 20.0\% |  |
| Total Assets: | \$ | 2,452.1 | 100.0\% | 100.0\% |  |

Non-marketable bonds implied market value plus accrued income at February 28, 2014 was $\$ 658.5$ million.

* Infrastructure Market Value includes re-appraised market values for Infrastructure Fund and for Infrastructure Co-Investment.

The market values show here do not match MPI's Feb. 28, 2014 Financial Statements as the re-appraised market values were received after the financial statements were published. The market value for Infrastructure Direct is based on the mid-point of the valuation range ( $\$ 13.1$ million)
-All asset classes were within their minimum and their maximum target weights.

## Investment Fund's Dollar Value Growth and Sources of Growth (\$millions) 12 Month Period to February 28, 2014

| MPI Portfolio Size (\$ Millions) |  |  |
| :--- | :---: | ---: |
| Fund Value at February 28, 2014 | $\$$ | $2,452.1$ |
| Fund Value at February 28, 2013 | $\$$ | $2,351.2$ |
| Change in Fund Value* | $\$$ | $\mathbf{1 0 0 . 9}$ |
|  |  |  |
| * Decomposition of the Change in Fund Value |  |  |
| Interest and Dividend Income Estimate | $\$$ | 80.7 |
| Capital Gains/(Losses) Estimate | $\$$ | 107.8 |
| Deposits, Withdrawals and Expenses Estimate | $\$$ | $(87.6)$ |
|  |  |  |
| Change in Fund Value | $\$$ | $\mathbf{1 0 0 . 9}$ |

## Cash Required to Fund Alternative Asset Classes

## at February 28, 2014

| Real Estate Allocation |  |  |
| :---: | :---: | :---: |
| Advanced to Manager F | \$ | 135.0 |
| Real Estate Direct |  | 37.7 |
| Unrealized Gain (Loss) on Manager F |  | 57.9 |
| Unrealized Gain (Loss) on Real Estate Direct |  | 13.3 |
| Unfunded Real Estate Allocation |  | 74.8 |
| Target Real Estate Allocation (13\% of the Fund) | \$ | 318.8 |
| Infrastructure Allocation |  |  |
| Infrastructure Direct | \$ | 11.0 |
| Unrealized Gain (Loss) on Infrastructure Direct |  | 2.1 |
| Infrastructure Fund |  | 24.2 |
| Unrealized Gain (Loss) on Infrastructure Fund |  | 3.5 |
| Infrastructure Co-Investment |  | 9.7 |
| Unrealized Gain (Loss) on Infrastructure Co-Investment |  | 1.9 |
| Unfunded Commitment to Infrastructure Fund |  | 5.8 |
| Unfunded Allocation to Unspecified Infrastructure |  | 113.4 |
| Target Infrastructure Allocation (7\% of the Fund) | \$ | 171.6 |
| Amount Required to Fully Fund Alternative Asset Classes |  |  |
| Unfunded Real Estate Allocation required to reach 13\% target | \$ | 74.8 |
| Infrastructure Investment required to reach 7\% target |  | 119.3 |
| Total Amount Required to Reach Alternative Target Allocation | \$ | 194.1 |

## Actual Returns by Asset Class

## MUSH Bonds at Book Value

at February 28, 2014


## Total Fund Return

## MUSH Bonds at Book Value

 at February 28, 2014

## Total Bond Portfolio Return

## at February 28, 2014



Bond yields rose over the last 12 months and fell over the last 3 months, which increased the return for the 3 month period relative to the 12 month period. When MUSH is valued at implied market value the bond fund underperformed the benchmark by 30 bps for the year and for the quarter. When MUSH is valued at book value the bond fund outperformed the benchmark by 100 bps for the year and underperformed by 110 bps for the quarter.

## Marketable Bond Returns

## December 1997 to February 28, 2014



From December 1997 to February 28, 2014 marketable bonds have outperformed the benchmark by $0.27 \%$ annually.

## Marketable Universe Bond Returns

at February 28, 2014


## Marketable Long Bond Returns

at February 28, 2014


# Non Marketable Bond Returns at Implied Market Value 

## at February 28, 2014



## Non Marketable Bond Returns at Book Value



Represents interest income only as bonds valued at book value are not affected by changes in interest rates (ie: no capital gains)

## Canadian Equity Large Cap Manager Returns

 at February 28, 2014


## Manager B's Rolling Four Year Value Added Since February 2006 to February 2014



## Manager C's Rolling Four Year Value Added Since February 2006 to February 2014

Manager C Rolling 4 Year Value Added (Gross Returns)


## Canadian Equity Manager D Manager Returns

 at February 28, 2014
$\square \quad$ Manager D BMO Small Cap Unweighted Blended Index

## Manager D's Rolling Four Year Value Added Since August 2009 to February 2014



## Canadian Equity Managers’ Net Value Added

## to February 28, 2014

| Canadian Equity Managers' <br> Net Value Added in Bps for the Last Three, Five Years, 10 Years and Since Inception and Net Dollar Value Added Since Inception Ending February 28, 2014 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Manager | Net Value Added Since February 2011 <br> (3 Year) | Net Value Added Since February 2009 (5 Year) | Net Value Added Since February 2004 (10 Year) | Net Value Added Since Inception | Net Dollar Value Added Estimate Since Inception * | * Inception Date |
| Manager B | 3.5\% | 3.6\% | 2.4\% | 4.5\% | \$37,702,720 | 31-Dec-98 |
| Manager C | 4.4\% | 3.6\% | 1.4\% | 2.1\% | 22,045,035 | 28-Feb-02 |
| Manager D | 23.1\% | 5.1\% | n/a | 7.0\% | \$35,668,306 | 1-Jun-05 |
| Total |  |  |  |  | \$95,416,060 |  |

## US Equity Portfolio Returns (in USD) at February 28, 2014



```
- US Equity Portfolio (in USD)(orange)
- US Equity Benchmark (in USD 80\% RU10VATR + 20\% RU20VATR)(black)
■ Russell 3000 Total Return (in USD)(blue)
- S \& P 500 Total Return (in USD)(green)
```


## MPI Real Estate

at February 28, 2014
Real Estate Market Value and Performance at February 28, 2014


## Infrastructure <br> at February 28, 2014

| Infrastructure Performance at February 28, 2014* |  |  |  |  |  |
| ---: | :---: | :---: | :---: | :---: | :---: |
|  | Market <br> Value <br> (\$ Millions) | 12 Month <br> Performance <br> IRR | Benchmark for <br> Infrastructure <br> CPI + 5\% | Out/Under <br> Perform |  |
|  |  |  |  |  |  |
| Infrastructure Co-Investment | $\$$ | 11.7 | $26.2 \%$ | $6.1 \%$ |  |
| Infrastructure Fund | $\$$ | 27.6 | $15.0 \%$ | $6.1 \%$ |  |

[^0]
## Equity and Fixed Income Compliance Report

Fiscal Q4 December 2013 to February 2014

## Canadian Equity Managers

- All Canadian equity managers were in compliance during the period.
- Manager D was in compliance with the new $15 \%$ limit approved by the ICWG in October 2013 for securities with market cap beyond two times the upper-end market cap of the BMO Small Cap Index.


## Fixed Income Manager

- The fixed income duration was outside of the $+/-2.0$ year duration bandwidth by 0.1 years in February 2014.



## Return vs. Risk Total Fund



Source: API Asset Performance Inc.

## PUB (MPI) 1-20

## Reference: II.11

Provide an updated listing of the Corporation's impaired investments that have been written down but remain in the portfolio as of June 30, 2014.

## RESPONSE:

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-21

## Reference: II. 11 Unrealized Gains

Please provide a breakdown of the Corporation's unrealized gains by security at the end of the first quarter of the current fiscal year and comment on any significant changes since February 28, 2014.

## RESPONSE:

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-22

## Reference: Table 1.1-Interest Rate Scenarios, PFT of Dan Guimond, p. 16

Mr. Guimond has indicated in his Pre-Filed Testimony that if interest rates do not rise as the Banks are forecasting, MPI will incur a revenue deficiency of $1.9 \%$ or $\$ 16$ million.
a) Please re-cast PF.1, PF.2, PF.3, Table 11.3 and Table 13.2.2 consistent with these concerns.
b) Please re-cast PF.1, PF.2, PF.3, Table 11.3 and Table 13.2.2 assuming a 50 basis point upward change in the currently forecast yield curve in 2014/15 and 2015/16 .

## RESPONSE:

a) A lower interest rate environment will result in a lower claims discount rate and as a result higher incurred losses. As a result, the Corporation would have, on average, $\$ 16$ million less in net income (or a higher loss) per year for the rating years. Refer to attachment for illustration.
b) Refer to attachment.

## Manitoba Public Insurance <br> Multi-year Statements <br> For the Years Ended February,

Risk adjusted low growth inter est rate for ec ast

| (C\$ 000s, except where noted) | For the Years Ended February, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014A | 2015F | 2016P | 2017P | 2018P | 2019P |
| BASIC |  |  |  |  |  |  |
| Motor Vehicles | 756,642 | 795,233 | 859,397 | 897,828 | 937,861 | 979,588 |
| Drivers | 41,520 | 46,992 | 51,284 | 55,427 | 59,418 | 62,982 |
| Reinsurance Ceded | $(13,422)$ | $(13,661)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Written | 784,740 | 828,564 | 896,747 | 939,042 | 982,782 | 1,027,783 |
| Net Premiums Ear ned |  |  |  |  |  |  |
| Motor Vehicles | 741,077 | 769,872 | 829,240 | 879,765 | 919,045 | 959,977 |
| Drivers | 37,015 | 44,330 | 49,138 | 53,355 | 57,422 | 61,201 |
| Reinsurance Ceded | $(13,422)$ | $(13,722)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Ear ned | 764,670 | 800,480 | 864,444 | 918,908 | 961,971 | 1,006,390 |
| Service Fees \& Other Revenues | 20,384 | 19,799 | 21,079 | 22,815 | 24,671 | 26,786 |
| Total Earned Revenues | 785,053 | 820,279 | 885,523 | 941,723 | 986,641 | 1,033,176 |
| Net Claims Incurred | 747,435 | 662,618 | 693,361 | 735,932 | 771,258 | 822,535 |
| Claims Ex pense | 114,552 | 116,249 | 120,612 | 126,258 | 127,685 | 138,715 |
| Road Safety/Loss Prevention | 12,816 | 11,350 | 10,525 | 10,587 | 10,640 | 10,683 |
| Total Claims Costs | 874,803 | 790,217 | 824,497 | 872,776 | 909,584 | 971,932 |
| Expenses |  |  |  |  |  |  |
| Operating | 67,982 | 73,568 | 74,861 | 79,207 | 81,264 | 87,526 |
| Commissions | 32,057 | 33,496 | 34,173 | 35,970 | 37,450 | 38,991 |
| Premium Tax es | 23,342 | 24,426 | 26,351 | 27,994 | 29,294 | 30,635 |
| Regulatory/Appeal | 3,766 | 3,261 | 3,315 | 3,380 | 3,447 | 3,516 |
| Total Expenses | 127,147 | 134,751 | 138,700 | 146,551 | 151,455 | 160,669 |
| Underwriting Income (Loss) | $(216,897)$ | $(104,690)$ | $(77,675)$ | $(77,605)$ | $(74,398)$ | $(99,425)$ |
| Investment Income | 147,735 | 50,025 | 60,470 | 73,475 | 91,874 | 95,750 |
| Net Income (Loss) from Oper ations | $(69,162)$ | $(54,665)$ | $(17,205)$ | $(4,130)$ | 17,476 | $(3,675)$ |

Manitoba Public Insurance
Mult-year Statements - Balance Sheet

Risk adjusted low growth interest rate forecast
(C\$ 000s, except where noted)

BASIC
Assets
Cash and investmen
Equity investments
Investment property
Due from other insurance companies
Accounts receivable
Prepaid expenses
Deferred policy acquisition costs
Reinsurers' share of unearned premiums
Reinsurers' share of unearned claims
Property and equipment
Deferred development costs
Liabilities
Due to other insurance companies
Accounts payable and accrued liabilites
Financing lease obligation
Unearned premiums and fees
Provision for employee current benefits
Provision for employee future benefits
Provision for unpaid claims

Equity

| Retained earnings |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Basic Insurance Retained Earnings |  |  |  |  |  |  |
| Rate Stabilization Reserve | 99,878 | 45,213 | 28,033 | 23,918 | 41,418 | 37,751 |
| Retained Earnings | - | - | - | - | - | - |
| Information Technology Optimization Fund | - | - | - | - | - | - |
|  | 99,878 | 45,213 | 28,033 | 23,918 | 41,418 | 37,751 |
| Accumulated Other Comprehensive Income | 70,284 | 70,902 | 77,909 | 85,580 | 81,422 | 91,496 |
| Total Equity | 170,162 | 116,115 | 105,942 | 109,498 | 122,840 | 129,247 |
|  |  |  |  |  |  |  |
|  | 2,447,570 | 2,387,880 | 2,455,670 | 2,536,573 | 2,630,016 | 2,733,235 |

## Manitoba Public Insurance <br> Statement of Retained Earnings

Risk adjusted low growth interest rate forecast
(C\$ 000s, except where noted)

## RATE STABILIZATION RESERVE (RSR)

Basic Insurance Rate Stabilization Reserve
Beginning Balance
Transfer from (to) Basic Retained Earnings
Ending Balance

Minimum RSR based on PUB rules
Maximum RSR based on PUB rules
MPI RSR Target

For the Years Ended February,

| For the Years Ended February, |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\underline{2014 \mathrm{~A}}$ | $\underline{2015 P}$ | $\underline{2016 \mathrm{P}}$ | $\underline{2017 \mathrm{P}}$ | $\underline{2018 \mathrm{P}}$ | $\underline{\text { 2019P }}$ |  |

Beginning Balance
Net Income (Loss) from annual operations
Retained Earnings Prior to Transfers
Transfer from (to) Rate Stabilization Reserve

Balance of Fund

Total Basic Retained Earnings
Retained Earnings
Beginning Balance
Net Income (Loss) fromannual operations
Retained Earnings Prior to Transfers

|  | - |  | - |  | - |  | - |  | - |  | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \$ | 99,878 | \$ | 45,213 | \$ | 28,033 | \$ | 23,918 | \$ | 41,418 | \$ | 37,751 |

Table 11.3

Difference Between 2015 GRA Low Growth Interest Rates and the 2014 GRA Base

|  | $\begin{gathered} \hline 2013 / 14 \\ \text { Actual } \\ \hline \end{gathered}$ | Forecasted |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Short Term Interest | (27) | (366) | $(1,160)$ | $(1,485)$ | (763) |
| Marketable Bonds | 419 | 3,475 | 1,470 | (296) | (351) |
| MUSH | 1,192 | 1,382 | 1,451 | 1,872 | 2,690 |
| Long-Term Bond Income | 1,611 | 4,858 | 2,921 | 1,576 | 2,340 |
| Marketable Realized Gains/(Loss) | (795) | $(6,134)$ | 2,000 | 18,730 | 20,918 |
| Total Fixed Income | $(26,690)$ | $(1,524)$ | 9,067 | 16,226 | 24,176 |
| Total Marketable Gain/Loss | $(27,484)$ | $(7,658)$ | 11,067 | 34,956 | 45,094 |
| Total Fixed Income | $(25,901)$ | $(3,167)$ | 12,828 | 35,047 | 46,670 |
| Canadian Equities US Equities | $\begin{aligned} & (306) \\ & (330 \end{aligned}$ | $(1,308)$ 389 | 734 642 | 1,002 1,030 | $\begin{gathered} (1,760) \\ 1,002 \end{gathered}$ |
| Equity Dividends | (636) | (919) | 1,376 | 2,033 | (758) |
| Canadian Equities Realized Gains | 44,683 | $(6,639)$ | 5,943 | 5,931 | 18,767 |
| US Equities Realized Gains | 13,029 | 0 | 0 | 0 | 0 |
| Equity Realized Gain/Loss | 57,712 | $(6,639)$ | 5,943 | 5,931 | 18,767 |
| Total Equities | 57,077 | $(7,558)$ | 7,319 | 7,964 | 18,009 |
| Real Estate (Pooled Fund) | 10,572 | $(3,544)$ | $(1,681)$ | 107 | 113 |
| Real Estate (CityPlace) | 0 | 3,366 | 3,433 | 3,502 | 3,572 |
| Infrastructure | (359) | $(3,290)$ | $(4,052)$ | $(3,421)$ | $(1,513)$ |
| Venture Capital | 262 | 0 | 0 | 0 | 0 |
| Total Alternatives | 10,474 | $(3,468)$ | $(2,300)$ | 188 | 2,172 |
| Management Fees | 93 | 318 | (42) | (287) | (389) |
| Pension Fund Transfer | (315) | (160) | 784 | 689 | 588 |
| Other ${ }^{1}$ | $(2,607)$ | 0 | 0 | 0 | 0 |
| Corporate Total | 38,821 | (14,034) | 18,590 | 43,601 | 67,048 |
| Basic Allocation Investment Income \% of Total | $\begin{array}{r} 33,192 \\ 0.0 \% \\ \hline \end{array}$ | $\begin{aligned} & (13,002) \\ & -1.7 \% \end{aligned}$ | $\begin{array}{r} 14,683 \\ -1.7 \% \\ \hline \end{array}$ | $\begin{array}{r} 35,806 \\ -1.7 \% \end{array}$ | $\begin{array}{r} 55,485 \\ -1.7 \% \end{array}$ |

${ }_{1}$ Other includes Investment Write-Down and Amortization of Bond Premium

Table 13.2.2
Government of Canada 10 Year Bond Rate

|  |  | BMO NB | CIBC | Global | RBC | Scotia | TD | Average | Low Growth Methodology* |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2014 |  | 2.49\% | 2.51\% | 2.81\% | 2.70\% | 2.55\% | 2.65\% | 2.62\% | 2.52\% |
|  | Q2 | 2.66\% | 2.70\% | 2.93\% | 3.00\% | 2.75\% | 2.80\% | 2.81\% | 2.62\% |
|  | Q3 | 2.90\% | 2.85\% | 3.05\% | 3.20\% | 2.90\% | 3.00\% | 2.98\% | 2.72\% |
|  | Q4 | 3.16\% | 3.00\% | 3.12\% | 3.40\% | 3.05\% | 3.10\% | 3.14\% | 2.82\% |
| 2015 | Q1 | 3.39\% | 3.10\% | 3.19\% | 3.50\% | 3.25\% | 3.25\% | 3.28\% | 2.90\% |
|  | Q2 | 3.59\% | 3.35\% | 3.25\% | 3.65\% | 3.35\% | 3.35\% | 3.42\% | 2.98\% |
|  | Q3 | 3.78\% | 3.45\% | 3.35\% | 3.90\% | 3.50\% | 3.45\% | 3.57\% | 3.06\% |
|  | Q4 | 3.96\% | 3.55\% | 3.52\% | 4.10\% | 3.60\% | 3.55\% | 3.71\% | 3.14\% |
| 2016 | Q1 |  |  | 3.70\% |  |  |  | 3.70\% | 3.21\% |
|  | Q2 |  |  | 3.83\% |  |  |  | 3.83\% | 3.28\% |
|  | Q3 |  |  | 3.97\% |  |  |  | 3.97\% | 3.35\% |
|  | Q4 |  |  | 4.12\% |  |  |  | 4.12\% | 3.42\% |
| 2017 | Q1 |  |  | 4.32\% |  |  |  | 4.32\% | 3.50\% |
|  | Q2 |  |  | 4.50\% |  |  |  | 4.50\% | 3.57\% |
|  | Q3 |  |  | 4.62\% |  |  |  | 4.62\% | 3.64\% |
|  | Q4 |  |  | 4.62\% |  |  |  | 4.62\% | 3.71\% |
| 2018 | Q1 |  |  | 4.62\% |  |  |  | 4.62\% | 3.71\% |
|  | Q2 |  |  | 4.62\% |  |  |  | 4.62\% | 3.70\% |
|  | Q3 |  |  | 4.62\% |  |  |  | 4.62\% | 3.77\% |
|  | Q4 |  |  | 4.62\% |  |  |  | 4.62\% | 3.83\% |

## 3 Low Growth Methodology:

For the Lower Interest Rate Growth Scenario, the average interest rates are applied over 10 years instead of 5 years. To calculate, the average forecast is applied to every second and fourth quarter (see bolded rates) with linear interpolation applied to every first and third quarter.

## Manitoba Public Insurance

Multi-year Statements
For the Years Ended February,

50 bps increase to 2015 GRA base in 2014/15 and 2015/16

| (C\$ 000s, except where noted) | For the Years Ended February, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2014A | $\underline{2015 F}$ | 2016P | 2017P | 2018P | 2019P |
| BASIC |  |  |  |  |  |  |
| Motor Vehicles | 756,642 | 795,233 | 859,397 | 897,828 | 937,861 | 979,588 |
| Drivers | 41,520 | 46,992 | 51,284 | 55,427 | 59,418 | 62,982 |
| Reinsurance Ceded | $(13,422)$ | $(13,661)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Written | 784,740 | 828,564 | 896,747 | 939,042 | 982,782 | 1,027,783 |
| Net Premiums Ear ned |  |  |  |  |  |  |
| Motor Vehicles | 741,077 | 769,872 | 829,240 | 879,765 | 919,045 | 959,977 |
| Drivers | 37,015 | 44,330 | 49,138 | 53,355 | 57,422 | 61,201 |
| Reinsurance Ceded | $(13,422)$ | $(13,722)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Ear ned | 764,670 | 800,480 | 864,444 | 918,908 | 961,971 | 1,006,390 |
| Service Fees \& Other Revenues | 20,384 | 19,799 | 21,079 | 22,815 | 24,671 | 26,786 |
| Total Earned Revenues | 785,053 | 820,279 | 885,523 | 941,723 | 986,641 | 1,033,176 |
| Net Claims Incurred | 747,435 | 571,713 | 677,765 | 770,280 | 747,157 | 827,906 |
| Claims Ex pense | 114,552 | 116,249 | 120,245 | 125,766 | 127,313 | 138,317 |
| Road Safety/Loss Prevention | 12,816 | 11,350 | 10,492 | 10,542 | 10,606 | 10,648 |
| Total Claims Costs | 874,803 | 699,312 | 808,502 | 906,588 | 885,076 | 976,871 |
| Expenses |  |  |  |  |  |  |
| Operating | 67,982 | 73,568 | 74,652 | 78,918 | 81,043 | 87,298 |
| Commissions | 32,057 | 33,496 | 34,173 | 35,970 | 37,450 | 38,991 |
| Premium Tax es | 23,342 | 24,426 | 26,351 | 27,994 | 29,294 | 30,635 |
| Regulatory/Appeal | 3,766 | 3,261 | 3,314 | 3,380 | 3,447 | 3,516 |
| Total Expenses | 127,147 | 134,751 | 138,491 | 146,262 | 151,233 | 160,440 |
|  |  |  |  |  |  |  |
| Under writing Income (Loss) | $(216,897)$ | $(13,785)$ | $(61,470)$ | $(111,127)$ | $(49,667)$ | $(104,134)$ |
| Investment Income | 147,735 | 3,924 | 56,604 | 114,967 | 77,509 | 129,316 |
| Net Income (Loss) from Operations | $(69,162)$ | $(9,861)$ | $(4,867)$ | 3,840 | 27,842 | 25,182 |

## Manitoba Public Insurance Multi-year Statements - Balance Sheet

50 bps increase to 2015 GRA base in 2014/15 and 2015/16
(C\$ 000s, except where noted)

## BASIC

Assets
Cash and investments
Equity investments
Investment property
Due from other insurance companies

Accounts receivable
Prepaid ex penses
Defered policy acquisition costs
Reinsurers' share of uneamed premiums
Reinsurers' share of uneamed claims
Property and equipment
Deferred development costs

## Liabilities <br> Due to other insurance companies Accounts payable and accrued liabilites <br> Financing lease obligation <br> Uneamed premiums and fees <br> Provision for employee current benefits <br> Provision for employee future benefits <br> Provision for unpaid claims

Equity
Retained eamings
Basic Insurance Retained Eamings

| Rate Stabilization Reserve | 99,878 | 89,988 | 85,151 | 88,990 | 116,833 | 142,015 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Retained Eamings | - | - | - | - | - | - |
| Information Technology Optimization Fund | - | - | - | - | - | - |
|  | 99,878 | 89,988 | 85,151 | 88,990 | 116,833 | 142,015 |
| Accumulated Other Comprehensive Income | 70,284 | 70,902 | 77,909 | 72,595 | 81,236 | 75,858 |
| tal Equity | 170,162 | 160,890 | 163,059 | 161,586 | 198,068 | 217,873 |
|  |  |  |  |  |  |  |

## Manitoba Public Insurance <br> Statement of Retained Earnings

50 bps increase to 2015 GRA base in 2014/15 and 2015/16
(C\$ 000s, except where noted)

RATE STABILIZATION RESERVE (RSR)

Basic Insurance Rate Stabilization Reserve

| Beginning Balance | 149,800 | 99,878 | 90,017 | 85,151 | 88,991 | 116,833 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Transfer from(to) Basic Retained Earnings | $(49,922)$ | $(9,861)$ | $(4,867)$ | 3,840 | 27,842 | 25,182 |
| Ending Balance | 99,878 | 90,017 | 85,151 | 88,991 | 116,833 | 142,015 |
| MinimumRSR based on PUB rules | 78,500 | 82,900 | 89,700 | 93,900 | 98,300 | 102,800 |
| Maximum RSR based on PUB rules | 156,900 | 165,600 | 179,100 | 187,500 | 196,200 | 205,200 |
| MPI RSR Target | 172,000 | 194,000 | 194,000 | 194,000 | 194,000 | 194,000 |

## Retained Earnings

Beginning Balance
Net Income (Loss) fromannual operations
Retained Earnings Prior to Transfers
Transfer from (to) Rate Stabilization Reserve

Balance of Fund

Total Basic Retained Earnings

For the Years Ended February,

| 2014A 2015P | $\underline{2016 P}$ | $\underline{2017 P}$ | $\underline{2018 P}$ | $\underline{2019 P}$ |
| :--- | :--- | :--- | :--- | :--- | :--- |

Beginning Balance
Net Income (Loss) from annual operations
Retained Earnings Prior to Transfers

| 19,240 | - | - | - | - | - |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $(69,162)$ | $(9,861)$ | $(4,867)$ | 3,840 | 27,842 | 25,182 |
| $(49,922)$ | $(9,861)$ | $(4,867)$ | 3,840 | 27,842 | 25,182 |
| 49,922 | 9,861 | 4,867 | $(3,840)$ | $(27,842)$ | $(25,182)$ |
|  |  |  |  |  |  |
| - | - | - | - | - | - |


| $\$$ | 99,878 | $\$$ | 90,017 | $\$$ | 85,151 | $\$$ | 88,991 | $\$$ | 116,833 | $\$$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Table 11.3
Difference Between 2015 GRA +50 bps Scenario and the 2014 GRA Base Scenario

|  | $\begin{gathered} \hline 2013 / 14 \\ \text { Actual } \\ \hline \end{gathered}$ | Forecasted |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Short Term Interest | (27) | (366) | $(1,160)$ | $(1,485)$ | (658) |
| Marketable Bonds | 419 | 4,636 | 5,799 | 5,401 | 7,366 |
| MUSH | 1,192 | 1,530 | 1,256 | 1,669 | 2,962 |
| Long-Term Bond Income | 1,611 | 6,166 | 7,055 | 7,070 | 10,328 |
| Marketable Realized Gains/(Loss) | (795) | $(53,946)$ | $(4,667)$ | 42,986 | 13,849 |
| Total Fixed Income | $(26,690)$ | $(10,019)$ | 6,988 | 20,486 | 22,928 |
| Total Marketable Gain/Loss | $(27,484)$ | $(63,966)$ | 2,321 | 63,472 | 36,777 |
| Total Fixed Income | $(25,901)$ | $(58,166)$ | 8,216 | 69,057 | 46,447 |
| Canadian Equities | (306) | $(1,308)$ | 734 | 1,002 | $(2,483)$ |
| US Equities | (330) | 389 | 642 | 1,030 | 1,002 |
| Equity Dividends | (636) | (919) | 1,376 | 2,033 | $(1,480)$ |
| Canadian Equities Realized Gains | 44,683 | $(6,639)$ | 5,943 | 21,422 | 2,575 |
| US Equities Realized Gains | 13,029 | 0 | 0 | 0 | 0 |
| Equity Realized Gain/Loss | 57,712 | $(6,639)$ | 5,943 | 21,422 | 2,575 |
| Total Equities | 57,077 | $(7,558)$ | 7,319 | 23,455 | 1,095 |
| Real Estate (Pooled Fund) | 10,572 | $(3,544)$ | $(1,681)$ | 107 | 113 |
| Real Estate (CityPlace) | 0 | 3,366 | 3,433 | 3,502 | 3,572 |
| Infrastructure | (359) | $(3,290)$ | $(4,052)$ | $(3,421)$ | $(1,513)$ |
| Venture Capital | 262 | 0 | 0 | 0 | 0 |
| Total Alternatives | 10,474 | $(3,468)$ | $(2,300)$ | 188 | 2,172 |
| Management Fees | 93 | 318 | (42) | (287) | (389) |
| Pension Fund Transfer | (315) | (160) | 784 | 689 | 588 |
| Other ${ }^{1}$ | $(2,607)$ | 0 | 0 | 0 | 0 |
| Corporate Total | 38,821 | (69,034) | 13,978 | 93,102 | 49,911 |
| Basic Allocation Investment Income | 33,192 | $(59,103)$ | 10,816 | 77,299 | 41,120 |

1 Other includes Investment Write-Down and Amortization of Bond Premium

Manitoba

Table 13.2.2
Government of Canada 10 Year Bond Rate


## PUB (MPI) 1-23 <br> Reference: Investment Income Attachment B, p. 6

Please file any analysis undertaken in support of the assertion that the probability of interest rates declining or rising is closer to being equal.

## RESPONSE:

To put this question into context, the Investment Income document - Attachment B, page 6 stated the following:

> "The market yield on the Government of Canada (GoC) 10 year bond hit a low of $1.70 \%$ as of April $30,2013 . .$. When interest rates are this low relative to expected inflation, it is reasonable to assume the probability of interest rates increasing is much higher than the probability of these rates falling... The interest rate environment has changed over the last year, where the probability of interest rates falling or rising is likely closer to being equal."

In the 2014 DCAT Report on page 43, an interest rate floor of $1.68 \%$ is used in the interest rate decline scenarios. This interest rate floor of $1.68 \%$ is based on the lowest monthly GoC 10 year bond yield from 1989 to present. Based on this floor, it is reasonable to assume that if interest rates are higher ( $2.43 \%$ as of February 28, 2014), then the probability of interest rates falling is likely higher compared to a scenario where interest rates are at $1.70 \%$, which is only $0.02 \%$ higher than the historical low.

Please see pages 40 to 47 of the 2014 DCAT Report for further analysis on the probability of interest rates declining.

## PUB (MPI) 1-24

## Reference: Investment Income Attachment C, p. 21

a) Please file the detailed survey and supporting information underlying the PWC Presentation.
b) Please summarize the other development considerations set out on p. 21.

## RESPONSE:

a) and b)

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-25

## Reference: II.7A. 3 Real Estate <br> Investment Returns

a) Please provide an updated comparison between actual investment returns earned on the real estate investments since 2009/10 with the IPD Canada Annual Property Index Income Return and the proxy used in the forecast (CPI + 4\%) to that provided in response to PUB/MPI I-29 (a) at the 2014 GRA.
b) Please expand chart 7.3 to include the annual change in CPI and the proxy return based on CPI $+4 \%$.

## RESPONSE:

a) Please see the table below for the annual MPI Combined Real Estate Investments Total Return, IPD Canada Annual Property Index Income Return, and Canadian CPI $+4 \%$ for the last four calendar years (2009 calendar year returns are not available).

|  | MPI Combined <br> Real Estate <br> Investments Total |  |  |
| :--- | :---: | :---: | :---: |
|  | Return | IPD | CPI + 4\% |
| Annual Return to December 2010 | $14.8 \%$ | $10.8 \%$ | $6.4 \%$ |
| Annual Return to December 2011 | $14.7 \%$ | $15.8 \%$ | $6.3 \%$ |
| Annual Return to December 2012 | $11.3 \%$ | $14.0 \%$ | $4.8 \%$ |
| Annual Return to December 2013 | $10.5 \%$ | $10.6 \%$ | $5.2 \%$ |

b) Please see below the expanded chart 7.3 including the annual change in CPI and the proxy return based on CPI $+4 \%$.


## PUB (MPI) 1-26

## Reference: II.8.1, Table 8.1, Infrastructure Investments

a) Please explain the reduction in market value from $\$ 76.4$ million in $2013 / 14$ at the last GRA to $\$ 60.5$ million in 2014/15, a $20 \%$ decline in market value.
b) Please provide details on the current holdings of the infrastructure fund.

## RESPONSE:

a) The reduction in the projected market value for infrastructure was due to the fact that our actual pace of investment was slower than projected. Therefore, during the last GRA we projected to have investments of $\$ 76.4$ million at Feb. 28, 2014, but our actual infrastructure investments at Feb. 28, 2014 were valued at $\$ 51.6$ million. Based on that information for this year's application we are now projecting to have investments of $\$ 60.5$ million at Feb. 28, 2015.
b) See PUB (MPI) 1-3.

## PUB (MPI) 1-27

## Reference: AI. 11 Financial Forecast Model Test Report

Please identify the author of the Financial Forecast Model Test Report.

## RESPONSE:

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-28

## Reference: II.9.2 Pension

Please file a copy of the most recent Actuarial Pension Benefit Plan report (December 31, 2013).

## RESPONSE:

Please see attachment.

Attachment A
Agenda C
April 4, 2014

# Actuarial Valuation Report as at December 31, 2013 

## Pension Liabilities of Manitoba Public Insurance

 (As a result of participation of its employees in the Civil Service Superannuation Act)Submitted: March, 2014
$\square$

DLLEMIENT \& DLLDEMIENT CONSULTING ACTUARIES

Airport Executive Centre
503 - 1780 Wellington Avenue
Winnipeg, Manitoba
Canada R3H 1B3

Actuarial Valuation Report as at December 31, 2013
Pension Liabilities of Manitoba Public Insurance

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## APPENDICES

I Summary of Data
II Summary of Actuarial Assumptions

III Projection of M.P.I. Pension Liabilities for 2013

## I. PURPOSE

The purpose of this Actuarial Valuation Report (Report) is to:

- indicate the liabilities which the Manitoba Public Insurance (M.P.I.) has as at December 3I, 2013 (Valuation Date), as a result of the participation of its employees in the Civil Service Superannuation Act (CSSA), and
- provide a formula which can be used to estimate the increase in these liabilities in the following 12 to 18 months after December 3I, 2013.

These liabilities are an estimate of the present value of the future payments which M.P.I. is expected to make to the Civil Service Superannuation Fund (CSSF).

The liabilities have been computed on a going concern basis. This basis contemplates the continued existence of the pension plan and the funding arrangements for the benefits under the pension plan.

The guidance for the calculation of the liabilities and the preparation of this Report are the Practice-Specific Standards for Pension Plans of the Canadian Institute of Actuaries and IAS 19, Employee Benefits issued by the International Accounting Standards Committee.

## 2. DATA

It is anticipated no amendments will be made to the CSSA other than the contribution rate increase which is set up to increase by $2 \%$ from July I, 2012 to January I, 2015.

The data used in the calculations includes the portion of each pension, currently in payment or which is expected to be in payment, that M.P.I. is responsible for.

The data for all the pensions in payment and the accrued pensionable service of all employees participating in the CSSA was provided by the Civil Service Superannuation Board (Superannuation Board).

Information on the pensions and benefits paid by M.P.I. and the employee contributions for 2013 were obtained from M.P.I.

In addition, information on one pension, for which M.P.I. acts as the administrator, was also provided by M.P.I. This separate pension has been included in the liabilities reported as at December 3I, 2013.

Due to time constraints, the data provided by the Superannuation Board was sent without performing their normal annual edit checks. However, the data was checked for missing information, illogical information and reconciled with the prior valuation data. A few minor changes to the data resulted from the checks made.

Actuarial Valuation Report as at December 31, 2013
Pension Liabilities of Manitoba Public Insurance

## 3. MEMBERSHIP

The data provided indicated that M.P.I. was the employer of record for the following participants:

|  | 31-Dec-2013 |  |  | 31-Dec-2012 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Males | Females | Total | Males | Females | Total |
| Contributors | 827 | I, I57 | 1,984 | 832 | I, 196 | 2,028 |
| Deferred Pensioners | 69 | 92 | 161 | 75 | 105 | 180 |
| Reciprocal Transfers | 1 | - | 1 | 1 | - | 1 |
| Pensioners \& Survivors | 380 | 360 | 740 | 364 | 324 | 688 |
| Total | 1,277 | 1,609 | 2,886 | 1,272 | 1,625 | 2,897 |

A reconciliation of the number of member records used in the calculations is shown in Appendix 1.

The numbers shown for pensioners includes 64 beneficiary records as at December 31, 2013 and 59 as at December 31, 2012.

## 4. ASSUMPTIONS

The assumptions used in this Report and assumptions used in the last actuarial valuation report of the M.P.I. pension liabilities are shown in Appendix II.

The demographic assumptions have been developed from the accumulated experience of the CSSF. This experience is reflected in the demographic assumptions adopted for the actuarial valuations of the CSSF. Changes to these assumptions were made for the actuarial valuation of the CSSF as at December 31, 2012 (CSSF AVR 2012).

For this Report, the demographic assumptions have been continued and reflect those used for the CSSF AVR 2012, with the one exception being the salary scale component for service merit. The salary scale for service merit is 50 basis points higher and was first adopted for the 2009 actuarial valuation and has been continued in use for this Report.

The economic assumptions have been chosen by management. The specific choices are made after a review with internal staff and the actuary. The existing economic assumptions were confirmed to us on February 20, 2014 by management after management's review of the assumptions.

The demographic assumptions overall represent a reasonable best estimate basis for these assumptions. The economic assumptions, overall, represent MPl's best estimate basis for those assumptions.

## 5. M.P.I. SHARE OF BENEFIT PAYMENTS

The benefits expected to be paid are based on the provisions of the CSSA.
M.P.I. is expected to make payments due to:

- pensions in payment as at December 31, 2013 where M.P.I. is the last employer of record,
- pensions expected to become payable to former employees who retained the right to a deferred paid-up pension, and
- pensions and other benefits expected to become payable to existing employees as a result of service completed up to the Valuation Date.

At present, M.P.I. is contributing to the CSSF based on the pay-as-you-go method of funding. Under this method, no advance funding payments for the employer share of the cost of pensions are made to the CSSF. M.P.I. has, however, established a reserve against general assets which is being increased to match the increase in its pension liabilities.

Each month, M.P.I. makes payments to the CSSF to reimburse it for:

- a portion (currently about 47\%) of each pension payment to retired employees,
- a portion (currently about 47\%) of each pension payment to a beneficiary of a deceased pensioner or the survivor of an employee who dies in service,
- a portion of any amounts transferred to other pension plans under reciprocal agreements,
- a portion of any commuted values paid out as a result of employees terminating service or as a result of marriage breakdowns, and
- a portion of the administrative costs of operating the CSSF in respect of M.P.I. records.

Pensions in payment are indexed to $2 / 3$ of the increases in the cost of living, provided sufficient funds exist to finance such increases. Former employees who retain a right to a deferred paid-up pension have their pensions indexed during both the deferral period and the payout period.

The employer share of each pension is based on when the pension starts. For pensions which commenced:
(a) prior to March 31, I961, the employer is responsible for a portion of each increase in that pension and
(b) after March 3I, I961, the employer is responsible for a portion (currently about 47\%) of the pension paid.

Pursuant to CSSA subsection 22(II), employer funding for employees who have service with more than one non-matching Agency shall be on a pro rata basis. This proration of the benefits assigned to an employer is based on the proration of service allocated to the employer. This proration assignment was made effective for events on or after January 1, 1998. This may decrease or increase the pension obligations in the absence of CSSA subsection 22(II). However, for enhanced benefits, it is the administrative practice to bill all of the enhanced benefits to the current employer.

## 6. VALUATION PROCEDURE

The projected unit credit actuarial cost method has been used to determine the accrued liabilities and the current service cost applicable to each year after the Valuation Date.

The liabilities are computed separately for each employee and each potential benefit in the future for that employee. For each benefit, we determine:

- the probability of that benefit becoming payable each year in the future based on the assumptions outlined in Appendix II,
- a discount factor which makes allowance for the interest expected to be earned between the valuation date and the date of payment to finance a portion of the future payment, and
- the amount of the future benefit. Pensions are based on service completed prior to the valuation date and projected salaries immediately prior to the event causing the pension to be paid.

The liability for each benefit for an employee is the sum of the product of these three factors for each year in the future. The sum of these liabilities obtained for all employees is the liability for that benefit in respect of employees.

The liabilities for pensioners and deferred pensioners is determined by a similar process except that the amount of payment is based on the pension in payment or the pension of record in the case of deferred pensioners.

For accounting purposes, the service-to-date pension obligations have been shown.

## 7. VALUATION RESULTS

The following table shows the liabilities which M.P.I. has as at December 3I, 2013 and December 31, 2012 as a result of the participation of its employees and former employees in the CSSA:

Pension Liabilities with
Allowance Made for Indexing of Pensions

|  | After change in assumptions 31-Dec-2013 | Before change in assumptions 31-Dec-2013 | 31-Dec-2012 |
| :---: | :---: | :---: | :---: |
| Contributors | \$ 155,659,000 | \$ 166,242,600 | \$ 161,874,900 |
| Deferred Pensioners | 7,845,600 | 8,414,200 | 7,894,500 |
| Pensioners \& Survivors | 119,142,900 | 123,321,800 | 113,317,200 |
| Total | \$ 282,647,500 | \$ 297,978,600 | \$ 283,086,600 |

For this valuation, the liabilities were $\$ 75,400$ more than projected. The detailed breakdown of all experience is shown in Appendix III.

The liabilities were also affected by the change made to anticipated future experience. The increase in the discount rate from $3.90 \%$ to $4.20 \%$ decreased the liabilities by $\$ 15.3$ million.

The expected average remaining service life (EARSL) of employees is 13.0 years.

## 8. PROJECTION FORMULA FOR LIABILITIES

The application of the projection formula is shown in Appendix III.
The following formula can be used to project the estimated increase in liabilities in the 12 to 18 months after the Valuation Date:

- Add interest at the rate of $4.20 \%$ per year to the liabilities at the beginning of the period, the contributions for the period, and the benefit payments for the period. The interest addition for the contributions and the benefit payments should be prorated to recognize investment for half the period on average.
- Add employer contributions at the rate of $141.0 \%$ of the employee contributions required to be made for the period.
- Deduct the actual employer pension and benefit payments made to the CSSF for the period.


## 9. ACCOUNTING FOR PENSION OBLIGATIONS

A reserve against general assets has been established and is being increased to match the accrued pension liability. This reserve should eventually reflect the existence of assets in the Employer Trust Account held in the CSSF.
The pension expense for a period is equal to:
(a) the change in the reserve, plus
(b) the actual benefit payments, plus
(c) the amounts for the amortization of previous gains and losses.

The above formula takes no credit for interest that may have been earned on assets supporting the liabilities.

## 10. ACTUARIAL OPINION

In our opinion, for the purposes of this Report:

- The membership data is sufficient and reliable.
- The assumptions, in aggregate which have been used, are appropriate for the purpose of determining the accounting requirements of the Plan on a going concern basis.
- The method which has been used is appropriate for the purpose of determining the accounting requirements of the Plan on a going concern basis.
- There is a risk that the liabilities may be exposed to adverse demographic experience in the future (e.g. retirement, mortality, etc.).
- This Report reflects the new Canadian Institute of Actuaries (CIA) commuted value standards effective February I, 201I.
- We are not aware of any other matters or events occurring since the completion of this Report, which will materially affect the financial position of the liabilities as at December 3I, 2013.

This Report has been prepared and this opinion has been given in accordance with accepted actuarial practice.

Dated at Winnipeg, this $27^{\text {th }}$ day of March, 2014.
ELLEMENT \& ELLEMENT



Dennis Ellement, F.S.A., F.C.I.A.

Actuarial Valuation Report as at December 3I, 2013
Pension Liabilities of Manitoba Public Insurance

## APPENDIX I

## Summary of Data

- Reconciliation of Membership

| MALES \& FEMALES | ACTIVES | DEFERREDS | RECIPROCAL | PENSIONERS | SURVIVORS |
| :--- | :---: | :---: | :---: | ---: | ---: | ---: |
| Opening 31-Dec-2012 | 2,028 | 180 | 1 | 629 | 59 |
| New Entrants | 117 | - | - | 2 | - |
| Retirements | $(64)$ | $(6)$ | - | 70 | - |
| Terminations - Deferred | $(17)$ | 17 | - | - | - |
| Terminations - Refunds | $(79)$ | $(30)$ | - | $(5)$ | - |
| Terminations - Deaths | $(1)$ | - | - | $(15)$ | - |
| Deaths - Survivors | - | - | - | $(5)$ | 5 |
| Closing 31-Dec-2013 | 1,984 | 161 | 1 | 676 | 64 |


| MALES | ACTIVES | DEFERREDS | RECIPROCAL | PENSIONERS | SURVIVORS |
| :--- | :---: | :---: | :---: | :---: | :---: | ---: |
| Opening 3I-Dec-2012 | 832 | 75 | 1 | 357 | 7 |
| New Entrants | 56 | - | - | 2 | - |
| Retirements | $(24)$ | $(3)$ | - | 27 | - |
| Terminations - Deferred | $(5)$ | 5 | - | - | - |
| Terminations - Refunds | $(31)$ | $(8)$ | - | - | - |
| Terminations - Deaths | $(1)$ | - | - | - | - |
| Deaths - Survivors | - | - | - | $13)$ | - |
| Closing 31-Dec-2013 | 827 | 69 | 1 | 373 | 7 |


| FEMALES | ACTIVES | DEFERREDS | RECIPROCAL | PENSIONERS | SURVIVORS |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Opening 3I-Dec-2012 | $\mathrm{I}, 196$ | 105 | - | 272 | 52 |
| New Entrants | 61 | - | - | - | - |
| Retirements | $(40)$ | $(3)$ | - | - | - |
| Terminations - Deferred | $(12)$ | 12 | - | $(5)$ | - |
| Terminations - Refunds | $(47)$ | $(22)$ | - | $(2)$ | - |
| Terminations - Deaths | $(1)$ | - | - | $(5)$ | 5 |
| Deaths - Survivors | - | - | - | 303 | 57 |
| Closing 3I-Dec-2013 | 1,157 | 92 | - | - | - |

Actuarial Valuation Report as at December 31, 2013
Pension Liabilities of Manitoba Public Insurance

## - Contributors

CONTRIBUTORS - MALES 3I-DEC. 2013

| MALES <br> Age | Average |  |  |  | Number of Members in Each Years of Service Cell |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Count | Age | Service | Salary | 00.04 | 05-09 | 10. 14 | 15-19 | 20.24 | 25-29 | 30.34 | 35.39 |
| 15.19 | . | A | - | \$ - | - | - | - | - | - | - | - | - |
| 20. 24 | 19 | 23.73 | 1.76 | 43,980.58 | 17 | 2 | - | . | - | - | - | - |
| 25.29 | 72 | 27.94 | 3.63 | 50.421.55 | 47 | 24 | 1 | - | - | - | - | - |
| 30.34 | 115 | 32.51 | 4.84 | 58,704.61 | 64 | 42 | 9 | - | - | - | - | - |
| 35-39 | 125 | 37.42 | 6.85 | 63.372.87 | 55 | 31 | 35 | 4 | - | - | - | - |
| 40-44 | 94 | 42.54 | 9.49 | 67.959.29 | 27 | 20 | 29 | 16 | 2 | - | - | - |
| 45.49 | 105 | 47.66 | 16.52 | 72,997.31 | 10 | 19 | 18 | 18 | 15 | 24 | 1 | - |
| 50-54 | 154 | 52.41 | 19.83 | 75.015.60 | 23 | 18 | 14 | 15 | 14 | 36 | 32 | 2 |
| 55.59 | 102 | 57.30 | 22.52 | 72,601.60 | 7 | 10 | 14 | 10 | 9 | 23 | 18 | 11 |
| 60.64 | 34 | 61.96 | 20.53 | 71,695.26 | 2 | 5 | 6 | 6 | 6 | 1 | 2 | 6 |
| 65.69 | 6 | 66.12 | 17.74 | 58,695.00 | - | 1 | - | 3 | 2 | - | . | - |
| 70.74 | 1 | 70.49 | 35.08 | 65.212.00 | . | . | - |  | - | - | - | 1 |
| 2013 Toal/Avg | 827 | 43.98 | 12.73 | \$66,510.64 | 252 | 172 | 126 | 72 | 48 | 84 | 53 | 20 |
| 2012 Toal Avg | 832 | 44.91 | 13.00 | \$66,523.05 | 287 | 131 | 133 | 58 | 64 | 82 | 61 | 16 |

CONTRIBUTORS - FEMALES 31-DEC-2013

| FEMALES <br> Age | Average |  |  |  | Number of Members in Each Years of Service Cell |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Count | Age | Service | Salary | 00.04 | 05.09 | 10.14 | 15.19 | 20-24 | 25-29 | 30-34 | 35-39 |
| 15-19 | - | - | - | \$ | - | - | - | - | - | - | - | - |
| 20-24 | 40 | 23.28 | 1.63 | 39.523 .62 | 39 | 1 | - | - | - | - | - | - |
| 25.29 | 135 | 27.70 | 3.29 | 45.377.28 | 101 | 34 | - | - | - | - | - | - |
| 30.34 | 178 | 32.43 | 4.79 | 51,783.03 | 104 | 59 | 15 | - | - | - | - | - |
| 35.39 | 141 | 37.58 | 6.57 | 56.688 .06 | 59 | 46 | 34 | 2 | - | - | - | - |
| 40.44 | 125 | 42.57 | 8.72 | 57,895.77 | 44 | 33 | 24 | 15 | 9 | - | - | - |
| 45-49 | 184 | 47.58 | 14.94 | 61,028.46 | 30 | 28 | 35 | 25 | 34 | 32 | $\cdot$ | - |
| 50.54 | 213 | 52.29 | 21.02 | 58,928.97 | 20 | 24 | 24 | 24 | 21 | 45 | 53 | 2 |
| 55-59 | 104 | 57.10 | 18.96 | 57,939.40 | 14 | 11 | 21 | 14 | 7 | 14 | 10 | 13 |
| 60.64 | 33 | 61.72 | 20.16 | 58,644.04 | 5 | 4 | 4 | 5 | 2 | 3 | 4 | 6 |
| 65.69 | 4 | 66.61 | 23.90 | 43,833.00 | 1 | - | - | - | - | 1 | 2 | . |
| 70.74 | - | - | . | - | - | - | $\cdot$ | $\cdot$ | - | - | $\cdot$ | $\cdot$ |
| 2013 ToallAvg, | 1.157 | 42.52 | 11.53 | \$55,377.39 | 417 | 240 | 157 | 85 | 73 | 95 | 69 | 21 |
| 2012 TotallAvg | 1,196 | 43.93 | 11.77 | \$55,951.40 | 468 | 216 | 154 | 76 | 102 | 85 | 69 | 26 |

Actuarial Valuation Report as at December 31, 2013
Pension Liabilities of Manitoba Public Insurance

## - Deferred Pensioners

| MALES <br> Age | Average Monthly |  |  |  | Average Monchly Cola Pension |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Count |  | Pension | Count |  |  |
| 15.19 | - | \$ | - | - | \$ | - |
| 20-24 | - |  | - | - |  | - |
| 25-29 | I |  | 161.43 | - |  | - |
| 30.34 | 4 |  | 845.81 | - |  | - |
| 35-39 | 6 |  | 405.41 | - |  | - |
| 40.44 | 12 |  | 795.05 | - |  | - |
| 45-49 | 13 |  | 218.01 | - |  | - |
| 50. 54 | 19 |  | 466.50 | - |  | - |
| 55-59 | 10 |  | 269.78 | - |  | - |
| 60-64 | 4 |  | 242.09 | - |  | * |
| 65-69 | - |  | - | - |  | - |
| 70.74 | - |  | - | - |  | - |
| 2013 Total/Avg | 69 | \$ | 447.56 | - | \$ | - |
| 2012 Total/Avg | 75 | \$ | 571.71 | - | \$ | - |

DEFERREDS- MALES 3I-DEC-2012

| MALES <br> Age | Average Monthly |  |  |  | Average Monthly Cola Pension |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Count |  | Pension | Count |  |  |
| 15.19 | - | \$ | - | - | \$ | - |
| 20-24 | 2 |  | 10.36 | - |  | - |
| 25-29 | 5 |  | 90.79 | - |  | - |
| 30-34 | 3 |  | 337.87 | - |  | - |
| 35.39 | 7 |  | 272.77 | - |  | - |
| 40.44 | 10 |  | 422.58 | - |  | - |
| 45-49 | 12 |  | 457.44 | - |  | - |
| 50-54 | 25 |  | 965.75 | - |  | - |
| 55.59 | 8 |  | 549.08 | - |  | - |
| 60.64 | 3 |  | 301.60 | - |  | - |
| 65.69 | - |  | - | - |  | - |
| 70.74 | - |  | - | - |  | - |
| 2012 Tocal/Avg | 75 | \$ | 571.71 | - | \$ | - |
| 2011 Total/Avg | 71 | \$ | 578.17 | . | \$ | - |


| FEMAIES Age | Average Monthly |  |  |  | Average Monthly Cola Pension |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Count |  | c Pension | Count |  |  |
| 15-19 | - | \$ | - | - | \$ | * |
| 20-24 | - |  | - | - |  | - |
| 25.29 | 2 |  | 1.420.24 | - |  | - |
| $30 \cdot 34$ | 5 |  | 1.315 .03 | - |  | - |
| 35-39 | 14 |  | 765.96 | - |  | - |
| $40 \cdot 44$ | 8 |  | 853.61 | - |  | - |
| 45-49 | 20 |  | 438.93 | - |  | - |
| 50-54 | 20 |  | 782.56 | - |  | - |
| 55-59 | 20 |  | 507.25 | - |  | - |
| 60.64 | 3 |  | 320.36 | - |  | - |
| 65-69 | - |  | - | - |  | - |
| 70.74 | - |  | - | - |  | - |
| 2013 Total/Avg | 92 | \$ | 679.39 | - | \$ | - |
| 2012 Total/Avg | 105 | \$ | 541.95 | - | \$ | - |


| FEMALES Age | Count | Average Monthly Basic Pension |  | Count | Average Monthly Cola Pension |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15.19 | - | \$ | - | - | \$ | - |
| 20-24 | - |  | - | - |  | - |
| 25-29 | 8 |  | 59.51 | - |  | - |
| 30-34 | 8 |  | 254.51 | - |  | - |
| 35.39 | 14 |  | 253.65 | - |  | - |
| 40-44 | 10 |  | 263.58 | * |  | - |
| 45-49 | 22 |  | 741.55 | - |  | - |
| 50-54 | 20 |  | 1,025.88 | - |  | - |
| 55-59 | 21 |  | 500.07 | - |  | - |
| 60-64 | 2 |  | 436.26 | - |  | - |
| 65-69 | - |  | - | - |  | - |
| 70.74 | - |  | - | - |  | - |
| 2012 Total/Avg | 105 | \$ | 541.95 | - | \$ | - |
| 2011 Total/Avg | 101 | \$ | 482.95 | - | \$ | - |

Actuarial Valuation Report as at December 31, 2013
Pension Liabilities of Manitoba Public Insurance

## - Pensions in Payment

| MALES <br> Age | Average Monthly |  |  |  | Average Monthly Cola Pension |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Count |  | Penslon | Count |  |  |
| 40-44 | - | \$ | - | - | \$ | . |
| 45-49 | 1 |  | 925.72 | 1 |  | 130.11 |
| 50-54 | 1 |  | 2.981 .89 | - |  | - |
| 55.59 | 79 |  | 2,136.94 | 64 |  | 49.85 |
| 60.64 | 111 |  | 2.506 .50 | 102 |  | 103.52 |
| 65-69 | 85 |  | 1,925.55 | 83 |  | 126.80 |
| 70-74 | 47 |  | 1,590.61 | 47 |  | 151.63 |
| 75-79 | 26 |  | 1.524 .87 | 26 |  | 159.34 |
| 80.84 | 18 |  | 959.79 | 18 |  | 223.19 |
| 85.89 | 6 |  | 710.88 | 6 |  | 108.04 |
| 90-94 | 6 |  | 562.66 | 6 |  | 66.53 |
| 95-99 | - |  |  | - |  | - |
| 2013 Totallavg | 380 | \$ | 1,984.06 | 353 | \$ | 184.89 |
| 2012 Total/Avg | 364 | \$ | 1.933 .56 | 322 | \$ | 193.89 |

PENSIONERS \& SURVIVORS- MALES 3I-DEC-2012

| MALES <br> Age | Average Monthly |  |  |  | Average Monthly Cola Pension |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Count | Baslc Pension |  | Count |  |  |
| 40-44 | - | \$ | - | - | \$ | - |
| 45.49 | 1 |  | 925.71 | 1 |  | - |
| 50.54 | 1 |  | 47.31 | - |  | - |
| S5. 59 | 84 |  | 2.074 .97 | 59 |  | 42.31 |
| 60.64 | 100 |  | 2,523.15 | 92 |  | 94.95 |
| 65-69 | 83 |  | 1,800.25 | 77 |  | 136.05 |
| 70.74 | 37 |  | 1.718 .29 | 36 |  | 132.62 |
| 75.79 | 27 |  | 1,386.43 | 26 |  | 229.13 |
| 80.84 | 20 |  | 909.30 | 20 |  | 233.33 |
| 85-89 | 4 |  | 1.034.89 | 4 |  | 197.38 |
| 90-94 | 7 |  | 496.49 | 7 |  | 128.22 |
| 95-99 | - |  |  | - |  | - |
| 2012 Toual/Avg | 364 | \$ | 1,933.56 | 322 | \$ | 193.89 |
| 2011 Tocal/Avg | 381 | \$ | 1,903.98 | 351 | \$ | 192.33 |


| FEMALES Age | Average Monthly |  |  |  | Average Monthly Cola Pension |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Count | Baslc Pension |  | Count |  |  |
| 40.44 | - | \$ | - | - | \$ | - |
| 45.49 | 1 |  | 162.59 | 1 |  | - |
| 50-54 | 3 |  | 615.50 | 2 |  | 32.69 |
| 55-59 | 79 |  | 1,689.27 | 59 |  | 46.13 |
| 60-64 | 106 |  | 1,339.32 | 91 |  | 35.83 |
| 65.69 | 72 |  | 847.76 | 70 |  | 34.92 |
| 70-74 | 39 |  | 832.63 | 39 |  | 44.18 |
| 75-79 | 19 |  | 614.96 | 19 |  | 66.20 |
| 80-84 | 17 |  | 636.72 | 17 |  | 156.22 |
| 85-89 | 15 |  | 577.46 | 15 |  | 76.95 |
| 90.94 | 6 |  | 430.61 | 6 |  | 240.07 |
| 95.99 | 3 |  | 582.75 | 3 |  | 104.33 |
| 2013 Total/Avg | 360 | \$ | 1,129.01 | 322 | \$ | 101.34 |
| 2012 Total/Avg | 324 | \$ | 1,054.03 | 287 | \$ | 106.11 |

PENSIONERS \& SURVIVORS. FEMALES 3I-DEC-2012

| FEMALES <br> Age | Count | Average Monthly <br> Basce Penslon |  | Count | Average Monthly Cola Pension |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 40.44 | 1 | \$ | 162.58 | I | \$ | - |
| 45.49 | 1 |  | 760.95 | 1 |  | 182.64 |
| 50.54 | 4 |  | 1,024.26 | 3 |  | 170.02 |
| 55-59 | 82 |  | 1,505.04 | 62 |  | 49.47 |
| 60-64 | 88 |  | 1,190.38 | 78 |  | 44.02 |
| 65-69 | 66 |  | 840.29 | 63 |  | 36.70 |
| 70.74 | 32 |  | 749.38 | 30 |  | 66.88 |
| 75-79 | 22 |  | 693.50 | 22 |  | 19.11 |
| 80.84 | 11 |  | 477.06 | 11 |  | 45.37 |
| 85.89 | 11 |  | 552.02 | 11 |  | 66.77 |
| 90-94 | 4 |  | 508.56 | 3 |  | - |
| 95.99 | 2 |  | 135.02 | 2 |  | 10.22 |
| 2012 Total/Avg | 324 | \$ | 1.054 .03 | 287 | \$ | 106.11 |
| 2011 Total/Avg | 250 | \$ | 1,314.27 | 214 | \$ | 98.61 |

## Notes:

I. Both the pension amounts and cost-of-living (cola) amounts shown in the above table are the total amounts paid.
2. Counts are based on the primary pensioner sex.
3. The counts shown reflect employees who are with another employer but have service that is the responsibility of Manitoba Public Insurance.

## APPENDIX II

## Summary of Actuarial Assumptions

|  |  | 31-Dec-2013 | 31-Dec-2012 |
| :---: | :---: | :---: | :---: |
| 1. | Annual Rate of Return on the Assets of the CSSF | 4.20\% | 3.90\% |
|  | Annual Rate of Inflation Included in Rate of Return | 2.00\% | same |
| 2. | General Salary Increases (service and merit is separate and age specific) | $0.00 \%$ for 0.75 years, $2.75 \%$ for 2.00 years, 2.50\% thereafter | $0.00 \%$ for 1.75 years, 2.75\% for 2.00 years, 2.50\% thereafter |
| 3. | Annual Salary Merit Increases | increased 0.50\% (2009) see TABLE | same |
| 4. | Indexing of Pensions (2/3 of the assumed rate of inflation) | 1.33\% | same |
| 5. | Annual Increase in Earnings under Canada Pension Plan | same as general salary increases | same |
| 6. | Annual Increase in Maximum Pension under Income Tax Act | $\begin{gathered} \text { 2014: } \$ 2,770.00 \\ \text { Indexed } \geq \text { same as } 5 . \\ \text { above } \end{gathered}$ | $\begin{gathered} 2013: \$ 2,696.67 \\ \text { Indexed } \geq 2014: \text { same as } 5 . \\ \text { above } \end{gathered}$ |
| 7. | Annual Rate of Interest Credited to Employee Contributions | 2.20\% | 1.90\% |
| 8. | Employer's Portion of Administrative Costs - \% of Employee Contributions | 0.00\% | same |
| 9. | Annual Rates of Death | UPI994 Generational Mortality using Scale AA (see TABLE) | same |
| 10. | Proportion of Employees with a Spouse | see TABLE | same |
| 11. | Annual Rates of Termination of Service | see TABLE | same |
| 12. | Annual Rates of Disability | see TABLE | same |
| 13. | Annual Rates of Retirement | see TABLE | same |

Actuarial Valuation Report as at December 3I, 2013
Pension Liabilities of Manitoba Public Insurance

|  | Mortality-UP1994* |  | Termination |  | Disability |  | Retirement |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | Males | Females | Males | Females | Males | Females | Males | Females |
| 20 | 0.03\% | 0.02\% | 10.15\% | 12.60\% | - | - | - | - |
| 25 | 0.05 | 0.02 | 6.60 | 9.20 | - | - | - | - |
| 30 | 0.08 | 0.03 | 4.63 | 6.88 | - | - | - | - |
| 35 | 0.08 | 0.04 | 3.39 | 5.31 | 0.01\% | 0.01\% | - | - |
| 40 | 0.09 | 0.05 | 2.58 | 4.26 | 0.04 | 0.06 | - | - |
| 45 | 0.12 | 0.07 | 2.06 | 3.64 | 0.09 | 0.13 | - | - |
| 50 | 0.17 | 0.10 | 1.71 | 3.22 | 0.23 | 0.30 | - | - |
| 55 | 0.29 | 0.20 | - | - | 0.66 | 0.76 | 24.86\% | 24.49\% |
| 60 | 0.56 | 0.42 | - | - | - | - | 27.10 | 21.45 |
| 65 | 1.08 | 0.82 | - | - | - | - | 100.00 | 100.00 |
| 70 | 1.72 | 1.30 | - | - | - | - | - | - |
| 75 | 2.77 | 1.98 | - | - | - | - | - | - |
| 80 | 5.14 | 3.53 | - | - | - | - | - | - |
| 85 | 8.71 | 6.23 | - | - | - | - | - | - |
| 90 | 14.82 | 11.56 | - | - | - | - | - | - |
| 95 | 23.84 | 19.01 | - | - | - | - | - | - |
| 100 | 33.24 | 28.96 | - | - | - | - | - | - |

*UPI994 Generational Mortality Projected using Scale AA (UP2020 shown).

| Age | Service and Merit |  | Married Proportions |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Males | Females | Males | Females |
| 20 | 3.41\% | 3.41\% | 33.00\% | 35.00\% |
| 25 | 2.90 | 2.90 | 69.00 | 55.00 |
| 30 | 2.40 | 2.40 | 90.00 | 68.40 |
| 35 | 1.89 | 1.89 | 92.70 | 70.50 |
| 40 | 1.37 | 1.37 | 93.30 | 70.00 |
| 45 | 0.94 | 0.94 | 93.50 | 67.80 |
| 50 | 0.70 | 0.70 | 90.00 | 71.00 |
| 55 | - | - | 90.00 | 71.00 |
| 60 | - | - | 90.00 | 71.00 |
| 65 | - | - | 90.00 | 71.00 |

Plus allowance for use of accrued vacation in calculation of average annual salary at date of retirement: $3.45 \%$.

Actuarial Valuation Report as at December 3I, 2013
Pension Liabilities Manitoba Public Insurance

## APPENDIX III

## Projection of M.P.I. Pension Liabilities for 2013

|  | Actuarial Liabilities as at 31-Dec-2012 | \$ 283,086,600 |
| :---: | :---: | :---: |
|  | Interest on liabilities and cash flow (3.90\%) | 11,112,600 |
|  | Current Service Cost for Active Members | 12,723,000 |
| 4. | Employer Benefit Payments | $(9,019,000)$ |
| 5. | Projected Liabilities as at 31-Dec-2013 | \$ 297,903,200 |
| 6. | ACTUAL LIABILITIES as at $31-$ Dec-2013 before change in economic assumptions | \$ 297,978,600 |
| 7. | ACTUAL LIABILITIES as at 31-Dec-2013 after change in economic assumptions | \$ 282,647,500 |
|  | GAIN/(LOSS) due to actual experience: [5] - [6] | \$ $(75,400)$ |
|  | GAIN/(LOSS) due to change in assumptions: [6] - [7] | 15,331,100 |
|  | NET GAIN/(LOSS) | \$ 15,255,700 |

Airport Executive Centre
503 - 1780 Wellington Avenue
Winnipeg, Manitoba
Canada R3H 1B3

## PUB (MPI) 1-29

## Reference: II. 13 Interest Rate Forecasting

a) Please discuss the merits of implementing an Olympic forecasting methodology to eliminate the high and low forecasts from each quarter.
b) Please discuss how the Corporation adjusted the forecast information prepared on a quarterly calendar basis to a fiscal year end basis. Please provide detailed calculations and a description of the process followed.

## RESPONSE:

a) Please see Volume II Investment Income, Section II.1.3 on Interest Rate Methodology. The interest rate methodology used in this rate application is the simple average forecast with no further adjustments. On page 16, it states "Armstrong (2001) suggests using at least five sources when combining forecasts when possible. MPI uses 6 sources..." If Olympic forecasting was used, it would reduce the number of forecasts used to four forecasts, which is lower than the minimum recommended number of five forecasts.
b) Please see the last paragraph on page 17 of Volume II Investment Income for a description of the adjustment.

## PUB (MPI) 1-30

## Reference: II. 13 Appendix 1 Inflation Rate Forecast

Please explain how the Province of Manitoba determines its CPI forecast and indicate the extent to which it utilizes any of the forecasts used by MPI.

## RESPONSE:

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-31 Reference: PFT of Dan Guimond, p. 21

How will the CLEAR system respond to the expected emergence of 250 new makes and models between 2014 and 2016 as the auto manufacturers respond to the pressure to meet fuel emission standards legislation with new technologies and materials?

## RESPONSE:

The Corporation contacted the Insurance Bureau of Canada (IBC) directly in regards to this question. IBC stated that it is very difficult to estimate how a new feature will affect the risk of the vehicle. For that reason, they do not estimate for new features until enough vehicles are on the road to be able to compare with and without the feature.

## PUB (MPI) 1-32 Reference: RM.2.2

Please provide each of the rate line regression analyses with the customary regression diagnostics and graphical representations.

## RESPONSE:

For the data, diagnostics and graph, please see the attachments.

## PUB 1-32 Attachment (a1) Passenger Vehicle Rate Line Analysis Data Used.

Note:

1) 5 year unit and loss data used (ie. Loss insurance years 2009-2013)
2) PD losses include collision and comprehensive losses, excludes 2009 hail catastrophe losses.

| Rate Group | PD Losses | Units | Minimum Bias Actual Relativity | Fitted Relativity |
| :---: | :---: | :---: | :---: | :---: |
| 0 | 191,389.19 | 3,965 | 0.1210 | 0.1210 |
| 1 | 1,767,877.05 | 26,178 | 0.1652 | 0.1752 |
| 2 | 2,992,466.37 | 31,911 | 0.2206 | 0.2116 |
| 3 | 3,818,108.46 | 32,004 | 0.2726 | 0.2480 |
| 4 | 4,024,114.88 | 31,245 | 0.2902 | 0.2843 |
| 5 | 3,848,819.35 | 26,885 | 0.3208 | 0.3207 |
| 6 | 4,751,824.60 | 29,584 | 0.3568 | 0.3571 |
| 7 | 4,791,894.42 | 26,869 | 0.3955 | 0.3935 |
| 8 | 5,514,114.71 | 28,340 | 0.4273 | 0.4299 |
| 9 | 6,437,590.38 | 31,123 | 0.4545 | 0.4663 |
| 10 | 7,076,353.48 | 30,614 | 0.5034 | 0.5026 |
| 11 | 8,194,267.24 | 36,819 | 0.4867 | 0.4957 |
| 12 | 10,776,542.08 | 43,623 | 0.5383 | 0.5365 |
| 13 | 13,434,353.71 | 47,899 | 0.6038 | 0.6038 |
| 14 | 15,880,079.94 | 54,613 | 0.6257 | 0.6182 |
| 15 | 18,277,341.97 | 59,075 | 0.6656 | 0.6590 |
| 16 | 19,907,967.97 | 63,116 | 0.6780 | 0.6999 |
| 17 | 24,730,353.06 | 71,888 | 0.7387 | 0.7407 |
| 18 | 30,230,128.14 | 84,846 | 0.7650 | 0.7815 |
| 19 | 37,274,861.01 | 97,605 | 0.8183 | 0.8224 |
| 20 | 43,392,315.47 | 108,741 | 0.8518 | 0.8632 |
| 21 | 49,316,099.19 | 117,155 | 0.8977 | 0.9040 |
| 22 | 49,055,329.97 | 108,144 | 0.9614 | 0.9449 |
| 23 | 58,011,357.71 | 123,175 | 0.9959 | 0.9857 |
| 24 | 62,662,211.14 | 128,603 | 1.0287 | 1.0265 |
| 25 | 76,330,597.53 | 146,410 | 1.0995 | 1.0872 |
| 26 | 82,077,651.56 | 147,429 | 1.1730 | 1.1548 |
| 27 | 86,733,469.72 | 147,363 | 1.2323 | 1.2223 |
| 28 | 92,532,667.06 | 153,326 | 1.2569 | 1.2899 |
| 29 | 95,181,417.33 | 148,809 | 1.3265 | 1.3574 |
| 30 | 109,242,874.01 | 158,436 | 1.4185 | 1.4250 |
| 31 | 101,139,905.64 | 137,252 | 1.5116 | 1.4925 |
| 32 | 66,882,638.44 | 88,861 | 1.5445 | 1.5601 |
| 33 | 37,461,786.87 | 46,345 | 1.6541 | 1.6277 |
| 34 | 14,846,831.88 | 15,806 | 1.9189 | 1.6952 |
| 35 | 9,641,430.02 | 9,803 | 1.9845 | 1.7628 |

# PUB 1-32 Attachment (a2) Passenger Vehicle Property Damage Diagnostics 

## Part 1:

| Dependent Variable: | Passenger Vehicle Property Damage Relativities |
| :--- | :--- |
| Independent Variable: | Rate Group |
| Method: | Least Squares |
| Model: | $\mathrm{y}=0.1388+0.0364 \mathrm{x}$ (for rate group 0-10) |

SUMMARY OUTPUT

| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.995611115 |
| R Square | 0.991241492 |
| Adjusted R Square | 0.990268324 |
| Standard Error | 0.01195555 |
| Observations | 11 |

ANOVA

|  | $d f$ | SS | $M S$ | $F$ | Significance $F$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Regression |  | 1 | 0.14558979 | 0.14558979 | 1018.57222 |$] 1.42981 \mathrm{E}-10$


|  | Coefficients | Standard Error | $t$ Stat | $P$-value |
| :--- | ---: | ---: | ---: | :--- |
| Intercept | 0.138826481 | 0.00674384 | 20.58567392 | $7.03788 \mathrm{E}-09$ |
| X Variable 1 | 0.036380538 | 0.001139917 | 31.91507825 | $1.42981 \mathrm{E}-10$ |

## PUB 1-32 Attachment (a2) Passenger Vehicle Property Damage Diagnostics

## Part 2:

| Dependent Variable: | Passenger Vehicle Property Damage Relativities |
| :--- | :--- |
| Independent Variable: | Rate Group |
| Method: | Least Squares |
| Model: | $y=0.0465+0.0408 x$ (for rate group 11-24) |


| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.997105984 |
| R Square | 0.994220344 |
| Adjusted R Square | 0.993738705 |
| Standard Error | 0.013556154 |
| Observations | 14 |

ANOVA

|  | $d f$ | $S S$ | $M S$ | $F$ | Significance $F$ |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Regression |  | 1 | 0.379345441 | 0.379345441 | 2064.247969 | $8.42952 \mathrm{E}-15$ |
| Residual |  | 12 | 0.002205232 | 0.000183769 |  |  |
| Total | 13 | 0.381550673 |  |  |  |  |
|  | Coefficients | Standard Error | t Stat | $P$-value |  |  |
|  | 0.046518339 | 0.016140265 | 2.882129806 | 0.013776007 |  |  |
| Intercept | 0.040834452 | 0.000898764 | 45.43399574 | $8.42952 \mathrm{E}-15$ |  |  |
| X Variable 1 |  |  |  |  |  |  |

## Part 3:

Dependent Variable: Passenger Vehicle Property Damage Relativities
Independent Variable: Rate Group
Method: Least Squares
Model: $\quad y=-0.6016+0.0676 x$ (for rate group 25-33)
SUMMARY OUTPUT

| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.992820069 |
| R Square | 0.98569169 |
| Adjusted R Square | 0.983647646 |
| Standard Error | 0.02382838 |
| Observations | 9 |

ANOVA

|  | $d f$ |  | SS | MS | $F$ | Significance $F$ |
| :--- | :---: | ---: | ---: | ---: | ---: | ---: |
| Regression |  | 1 | 0.27380404 | 0.27380404 | 482.2262031 | $1.02547 E-07$ |
| Residual | 7 | 0.003974542 | 0.000567792 |  |  |  |
| Total | 8 | 0.277778582 |  |  |  |  |


|  | Coefficients | Standard Error | $t$ Stat | $P$-value |
| :--- | :---: | ---: | ---: | ---: |
| Intercept | -0.601595572 | 0.089563581 | -6.716966469 | 0.000273149 |
| X Variable 1 | 0.067552947 | 0.003076231 | 21.95964943 | $1.02547 \mathrm{E}-07$ |

Manitoba Public Insurance


July 31, 2014

## PUB 1-32 Attachment (b1) <br> Light Truck Rate Line Analysis Data Used.

Note:

1) 5 year unit and loss data used (ie. Loss insurance years 2009-2013)
2) PD losses include collision and comprehensive losses, excludes

2009 hail catastrophe losses.

| Rate Group | PD Losses | Units | Mininum Bias Actual Relativity | Fitted Relativity |
| :---: | :---: | :---: | :---: | :---: |
| 0 | 475,460.20 | 21,400 | 0.0718 | 0.0718 |
| 1 | 5,042,471.09 | 90,369 | 0.1665 | 0.1633 |
| 2 | 2,676,773.32 | 29,568 | 0.2617 | 0.2307 |
| 3 | 1,463,300.04 | 14,405 | 0.2921 | 0.2893 |
| 4 | 1,723,366.93 | 15,072 | 0.3281 | 0.3391 |
| 5 | 1,272,213.58 | 9,898 | 0.3638 | 0.3801 |
| 6 | 1,987,724.91 | 14,258 | 0.3922 | 0.4123 |
| 7 | 2,621,660.71 | 15,883 | 0.4627 | 0.4357 |
| 8 | 2,070,139.90 | 13,030 | 0.4440 | 0.4503 |
| 9 | 2,277,860.29 | 13,868 | 0.4595 | 0.4561 |
| 10 | 2,362,631.32 | 13,632 | 0.4819 | 0.5001 |
| 11 | 2,392,659.95 | 12,145 | 0.5482 | 0.5317 |
| 12 | 2,206,375.47 | 10,942 | 0.5546 | 0.5633 |
| 13 | 4,008,290.39 | 18,036 | 0.6189 | 0.5949 |
| 14 | 2,857,412.60 | 11,795 | 0.6685 | 0.6265 |
| 15 | 2,080,325.80 | 9,122 | 0.6167 | 0.6581 |
| 16 | 3,074,493.65 | 12,797 | 0.6614 | 0.6897 |
| 17 | 3,199,088.84 | 11,551 | 0.7520 | 0.7213 |
| 18 | 3,060,936.49 | 11,596 | 0.7115 | 0.7529 |
| 19 | 3,295,451.38 | 10,041 | 0.8757 | 0.7845 |
| 20 | 4,553,471.86 | 16,369 | 0.7586 | 0.8586 |
| 21 | 5,828,733.98 | 16,386 | 0.9619 | 0.9174 |
| 22 | 6,568,565.10 | 18,590 | 0.9553 | 0.9762 |
| 23 | 8,234,077.09 | 21,916 | 1.0148 | 1.0350 |
| 24 | 10,101,227.41 | 24,322 | 1.1168 | 1.0938 |
| 25 | 12,773,342.75 | 30,005 | 1.1532 | 1.1525 |
| 26 | 13,570,824.16 | 28,222 | 1.2964 | 1.2113 |
| 27 | 17,619,426.99 | 38,645 | 1.2339 | 1.2701 |
| 28 | 17,681,161.10 | 35,488 | 1.3368 | 1.3289 |
| 29 | 18,366,265.05 | 35,818 | 1.3701 | 1.3877 |
| 30 | 41,766,222.07 | 72,094 | 1.5471 | 1.4464 |
| 31 | 48,968,519.65 | 79,683 | 1.6365 | 1.5052 |
| 32 | 38,135,767.02 | 63,809 | 1.5817 | 1.5640 |
| 33 | 25,606,463.87 | 44,772 | 1.5150 | 1.6228 |
| 34 | 9,840,498.18 | 17,000 | 1.5214 | 1.6816 |
| 35 | 12,821,939.14 | 18,815 | 1.7924 | 1.7403 |

# PUB 1-32 Attachment (b2) Light Truck Property Damage Diagnostics 

## Part 1:

| Dependent Variable: | Light Truck Property Damage Relativities |
| :--- | :--- |
| Independent Variable: | Rate Group |
| Method: | Least Squares |
| Model: | $y=-0.0044 x^{2}+0.0806 x+0.0871$ (for rate groups 0-8) |

SUMMARY OUTPUT

| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.989408252 |
| R Square | 0.978928689 |
| Adjusted R Square | 0.805238252 |
| Standard Error | 0.021468624 |
| Observations | 9 |

ANOVA

|  | $d f$ |  | SS | MS | $F$ | Significance $F$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Regression |  | 3 | 0.128475157 | 0.042825052 | 139.3736775 | $3.0793 E-05$ |
| Residual |  | 6 | 0.002765411 | 0.000460902 |  |  |
| Total | 9 | 0.131240568 |  |  |  |  |


|  | Coefficients | Standard Error | $t$ Stat | $P$-value |
| :--- | ---: | ---: | ---: | ---: |
| Intercept | 0.087143087 | 0.017449198 | 4.994102649 | 0.002466789 |
| XVariable 1 | 0.080648321 | 0.010171209 | 7.929078863 | 0.000213764 |
| X Variable 2 | -0.004434842 | 0.001223288 | -3.625345043 | 0.011026393 |

## PUB 1-32 Attachment (b2)

## Light Truck Property Damage Diagnostics

## Part 2:

| Dependent Variable: | Light Truck Property Damage Relativities |
| :--- | :--- |
| Independent Variable: | Rate Group |
| Method: | Least Squares |
| Model: | $y=0.184+0.0316 x$ (for rate groups 9-20) |
| SUMMARY OUTPUT |  |


| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.936865149 |
| R Square | 0.877716308 |
| Adjusted R Square | 0.865487939 |
| Standard Error | 0.044612564 |
| Observations | 12 |

ANOVA

|  | $d f$ |  | SS | MS | $F$ |
| :--- | :---: | ---: | :---: | :---: | :---: |
| Regression |  | 1 | 0.142856494 | 0.142856494 | 71.77705346 |
| Residual |  | 10 | 0.019902808 | 0.001990281 |  |
| Total | 11 | 0.162759302 |  |  |  |
|  |  |  |  |  |  |
|  | Coefficients | Standard Error | $t$ Stat | $P$-value |  |
| Intercept | 0.183988743 | 0.055606891 | 3.308740002 | 0.007896101 |  |
| XVariable 1 | 0.031606905 | 0.00373069 | 8.472133938 | $7.10134 \mathrm{E}-06$ |  |

## Part 3:

Dependent Variable: Light Truck Property Damage Relativities
Independent Variable: Rate Group
Method: Least Squares
Model: $\quad y=-0.317+0.0588 x$ (for rate groups 21-35)

## SUMMARY OUTPUT

| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.963789746 |
| R Square | 0.928890675 |
| Adjusted R Square | 0.923811437 |
| Standard Error | 0.080147711 |
| Observations | 16 |

ANOVA

|  | $d f$ |  | SS | MS | $F$ | Significance $F$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Regression |  | 1 | 1.174757767 | 1.174757767 | 182.8799444 | $1.98872 \mathrm{E}-09$ |
| Residual |  | 14 | 0.089931178 | 0.006423656 |  |  |
| Total | 15 | 1.264688945 |  |  |  |  |


|  | Coefficients | Standard Error | $t$ Stat | $P$-value |
| :--- | ---: | ---: | ---: | ---: |
| Intercept | -0.316981546 | 0.121199789 | -2.615363854 | 0.020359047 |
| X Variable 1 | 0.058780693 | 0.00434662 | 13.52331115 | $1.98872 \mathrm{E}-09$ |

PUB 1-32 Attachment (b3)
Light Truck Relativity Regression


July 31, 2014

## PUB 1-32 Attachment (c1) Heavy Truck Rate Line Analysis Data Used.

Note:

1) 5 year unit and loss data used (ie. Loss insurance years 2009-2013)
2) PD losses include collision and comprehensive losses, excludes 2009 hail catastrophe losses.

| Rate Group | PD Losses | Units | Mininum Bias <br> Actual Relativity | Fitted <br> Relativity |
| :---: | ---: | ---: | ---: | ---: |
|  |  |  |  |  |
| 1 | $4,901,559.12$ | 63,479 |  |  |
| 2 | $608,669.11$ | 3,669 | 0.3902 | 0.4186 |
| 3 | $773,043.35$ | 3,625 | 0.6908 | 0.5946 |
| 4 | $887,088.54$ | 3,626 | 1.0989 | 0.9467 |
| 5 | $1,082,848.64$ | 3,575 | 1.2800 | 1.1228 |
| 6 | $1,007,559.55$ | 3,466 | 1.2327 | 1.2989 |
| 7 | $898,181.49$ | 3,371 | 1.1355 | 1.4749 |
| 8 | $1,139,252.75$ | 3,352 | 1.4564 | 1.6510 |
| 9 | $1,607,234.06$ | 3,598 | 1.9215 | 1.8270 |
| 10 | $1,756,299.46$ | 3,829 | 1.9809 | 2.0031 |
| 11 | $1,790,799.23$ | 3,892 | 2.0065 | 2.1791 |
| 12 | $2,004,765.09$ | 3,625 | 2.4486 | 2.3552 |
| 13 | $1,890,992.13$ | 3,094 | 2.7227 | 2.5312 |
| 14 | $1,666,679.14$ | 2,730 | 2.7618 | 2.7073 |
| 15 | $1,494,131.82$ | 2,531 | 2.6910 | 2.8833 |
| 16 | $1,293,226.84$ | 2,192 | 2.7177 | 3.0594 |
| 17 | $589,597.56$ | 708 | 3.7022 | 3.2354 |

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## PUB 1-32 Attachment (c2) <br> Heavy Truck Property Damage Diagnostics

| Dependent Variable: | Heavy Truck Property Damage Relativities |
| :--- | :--- |
| Independent Variable: | Rate Group |
| Method: | Least Squares |
| Model: | $y=0.2425+0.1760 x$ (for rate groups 1-17) |


| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.974414048 |
| R Square | 0.949482736 |
| Adjusted R Square | 0.946114919 |
| Standard Error | 0.21178981 |
| Observations | 17 |

ANOVA
$\left.\begin{array}{lrrrrr}\hline & d f & & \text { SS } & M S & F \\ \hline \text { Regression } & & 1 & 12.64586765 & 12.64586765 & 281.9281959\end{array}\right]$ Significance $F$ 3.91171E-11

|  | Coefficients | Standard Error | $t$ Stat | $P$-value |
| :--- | ---: | ---: | ---: | ---: |
| Intercept | 0.242534486 | 0.107440898 | 2.257375837 | 0.039326576 |
| X Variable 1 | 0.176053326 | 0.010485158 | 16.79071755 | $3.91171 \mathrm{E}-11$ |

PUB 1-32 Attachment (c3)
Heavy Truck Relativity Regression


## PUB 1-32 Attachment (d1) Motor Home Rate Line Analysis Data Used.

Note:

1) 5 year unit and loss data used (ie. Loss insurance years 2009-2013)
2) PD losses include collision and comprehensive losses, excludes 2009 hail catastrophe losses.

| Rate Group | PD Losses | Units | Mininum Bias <br> Actual Relativity | Fitted <br> Relativity |
| :---: | ---: | ---: | ---: | ---: |
|  |  |  |  |  |
| 0 | $43,481.43$ | 1,084 |  |  |
| 1 | $242,041.32$ | 2,084 | 0.1119 | 0.1225 |
| 2 | $632,933.55$ | 3,398 | 0.3212 | 0.5180 |
| 3 | $547,430.69$ | 2,244 | 0.5165 | 0.7090 |
| 4 | $545,410.62$ | 1,569 | 0.6773 | 0.9045 |
| 5 | $467,901.56$ | 1,184 | 0.9623 | 1.1000 |
| 6 | $483,220.19$ | 780 | 1.0861 | 1.2955 |
| 7 | $291,298.08$ | 534 | 1.7024 | 1.4910 |
| 8 | $250,705.93$ | 505 | 1.5039 | 1.6865 |
| 9 | $148,873.13$ | 312 | 1.3634 | 1.8820 |
| 10 | $2,519,259.76$ | 3,364 | 1.3263 | 2.0775 |

## PUB 1-32 Attachment (d2) <br> Motor home Property Damage Diagnostics

| Dependent Variable: | Motor Home Property Damage Relativities |
| :--- | :--- |
| Independent Variable: | Rate Group |
| Method: | Least Squares |
| Model: | $y=0.1225+0.1955 x$ (for rate groups $0-5,10$ ) |

SUMMARY OUTPUT

| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.99906122 |
| R Square | 0.998123321 |
| Adjusted R Square | 0.997747985 |
| Standard Error | 0.030733795 |
| Observations | 7 |

ANOVA

|  | $d f$ |  | SS | MS | $F$ | Significance $F$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Regression |  | 1 | 2.511866683 | 2.511866683 | 2659.280858 | $5.18376 \mathrm{E}-08$ |
| Residual | 5 | 0.004722831 | 0.000944566 |  |  |  |
| Total | 6 | 2.516589513 |  |  |  |  |


|  | Coefficients | Standard Error | t Stat | $P$-value |
| :--- | ---: | ---: | ---: | ---: |
| Intercept | 0.122510737 | 0.01784034 | 6.867062966 | 0.001001179 |
| X Variable 1 | 0.195509739 | 0.003791284 | 51.56821558 | $5.18376 \mathrm{E}-08$ |

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PUB 1-32 Attachment (d3) Motor home Relativity Regression


## PUB 1-32 Attachment (e1) Trailer Rate Line Analysis Data Used.

## Note:

1) 5 year unit and loss data used (ie. Loss insurance years 2009-2013)
2) PD losses include collision and comprehensive losses, excludes 2009 hail catastrophe losses.

| Rate Group | PD Losses | Units | Mininum Bias <br> Actual Relativity | Fitted <br> Relativity |
| :---: | ---: | ---: | ---: | ---: |
| 1 | $2,294,001.51$ |  |  |  |
| 2 | $2,780,886.04$ | 108,323 | 0.2204 | 0.2204 |
| 3 | $3,589,656.55$ | 53,768 | 0.5315 | 0.5550 |
| 4 | $2,484,502.00$ | 39,832 | 0.9250 | 0.8962 |
| 5 | $2,925,957.65$ | 20,838 | 1.2211 | 1.2375 |
| 6 | $2,154,461.16$ | 18,882 | 1.5855 | 1.5787 |
| 7 | $2,626,497.44$ | 11,562 | 1.9175 | 1.9532 |
| 8 | $3,256,920.93$ | 14,085 | 1.9245 | 2.0408 |
| 9 | $3,268,743.03$ | 16,181 | 2.0985 | 2.1283 |
| 10 | $1,901,762.07$ | 14,043 | 2.4191 | 2.2158 |
| 11 | $1,251,220.65$ | 8,268 | 2.4030 | 2.3034 |
| 12 | $533,323.45$ | 5,224 | 2.4965 | 2.3909 |
| 13 | $1,755,989.05$ | 2,480 | 2.2516 | 2.4784 |

# PUB 1-32 Attachment (e2) <br> Trailer Property Damage Diagnostics 

## Part 1:

| Dependent Variable: | Trailer Property Damage Relativities |
| :--- | :--- |
| Independent Variable: | Rate Group |
| Method: | Least Squares |
| Model: | $y=-0.1276+0.3413 x$ (for rate groups 1-6) |

SUMMARY OUTPUT

| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.999572796 |
| R Square | 0.999145775 |
| Adjusted R Square | 0.998932218 |
| Standard Error | 0.020870932 |
| Observations | 6 |

ANOVA

|  | $d f$ |  | SS | MS | $F$ | Significance $F$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Regression |  | 1 | 2.037980627 | 2.037980627 | 4678.604955 | $2.73716 \mathrm{E}-07$ |
| Residual | 4 | 0.001742383 | 0.000435596 |  |  |  |
| Total | 5 | 2.039723011 |  |  |  |  |


|  | Coefficients | Standard Error | $t$ Stat | $P$-value |
| :--- | ---: | ---: | ---: | ---: |
| Intercept | -0.12755222 | 0.01942978 | -6.564779402 | 0.002785523 |
| X Variable 1 | 0.341256554 | 0.004989107 | 68.40032862 | $2.73716 \mathrm{E}-07$ |

# PUB 1-32 Attachment (e2) Trailer Property Damage Diagnostics 

## Part 2:

| Dependent Variable: | Light Truck Property Damage Relativities |
| :--- | :--- |
| Independent Variable: | Rate Group |
| Method: | Least Squares |
| Model: | $y=1.4281+0.0875 x$ (for rate groups 6-12) |

SUMMARY OUTPUT

| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.78967177 |
| R Square | 0.623581504 |
| Adjusted R Square | 0.548297805 |
| Standard Error | 0.160924941 |
| Observations | 7 |

ANOVA

|  | $d f$ |  | SS | MS | $F$ | Significance $F$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Regression |  | 1 | 0.214505776 | 0.214505776 | 8.283087991 | 0.034667538 |
| Residual | 5 | 0.129484183 | 0.025896837 |  |  |  |
| Total | 6 | 0.343989959 |  |  |  |  |


|  | Coefficients | Standard Error | $t$ Stat | $P$-value |
| :--- | ---: | ---: | ---: | :--- |
| Intercept | 1.428083542 | 0.280384373 | 5.093306468 | 0.003791532 |
| X Variable 1 | 0.087526685 | 0.030411955 | 2.878035439 | 0.034667538 |

PUB 1-32 Attachment (e3)


## PUB 1-32 Attachment (f1) Motorcycle Collision Rate Line Analysis Data Used.

Note:

1) 5 year unit and loss data used (ie. Loss insurance years 2009-2013)
2) losses includes collision losses.

| Rate Group | Collision Losses | Units | Mininum Bias <br> Actual Relativity | Fitted <br> Relativity |
| :---: | :---: | :---: | :---: | :---: |
| 0 |  |  |  |  |
| 1 | $26,037.25$ | 4,856 | 0.0692 | 0.0739 |
| 2 | $19,215.33$ | 2,625 | 0.1144 | 0.1003 |
| 3 | $55,279.10$ | 4,267 | 0.2009 | 0.2153 |
| 4 | $384,455.65$ | 10,910 | 0.4232 | 0.4189 |
| 5 | $1,144,729.94$ | 11,517 | 0.8419 | 0.8498 |
| 6 | $1,505,671.85$ | 11,455 | 1.3284 | 1.2446 |
| 7 | $1,231,006.41$ | 8,785 | 1.6232 | 1.6393 |
| 8 | $1,223,111.72$ | 7,406 | 2.0062 | 2.0341 |
| 9 | $184,736.91$ | 1,219 | 1.8519 | 2.4288 |

## PUB 1-32 Attachment (f2)

## Motorcycle Collision Diagnostics

## Part 1:

| Dependent Variable: | Motorcycle Collision Relativities |
| :--- | :--- |
| Independent Variable: | Rate Group |
| Method: | Least Squares |
| Model: | $y=0.0443 x^{2}-0.0179 x+0.0739$ (for rate groups 0-3) |

SUMMARY OUTPUT

| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.996977867 |
| R Square | 0.993964867 |
| Adjusted R Square | -0.0181054 |
| Standard Error | 0.021165054 |
| Observations | 4 |

ANOVA

|  | $d f$ | $S S$ | $M S$ | $F$ |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Regression |  | 3 | 0.073777329 | 0.024592443 | 82.34820923 |
| Residual |  | 1 | 0.00044796 | 0.00044796 |  |
| Total |  | 4 | 0.074225288 |  |  |
|  | Coefficients |  | Standard Error | $t$ Stat | $P$-value |
|  | 0.07392745 | 0.020629143 | 3.583641342 | 0.173239288 |  |
| Intercept | -0.01794823 | 0.03312855 | -0.541775285 | 0.683914 |  |
| X Variable 1 | 0.044262596 | 0.010582527 | 4.182611114 | 0.149401756 |  |
| XVariable 2 |  |  |  |  |  |

Manitoba Public Insurance

## PUB 1-32 Attachment (f2)

## Motorcycle Collision Diagnostics

## Part 2:

| Dependent Variable: | Motorcycle Collision Relativities |
| :--- | :--- |
| Independent Variable: | Rate Group |
| Method: | Least Squares |
| Model: | $y=-0.7292+0.3947 x$ (for rate groups 3-7) |

SUMMARY OUTPUT

| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.99708123 |
| R Square | 0.994170979 |
| Adjusted R Square | 0.992227972 |
| Standard Error | 0.055185244 |
| Observations | 5 |

ANOVA

|  | $d f$ |  | SS | MS | $F$ | Significance $F$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Regression |  | 1 | 1.558233827 | 1.558233827 | 511.6661645 | 0.00018921 |
| Residual | 3 | 0.009136233 | 0.003045411 |  |  |  |
| Total | 4 | 1.56737006 |  |  |  |  |


|  | Coefficients | Standard Error | $t$ Stat | $P$-value |
| :--- | ---: | ---: | ---: | ---: |
| Intercept | -0.729157585 | 0.090678608 | -8.041120142 | 0.004016565 |
| X Variable 1 | 0.394744706 | 0.017451106 | 22.620039 | 0.00018921 |

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## PUB 1-32 Attachment (f3)

Motorcycle Relativity Regression


## PUB 1-32 Attachment (g1)

## Bus Rate Line Analysis Data Used.

Note:

1) 10 year unit and loss data used (ie. Loss insurance years 2004-2013)
2) PD losses include collision and comprehensive losses, excludes 2009 hail catastrophe losses.

| Rate Group | PD Losses | Units | Mininum Bias <br> Actual Relativity |  |
| :---: | ---: | ---: | ---: | ---: |
|  |  |  | Fitted <br> Relativity |  |
| 1 | $152,464.75$ | 2,403 | 0.2528 | 0.2300 |
| 2 | $83,161.34$ | 1,329 | 0.2264 | 0.2444 |
| 3 | $78,571.23$ | 1,005 | 0.3229 | 0.3275 |
| 4 | $121,539.94$ | 1,188 | 0.3655 | 0.4106 |
| 5 | $46,085.94$ | 717 | 0.2677 | 0.4937 |
| 6 | $205,702.53$ | 1,121 | 0.6996 | 0.5767 |
| 7 | $83,818.46$ | 547 | 0.6576 | 0.6598 |
| 8 | $272,534.12$ | 1,221 | 0.7942 | 0.7429 |
| 9 | $707,129.58$ | 2,549 | 0.9404 | 0.8260 |
| 10 | $405,304.97$ | 1,701 | 0.8301 | 0.9091 |
| 11 | $443,624.17$ | 1,701 | 0.9512 | 0.9922 |
| 12 | $566,992.11$ | 1,611 | 1.3517 | 1.0753 |
| 13 | $201,201.83$ | 1,159 | 0.7587 | 1.1584 |
|  | $3,616,800.76$ | 14,473 | 1.4004 | 1.2414 |

Manitoba Public Insurance

## PUB 1-32 Attachment (g2) <br> Bus Property Damage Diagnostics

| Dependent Variable: | Bus Property Damage Relativities |
| :--- | :--- |
| Independent Variable: | Rate Group <br> Method: |
| Least Squares |  |
| Model: | $\mathrm{y}=0.1613+0.0831 x$ (for rate groups $0-13$ ) |

SUMMARY OUTPUT

| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.90150432 |
| R Square | 0.812710039 |
| Adjusted R Square | 0.797102542 |
| Standard Error | 0.173670261 |
| Observations | 14 |

ANOVA

|  | $d f$ | SS | MS | $F$ | Significance $F$ |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Regression |  | 1 | 1.570555493 | 1.570555493 | 52.07177355 | $1.06296 \mathrm{E}-05$ |
| Residual | 12 | 0.361936317 | 0.03016136 |  |  |  |
| Total | 13 | 1.93249181 |  |  |  |  |


|  | Coefficients | Standard Error | t Stat | $P$-value |
| :--- | ---: | ---: | ---: | ---: |
| Intercept | 0.161302249 | 0.088066896 | 1.831587763 | 0.091937335 |
| X Variable 1 | 0.083087548 | 0.011514226 | 7.216077435 | $1.06296 \mathrm{E}-05$ |



## PUB (MPI) 1-33

## Reference: RM.4.3, p. 37

Please provide supporting analysis for the Major Class Drift assumptions, including commentary on any significant shifts from the corresponding assumptions used in the prior GRA.

## RESPONSE:

Refer to the attached table.

For the 2015 GRA, we improved on the methodology to determine the drift by taking into consideration the different projected volume growth for HTA and non-HTA vehicles. This has the effect of reducing the overall drift since non-HTA vehicles, which have significantly lower average rates, were forecasted to grow at a faster pace, and thus reducing the growth in the overall average rate. The table below compares last year's drift factors to this year's drift factors.

| Major Class | Prior Year | Current Year |
| :--- | ---: | ---: |
| Private Passenger | $5.9 \%$ | $6.4 \%$ |
| Commercial | $4.3 \%$ | $4.2 \%$ |
| Public | $1.8 \%$ | $1.7 \%$ |
| Motorcycles | $0.6 \%$ | $2.3 \%$ |
| Trailers | $5.0 \%$ | $5.2 \%$ |
| ORV's | $0.0 \%$ | $0.0 \%$ |
| Overall | $5.6 \%$ | $4.0 \%$ |

## Drift Calculation by Major Class

| Row | Description | Notes | Overall | Major Class |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Priv Pass | Comm | Public | Motorcycle | Trailer | ORV |
| [1] | 2014/15 Written Premiums | [a] | 770,523,834 | 698,095,627 | 29,084,200 | 18,945,896 | 12,485,273 | 10,997,140 | 915,698 |
| [2] | Number of Vehicles | [a] | 1,073,681 | 758,416 | 44,577 | 11,367 | 14,453 | 179,461 | 65,407 |
| [3] | 2014/15 Average Rate | [a] | 717.65 | 920.47 | 652.45 | 1,666.75 | 863.85 | 61.28 | 14.00 |
| [4] | Projected Volume Growth | [b] |  | 4.01\% | 4.01\% | 4.01\% | 4.01\% | 14.35\% | 14.35\% |
| [5] | 2013/14 Actual Volume Growth | [c] |  | 1.41\% | 1.41\% | 1.41\% | 1.41\% | 4.86\% | 4.86\% |
| [6] | 2014/15 Selected Volume Growth | [c] |  | 1.75\% | 1.75\% | 1.75\% | 1.75\% | 6.16\% | 6.16\% |
| [7] | 2015/16 Selected Volume Growth | [c] |  | 1.75\% | 1.75\% | 1.75\% | 1.75\% | 6.02\% | 6.02\% |
| [8] | Number of Vehicles - Adjusted | [d] | 1,142,084 | 788,866 | 46,367 | 11,823 | 15,033 | 205,205 | 74,790 |
| [9] | Projected Drift | [e] | 3.81\% | 6.29\% | 4.01\% | 1.52\% | 2.11\% | 5.21\% | 0.00\% |
| [10] | Selected Drift | [f] |  | 2.65\% | 1.70\% | 0.65\% | 0.90\% | 2.20\% | 0.00\% |
| [11] | 2014/15 Average Rate - Adjusted | [g] | 744.98 | 978.39 | 678.62 | 1,692.13 | 882.10 | 64.47 | 14.00 |
| [12] | 2014/15 Written Premiums - Adjusted | [h] | 850,827,204 | 771,817,986 | 31,465,708 | 20,006,101 | 13,260,658 | 13,229,691 | 1,047,060 |
| [13] | HTA Drift per Revenue Forecast | [i] | 6.17\% |  |  |  |  |  |  |
| [14] | HTA Drift per Rate Model | [j] | 6.02\% |  |  |  |  |  |  |
| [15] | 2014/15 Average Rate | [k] | 915.30 |  |  |  |  |  |  |
| [16] | 2014/15 Average Rate - Adjusted | [1] | 970.38 |  |  |  |  |  |  |
| [17] | Adjust to Revenue Forecast | [m] | 1.0014 |  |  |  |  |  |  |
| [18] | Projected Drift - Adjusted | [ n ] | 3.95\% | 6.44\% | 4.16\% | 1.66\% | 2.25\% | 5.21\% | 0.00\% |
| [19] | 2014/15 Average Rate - Adjusted | [0] | 746.00 | 979.75 | 679.57 | 1,694.49 | 883.33 | 64.47 | 14.00 |
| [20] | 2014/15 Written Premiums - Adjusted | [p] | 851,993,057 | 772,893,625 | 31,509,560 | 20,033,983 | 13,279,139 | 13,229,691 | 1,047,060 |

## Notes:

[a] From the Rate Model; based on the population of vehicles as at October 31, 2013; premiums reflect the approved 2014/15 rates
$[b]=\left((1+[5])^{\wedge}(4 / 12)^{*}(1+[6])^{*}(1+[7])\right)-1$; trended from October 31, 2013 to March 1, 2016
[c] Selected based on historical volume growth for HTA and non-HTA vehicles; See Volume II, Revenues
[d] = [2] * [4]; Overall = Sum of major classes
$[\mathrm{e}]=(1+[10])^{\wedge}(28 / 12)-1$; trended from October 31, 2013 to March 1, 2016; Overall $=[11] /[3]-1$
[ $f$ ] Selected based on historical drift for each major class
$[\mathrm{g}]=[3]$ * (1 + [9]); Overall = [12]/[8]
$[\mathrm{h}]=[8]$ * [11]; Overall $=$ Sum of major classes
$\left[\right.$ [i] $=\left((1+2.58 \%)^{\wedge}(4 / 12)^{*}(1+2.60 \%)^{\wedge} 2\right)-1$; See Volume II, Revenues
$[\mathrm{j}]=([16] /[15])-1$
[k] = Sum [1] / Sum [2] for HTA Units
[l] = Sum [12] / Sum [8] for HTA Units
$[m]=(1+[13]) /(1+[14])$
$[\mathrm{n}]=(1+[9])^{*}[17]-1$ for HTA Units; [9] for non-HTA Units; Overall $=[19] /[3]-1$
$[0]=[3]$ * $(1+[18])$; Overall $=[20] /[8]$
$[p]=[8]$ * [19]; Overall = Sum of major classes

## PUB (MPI) 1-34 Reference: RM Exhibit V

a) Please provide supporting rationale for the proposed rounding and the proposed lower limit of $0 \%$ for the selected pure premium trends by coverage.
b) Please provide a graphical representation of each of the pure premium trend regressions (actual vs. fitted vs. selected), and provide supporting rationale for those pure premium trend selections based on a fitted trend with an R-squared statistic below 67\%.

## RESPONSE:

a) The proposed rounding and proposed lower limit were judgmentally selected. The proposed rounding was chosen to balance two goals - reducing year-to-year changes in the selected trend (i.e. from one GRA to the next) and recognizing the recent trend in the pure premium. The proposed lower limit is a prudent assumption that pure premiums are generally constant or increasing i.e. claims costs increase either at the same pace or faster than growth in units.
b) Refer to the attached charts.

A trend (by coverage) must be selected based on the data available. For all coverages except Collision and Property Damage, we have selected the longer term trend (i.e. the all-years trend). For these coverages, even though the Rsquared statistics for all years are low, they are generally higher than the Rsquared statistics for the 10 most recent years. Further, for Accident Benefits coverages - AB Other (Indexed), AB Other (Non-Indexed) and AB Weekly Indemnity - the longer term trend is a better representation of the actual trend given the significant fluctuations in claims costs.

For Collision and Property Damage, we have selected the trend based on the pure premiums for the 10 most recent years. For Collision, the R-squared statistic for the 10 most recent years is high at 0.81 , and the use of a more recent trend
better reflects the trend going forward. The trend selection for Property Damage is unchanged from that used in the previous GRA. While the R-squared statistic for the 10 most recent years is low, the pure premiums from 06/07 to 12/13 indicate very little change in the pure premiums. As such, we have chosen to leave the trend selection unchanged since it is the lower of the two options.




 Public Insurance



## PUB (MPI) 1-35 Reference: AI. 7

With respect to the incurred loss development factor assumptions selected for Private Passenger AB Weekly Indemnity, AB Other Indexed and AB Other NonIndexed [RM Exhibit VI - 5, 6 and 7, respectively], please identify the sources of these assumptions, providing GRA appendix/page cross references as appropriate to the Actuary's Report as of 28 February 2014 [AI.7, Appendices E, F and G, respectively].

## RESPONSE:

Refer to the attached table.

Manitoba
Public Insurance

## Accident Benefits - Calculation of Loss Development Factors

|  | Reported to Date |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Insurance <br> Year | Weekly <br> Indemity | Other <br> Indexed | Other <br> Non-Ind | Weekly <br> Indemity | Other <br> Indexed | Other <br> Non-Ind | Weekly <br> Indemity | Factor to Ultimate <br> Indexed | Other <br> Non-Ind |
| $(1)$ | $(2)$ | $(3)$ | $(4)$ | $(5)$ | $(6)$ | $(7)$ | $(8)=(5) /(2)$ | $(9)=(6) /(3)$ | $(10)=(7) /(4)$ |
| $00 / 01$ |  |  |  |  |  |  |  |  |  |
| $01 / 02$ | 50,900 | 44,984 | 23,093 | 51,278 | 47,241 | 23,093 | 1.0074 | 1.0502 | 1.0000 |
| $02 / 03$ | 44,726 | 48,056 | 24,566 | 45,599 | 50,054 | 24,591 | 1.0195 | 1.0416 | 1.0010 |
| $03 / 04$ | 52,533 | 50,346 | 26,733 | 52,363 | 52,465 | 26,813 | 0.9968 | 1.0421 | 1.0030 |
| $04 / 05$ | 51,352 | 49,499 | 25,060 | 51,332 | 51,715 | 25,187 | 0.9996 | 1.0448 | 1.0051 |
| $05 / 06$ | 43,808 | 53,899 | 24,528 | 44,373 | 56,391 | 24,705 | 1.0129 | 1.0462 | 1.0072 |
| $06 / 07$ | 52,931 | 48,388 | 28,730 | 53,646 | 50,935 | 28,980 | 1.0135 | 1.0526 | 1.0087 |
| $07 / 08$ | 66,076 | 62,998 | 33,685 | 67,175 | 65,699 | 34,024 | 1.0166 | 1.0429 | 1.0101 |
| $08 / 09$ | 62,397 | 61,642 | 29,875 | 63,790 | 65,032 | 30,287 | 1.0223 | 1.0550 | 1.0138 |
| $09 / 10$ | 61,947 | 54,489 | 28,040 | 64,369 | 58,201 | 28,518 | 1.0391 | 1.0681 | 1.0171 |
| $10 / 11$ | 51,978 | 53,351 | 29,327 | 55,665 | 58,252 | 29,843 | 1.0709 | 1.0919 | 1.0176 |
| $11 / 12$ | 55,029 | 51,726 | 27,495 | 60,327 | 57,193 | 28,228 | 1.0963 | 1.1057 | 1.0267 |
| $12 / 13$ | 48,833 | 58,872 | 30,273 | 65,453 | 64,666 | 31,404 | 1.3404 | 1.0984 | 1.0374 |
| $13 / 14$ | 39,446 | 63,109 | 27,252 | 63,923 | 68,418 | 29,857 | 1.6205 | 1.0841 | 1.0956 |
|  | 24,290 | 53,359 | 19,800 | 60,698 | 66,497 | 26,911 | 2.4988 | 1.2462 | 1.3591 |

Notes:
(2) \& (5): Volume III, AI.7, Actuarial Report as at February 28, 2014 - Exhibit 2, Sheet 5
(3) \& (6): Volume III, AI.7, Actuarial Report as at February 28, 2014 - Exhibit 2, Sheet 6
(4) \& (7): Volume III, AI.7, Actuarial Report as at February 28, 2014 - Exhibit 2, Sheet 7

## PUB (MPI) 1-36 Reference: RM Exhibit XII

Please provide a supplement to RM Exhibit XII showing, for each rating classification within each Major Class, a comparison of the raw (i.e., before minimum bias) current average rate relativities, the fitted (i.e., after minimum bias) current average rate relativities, and the ratio of the latter to the former.

## RESPONSE:

Refer to the attached tables.

The raw current average rate relativities represent the single rating variable relativities (i.e. the relativities reflect what they would be if we only used one rating variable to differentiate rates by major class), and do not consider the interaction between rating variables.

The fitted current average rate relativities are the 'Balanced Current Relativities' as presented in Volume II, Ratemaking, Exhibit XII.

## Comparison of Raw vs Fitted Current Average Rate Relativities Major Class 1 - Private Passenger



## Comparison of Raw vs Fitted Current Average Rate Relativities Major Class 2 - Commercial



## Comparison of Raw vs Fitted Current Average Rate Relativities Major Class 3 - Public



## Comparison of Raw vs Fitted Current Average Rate Relativities Major Class 4 - Motorcycles

|  |  | Current Average Rate Relativities |  |  |
| :--- | :--- | :--- | :---: | :---: |
|  | Classification | Raw | Fitted | Fitted/Raw |
| Territory | 1 | 0.9869 | 1.0622 | 1.0763 |
|  | 2 | 1.0037 | 0.9531 | 0.9495 |
|  | 3 | 0.9417 | 0.8274 | 0.8786 |
|  | 4 | 0.9697 | 0.8794 | 0.9068 |
|  | 5 | 1.4562 | 0.9673 | 0.6643 |
| Body Style | Motorscooter [a] | 0.3158 | 0.4509 | 1.4278 |
|  | Other | 1.1258 | 1.0996 | 0.9767 |
|  | Sport | 1.5943 | 1.7309 | 1.0857 |
|  | Sport-Touring | 1.2197 | 1.1555 | 0.9474 |
|  | Touring | 1.1584 | 1.0658 | 0.9201 |
| Use | All Purpose | 1.0072 | 1.2487 | 1.2398 |
|  | Pleasure | 0.9977 | 0.9217 | 0.9238 |
| Eng Disp | 0 to $500 \mathrm{cc}[\mathrm{b}]$ | 0.4359 | 0.6353 | 1.4575 |
|  | 501 to 100 cc | 1.1962 | 1.0154 | 0.8489 |
|  | $>1000 \mathrm{cc}$ | 1.2113 | 1.1813 | 0.9753 |

[a] Includes Moped/Mobility Vehicle
[b] All Moped/Mobility Vehicle assumed less than or equal to 500 cc

## Comparison of Raw vs Fitted Current Average Rate Relativities Major Class 5 - Trailers



## PUB (MPI) 1-37

## Reference: Actuary's Report

Please provide a copy of the actuarial specialist report on the Basic actuarial valuation prepared as audit evidence in support of the audit opinion provided by PricewaterhouseCoopers LLP for the financial statements as at, and for the period ending 28 February 2014.

## RESPONSE:

See attached.

## Memo

| To: / Location: | Patrick Green / Winnipeg |
| :--- | :--- |
| From: / Location: | Lisa Yeung / Toronto |
| Date: | April 29, 2014 |
| Subject: | Actuarial Support for Manitoba Public Insurance Corporation <br>  |
|  | Basic Insurance Only |

## Background

Manitoba Public Insurance Corporation (MPIC) was incorporated as a Crown Corporation in 1970 under the Automobile Insurance Act. In 1974, the Automobile Insurance Act was revised and became the Manitoba Public Insurance Corporation Act. Under the provisions of this Act, MPIC operates an automobile insurance division and a discounted general insurance division.

On March 1, 1994, the province of Manitoba introduced the Personal Injury Protection Plan (PIPP). This plan eliminated bodily injury tort actions involving Manitoba drivers within Manitoba and increased payments under no-fault accident benefits coverage.

The Automobile Insurance division provides Universal Compulsory Automobile Insurance (Basic Insurance), Special Risk Extension Insurance and Extension Insurance coverages. The Basic Insurance package includes third party liability with a $\$ 200,000$ limit, no-fault accident benefits and all perils coverage with a $\$ 500$ deductible. In addition, MPIC writes optional coverage, for example increased liability limits and deductible buy-down coverage in competition with private insurers. This optional coverage is known as Extension Insurance. Other vehicle insurance coverages not offered by Basic Insurance or Extension Insurance are provided by Special Risk Extension Insurance (SRE Insurance).

On November 1, 1991, SRE Insurance was transferred from the General Insurance division to the Automobile Insurance division. The remaining portions of the General Insurance division have been in orderly run-off since 1990. All remaining portions of General Insurance division were transferred to the Automobile Insurance division under SRE in 2004.

This report is limited to Basic Insurance only.

## Objective and Scope

We have been asked to provide actuarial support to the audit engagement team of MPIC as at February 28, 2014 for statutory reporting purposes to the Office of the Superintendent of Financial Institutions (OSFI). The objective of our work is to provide reasonable assurance that the policy liabilities reported by MPIC as at February 28, 2014 are fairly stated. The scope of our work relates to the examinations of the policy liabilities, namely claims liabilities, premium liabilities and other policy liabilities of MPIC on both a discounted and undiscounted basis.

Joe Cheng, a Fellow in good standing of the Canadian Institute of Actuaries (CIA), prepared the policy liabilities of MPIC. Our examination of the methods, procedures and assumptions used to evaluate the policy liabilities as at February 28, 2014 is based on the draft actuarial report from the appointed actuary received on April 16, 2014. The actuary's opinion is unqualified.

## Professional Standards

For the purpose of this review, generally accepted actuarial principles and the Standards of the Canadian Institute of Actuaries (CIA) were used to evaluate the policy liabilities calculated by the actuary of MPIC, subject to any additional regulatory requirements.

These standards require a best estimate approach to the derivation of policy liabilities.
The Standards of Practice of the Canadian Institute of Actuaries require that policy liabilities be reported on a discounted value with appropriate provision for adverse deviations. Similarly, the current regulatory requirement is that policy liabilities must be discounted and include provisions for adverse deviations.

## Valuation Results

| Policy Liabilities ('000) | Annual Return | Actuary |
| :--- | ---: | ---: |
| Claims Liabilities |  |  |
| Direct |  | $\mathbf{1 , 5 6 3 , 3 1 9}$ |
| Assumed | 0 |  |
| Gross | $\mathbf{1 , 5 6 3 , 3 1 9}$ |  |
| Ceded | 17,627 |  |
| Other Amounts to recover | 0 |  |
| Other Net Liabilities | 0 |  |
| Net | $\mathbf{1 , 5 4 5 , 6 9 2}$ |  |
| Premium Liabilities |  |  |
| Gross Policy Liabilities | 383,498 |  |
| Net Policy Liabilities | 389,958 |  |
| Gross Unearned Premiums | 369,234 |  |
| Net Unearned Premiums | 369,234 |  |
| Premium Deficiency | 20,724 |  |
| Other Net Liabilities | 0 |  |
| DPAC |  | 0 |
| Maximum Allowable DPAC |  | 0 |
| Unearned Commissions |  |  |

We rely on the auditor to ensure that the appropriate amounts are posted in the financial statements of MPIC.

## Claims Liabilities

We reviewed the derivation of the claims liabilities of the company for the year ending February 28, 2014. The report of the actuary answers the requirements of the Office of the Superintendent of Financial Institutions and the valuation adheres to Accepted Actuarial Practice of the CIA. We have independently re-performed seven lines of business. These seven lines of business (including the associated ULAE reserve) represent more than $92 \%$ of the total unpaid. We have not reviewed the other lines because their volumes are relatively small. We have not independently tested the IBNR on those lines; however, nothing has come to our attention that would lead us to believe that that IBNR is not reasonable.

Based on our review, we are comfortable that the difference between PwC and AA's reserves is within the range of reasonable best estimates. Further, the selections of the loss development factors and expected loss ratios are reasonable.

## Actuarial Database

The actuarial database is as at February 28, 2014 and the loss development exhibits are shown on this basis. In Appendix H of his report, the actuary showed the reconciliation of paid and outstanding claim amounts to financial controls. We rely on the auditor to ensure this reconciliation is appropriate and balances to the financial statements of the company.

## Methods and Assumptions

The evaluation was performed on a gross basis for all lines of business.
To determine the IBNR, the incurred loss development method, paid loss development method, Bornhuetter-Ferguson (B/F) using ultimate premiums and incurred Loss method, B/F using ultimate premiums and paid loss method and Tabular reserve method have been used by the actuary.

The actuary usually used B/F incurred method for long tail lines and incurred or paid loss development method for short tail lines. The analysis is done on the gross basis. The net IBNR is the same as gross.

## Use of October 31, 2013 Report

On page 4 of the report, the actuary states the following:
"All comments, caveats, limitations and explanations contained in our October 31, 2013 report continue to apply unless noted in this letter. This update to our previous report adds four additional months experience. We reviewed our methodologies and assumptions used in our October 31, 2013 report. The previous methodologies and assumptions used to estimate the policy liabilities remain appropriate."

## Collision and Property Damage

The bulk IBNR of $\$ 13$ million and $\$ 3.5$ million were added to 2013 for Collision and Property Damage respectively to reflect the delay in processing.

## Accident Benefits - Weekly Indemnity

Incurred triangles were restated to reflect current benefit levels. The actuary used Tabular Reserve method for 2003 and prior. Tabular reserves are selected after considering the possibility of claims turning into tabular claims after 10 years, mortality and morbidity experience, and incurred development factor. We reviewed and agreed with the IBNR that the actuary used for 2003 and prior.

## Accident Benefits - Other Indexed

Incurred triangles were restated to reflect current benefit levels. Expense and excess reserves, which resulted from a new claims management system since 2010, were removed from the triangles to be consistent with the historical triangles. Since the selected unpaid based on the adjusted triangles cover expenses as well, the final IBNRs were reduced by the same amount as expense and excess reserves.

## Reinsurance

On page 20 of the October 31, 2013 report, the actuary describes the reinsurance structure of MPIC. MPIC is protected by excess of loss and catastrophe reinsurance treaties.

## Internal Loss Adjustment Expense

We have reviewed the derivation of the provision for ILAE associated with the settlement of unpaid losses. The appointed actuary estimates ILAE by applying the historical average ratio of expense payments to the gross paid losses to $50 \%$ of the outstanding losses and $100 \%$ of the ratio to the selected IBNR. We are satisfied the provision is reasonable.

## Discount Rate

We reviewed the actuary's selection of an interest rate used to discount the policy liabilities. The discount rate used is $3.68 \%$ (net of a $0.07 \%$ investment expense reduction). We believe the approach used by the actuary is reasonable.

We ran a complete cash flow model matching the income from the investments to the future payments on claims and premium liabilities. Based on the model, the discount rate that we came up with is $3.77 \%$ (net of a $0.07 \%$ investment expense reduction). We consider the actuary's selection of the discount rate reasonable.

## Provision for Adverse Deviations (PFADs)

In Exhibit 7 of the report, the actuary presents the PFADs for each line of business. The PFADs used are listed below:

PFAD Claims Development

| Line of Business | Claims <br> Development <br> PFAD |
| :--- | :---: |
| Bodily Injury - Basic | $\mathbf{1 5 . 0 0 \%}$ |
| Pre-PIPP | $\mathbf{1 2 . 5 0 \%}$ |
| Accident Benefits: |  |
| Weekly Indemnity (2004 \& After) | $\mathbf{1 5 . 0 0 \%}$ |
| Weekly Indemnity (prior to 2004) | $\mathbf{1 0 . 0 0 \%}$ |
| Pre-PIPP | $5.00 \%$ |
| Other (Indexed) | $\mathbf{1 5 . 0 0 \%}$ |
| Other (Non-Indexed) | $10.00 \%$ |
| Pre-PIPP | $5.00 \%$ |
| Collision - Basic | $7.50 \%$ |
| Comprehensive - Basic | $7.50 \%$ |
| Property Damage - Basic | $5.00 \%$ |
| ILAE | $\mathbf{1 2 . 7 1 \%}$ |

## PFAD Reinsurance

The reinsurance PFAD is $5.00 \%$ for Accident Benefits - Weekly Indemnity and Accident Benefits - Other Indexed, and $2.50 \%$ for Comprehensive.

## PFAD Interest Rate

The selected interest PFAD for the total portfolio is $1.00 \%$ reflecting long tail nature of liability and relatively low risk fixed income portfolio.

We have reviewed the actuary's selection of interest rate, claims development and reinsurance recovery PFAD margins and deem them to be reasonable.

## Variability in Estimates

As of February 28, 2014, MPIC experienced an unfavorable one year run-off of $\$ 57.9$ million on a gross basis and $\$ 54.9$ million on a net basis. The overall unfavorable development as a percentage of the February 2013 valuation ultimate loss is $0.8 \%$ on a gross basis and $0.8 \%$ on a net basis. We consider this to be within a reasonable range. The details are shown in Exhibit 3.

| Line of Business | 2013 Gross Redundancy/(Deficiency) (\$000) | 2013 Net Redundancy/(Deficiency) (\$000) |
| :---: | :---: | :---: |
| Bodily Injury - Basic | 2,636 | 2,636 |
| Property Damage - Basic | (858) | (858) |
| Collision - Basic | $(5,332)$ | $(5,332)$ |
| Comprehensive - Basic | 1,600 | 1,491 |
| AB - Weekly Indemnity | $(38,009)$ | (36,070) |
| AB - Other (Indexed) | $(10,439)$ | $(9,240)$ |
| AB - Other (Non-Indexed) | $(7,533)$ | $(7,533)$ |
| Total | (57,935) | $(54,906)$ |

## Premium Liabilities

We re-calculated the development of the premium liabilities related to the unearned premiums. The actuary estimated the premium deficiency of $\$ 20.7$ million. We are satisfied that the AA's premium liabilities are reasonable and appropriate for MPIC.

## Other Net Policy Liabilities

The actuary did not mention in the report if there are any other policy liabilities. In general, other policy liabilities relate to reinsurance agreements with sliding scale commissions or adjustable premiums. We rely on the auditor to confirm that there are no other policy liabilities related to reinsurance contracts with sliding scale commissions or adjustable premiums.

## Minimum Capital Test

The Minimum Capital Test is not applicable for MPIC.

## Incentive Compensation

In the October 31, 2013 report, the actuary discloses the basis of his compensation, including any incentive compensation. As stated above, this disclosure is assumed to continue to apply. This disclosure is in accordance with CIA directives and guidelines communicated by the Office of the Superintendent of Financial Institutions (OSFI).


## Additional Disclosure

In the October 31, 2013 report, the actuary discloses information on: Annual Reporting to the Board of Directors and Continuing Professional Development Requirements. As stated above, these disclosures are assumed to continue to apply. These disclosures are in accordance with CIA directives and OSFI guidelines.

## Conclusion

The valuation, as performed by Joe Cheng for MPIC as at February 28, 2014, provides reasonable estimates of the policy liabilities of MPIC with the proviso that we rely on the auditor to verify the statements presented above.

## PUB (MPI) 1-38 Reference: RM Exhibit V-2

Please discuss what consistency should be expected, and what consistency is actually evident by coverage, between the Bornhuetter-Ferguson selected loss trends in the valuation analysis, for example 3.25\% for ABO Non-Indexed [AI.7, Appendix G, Page 16], vs. the combination of the selected volume factor of $1.75 \%$ [R.1.1, Page 9] with the selected pure premium trends in the ratemaking analysis, for example $0.75 \%$ for ABO Non-Indexed [RM Exhibit V-2].

## RESPONSE:

The ultimate claims costs trend presented in Volume III, AI.7, Actuary's Report, will not be the same as the ultimate claims costs trend presented in Volume II Ratemaking, RM.4, Exhibit V.

The trend derived in AI.7, is based on the ultimate claims costs determined using the reported loss development method. This trend is used to derive an initial expected ultimate claims costs to be used in the Bornheutter-Ferguson analysis.

The trend derived in RM. 4 is based on the final ultimate claims costs. The difference between the ultimate claims costs in AI. 7 and RM. 4 are a result of the following factors:

- The final ultimate claims costs depends on the method selected. The method selected could potentially be the reported loss development method, which would then result in the trend being equal. For example, the trend for Collision is $5.53 \%$ in AI. 7 (Appendix C, Page 8) compared to $5.75 \%$ in RM.4; the minor difference is because of other adjustments (e.g. the bulk IBNR discussed below). In most cases however, the method selected is not the reported loss development method. For example, with Accident Benefits Weekly Indemnity, three different methods are selected depending on the accident year - the reported Bornheutter-Ferguson method, the paid Bornheutter-Ferguson method and the tabular reserve method.
- The final ultimate claims costs may include other adjustments. For example, with Collision, a bulk IBNR of $\$ 13,000,000$ was added to the IBNR for accident year 2013/14.


## PUB (MPI) 1-39 Reference: AI. 7

a) With respect to the Property Damage coverage, please provide supporting analysis for the $\$ 3.5$ million addition to the IBNR bulk provision with respect to accident year 2013/14. [AI.7, Exhibit 4, Sheet 2]
b) With respect to the Collision coverage, please provide supporting analysis for the $\$ 13$ million addition to the IBNR bulk provision with respect to accident year 2013/14. [AI.7, Exhibit 4, Sheet 3]

## RESPONSE:

a) The $\$ 3.5$ million was determined based on a review of the ratio of the Property Damage ultimate to the Collision ultimate. Per the table below, this ratio has exhibited a steadily decreasing trend.

$\left.$| Accident <br> Year | $\mid 3$ | Property <br> Damage | Collision |
| :---: | ---: | ---: | ---: | | PD/Collision |
| ---: |
| Ratio | \right\rvert\, | 2003 | 29,575 | 194,025 |
| ---: | ---: | ---: |

A ratio of $13.00 \%$ was selected for accident year 2013. The derivation of the $\$ 3.5$ million is presented in the table below.

| (All figures in \$000) |  |
| :--- | ---: |
| (1) Collision Ultimate | $\$ 347,122$ |
| (2) Selected Property Damage Ultimate $=13.00 \%^{*}(1)$ | $\$ 45,126$ |
| (3) Property Damage Reported | $\$ 36,055$ |
| (4) Property Damage Selected IBNR | $\$ 5,502$ |
| (5) Property Damage Bulk IBNR = (2) - (3) - (4) | $\$ 3,569$ |
| (6) Selected Property Damage Bulk IBNR | $\$ 3,500$ |

b) As discussed in Volume II Claims Incurred, section CI.4, page 35, a special bulk IBNR provision for collision was added in February 2014 to properly account for the significant backlog in reported collision claims. The tables below outline the assumptions used by the Chief Actuary to assess the best estimate ultimate for 2013/14 collision claims.

Claim Counts: As shown in the table below, claim counts (with incurred $>\$ 0$ ) in February 2014 were significantly understated. The table shows the assumed ultimate claim counts by month and relative to budget.

2013/14 Collision Claims > \$0 as at Feb 28, 2014

| Month | Counts <br> to Date | Selected <br> Ultimate | Original <br> Forecast | $\%$ <br> Deviation |
| :--- | ---: | :---: | ---: | ---: |
| Mar | 9,828 | 10,256 | 9,157 | $12.0 \%$ |
| Apr | 7,335 | 7,736 | 7,026 | $10.1 \%$ |
| May | 6,863 | 7,270 | 7,315 | $-0.6 \%$ |
| Jun | 6,893 | 7,366 | 7,982 | $-7.7 \%$ |
| Jul | 6,660 | 7,186 | 7,574 | $-5.1 \%$ |
| Aug | 6,541 | 7,126 | 7,643 | $-6.8 \%$ |
| Sep | 6,366 | 7,079 | 8,047 | $-12.0 \%$ |
| Oct | 7,094 | 7,768 | 8,794 | $-11.7 \%$ |
| Nov | 11,577 | 11,023 | 10,404 | $5.9 \%$ |
| Dec | 15,239 | 14,678 | 12,363 | $18.7 \%$ |
| Jan | 13,865 | 14,824 | 13,161 | $12.6 \%$ |
| Feb | 3,170 | 9,986 | 9,582 | $4.2 \%$ |
| Total | $\mathbf{1 0 1 , 4 3 1}$ | $\mathbf{1 1 2 , 2 9 9}$ | $\mathbf{1 0 9 , 0 4 9}$ | $\mathbf{3 . 0 \%}$ |

Severity: As shown in the table below, the February 2014 severity was significantly overstated as there was a bias towards larger claims in the handling
of claims. The February ultimate severity, along with the ultimate severity for all months is provided below.

2013/14 Collision Severity as at Feb 28, 2014

| Month | Actual <br> To Date | Selected <br> Ultimate | Original <br> Forecast | $\%$ <br> Deviation |
| :--- | ---: | ---: | ---: | ---: |
| Mar | $\$ 2,827$ | $\$ 2,747$ | $\$ 2,711$ | $1.3 \%$ |
| Apr | $\$ 2,846$ | $\$ 2,742$ | $\$ 2,672$ | $2.6 \%$ |
| May | $\$ 2,929$ | $\$ 2,813$ | $\$ 2,787$ | $0.9 \%$ |
| Jun | $\$ 3,084$ | $\$ 2,949$ | $\$ 2,842$ | $3.8 \%$ |
| Jul | $\$ 3,270$ | $\$ 3,098$ | $\$ 2,892$ | $7.1 \%$ |
| Aug | $\$ 3,398$ | $\$ 3,180$ | $\$ 2,878$ | $10.5 \%$ |
| Sep | $\$ 3,368$ | $\$ 3,115$ | $\$ 2,929$ | $6.3 \%$ |
| Oct | $\$ 3,423$ | $\$ 3,208$ | $\$ 3,034$ | $5.7 \%$ |
| Nov | $\$ 3,320$ | $\$ 3,379$ | $\$ 3,188$ | $6.0 \%$ |
| Dec | $\$ 3,223$ | $\$ 3,264$ | $\$ 2,925$ | $11.6 \%$ |
| Jan | $\$ 3,219$ | $\$ 3,191$ | $\$ 2,898$ | $10.1 \%$ |
| Feb | $\$ 4,063$ | $\$ 3,127$ | $\$ 2,837$ | $10.2 \%$ |
| Total | $\$ 3,202$ | $\$ 3,091$ | $\$ 2,893$ | $6.9 \%$ |

Ultimate Incurred: The ultimate frequency and severity figures were multiplied together to produce the ultimate incurred forecast. This figure ( $\$ 347.1$ million) was then compared to the amount indicated using the existing assumptions in the October 2013 Appointed Actuary's report. The difference between these two figures ( $\$ 13$ million) was added as the bulk IBNR provision.

2013/14 Collision Ultimate Incurred (\$000) at Feb 28, 2014

|  | Incurred <br> To Date | Selected <br> Ultimate | Original <br> Forecast | $\%$ <br> Deviation |
| :--- | ---: | ---: | ---: | ---: |
| Mar | $\$ 27,788$ | $\$ 28,175$ | $\$ 24,826$ | $13.5 \%$ |
| Apr | $\$ 20,878$ | $\$ 21,214$ | $\$ 18,773$ | $13.0 \%$ |
| May | $\$ 20,099$ | $\$ 20,450$ | $\$ 20,389$ | $0.3 \%$ |
| Jun | $\$ 21,259$ | $\$ 21,725$ | $\$ 22,684$ | $-4.2 \%$ |
| Jul | $\$ 21,776$ | $\$ 22,262$ | $\$ 21,907$ | $1.6 \%$ |
| Aug | $\$ 22,224$ | $\$ 22,665$ | $\$ 21,994$ | $3.1 \%$ |
| Sep | $\$ 21,442$ | $\$ 22,051$ | $\$ 23,571$ | $-6.4 \%$ |
| Oct | $\$ 24,280$ | $\$ 24,921$ | $\$ 26,685$ | $-6.6 \%$ |
| Nov | $\$ 38,436$ | $\$ 37,246$ | $\$ 33,173$ | $12.3 \%$ |
| Dec | $\$ 49,118$ | $\$ 47,905$ | $\$ 36,162$ | $32.5 \%$ |
| Jan | $\$ 44,626$ | $\$ 47,306$ | $\$ 38,142$ | $24.0 \%$ |
| Feb | $\$ 12,880$ | $\$ 31,227$ | $\$ 27,180$ | $14.9 \%$ |
| Total | $\$ 324,806$ | $\$ 347,146$ | $\$ 315,488$ | $10.0 \%$ |

## PUB (MPI) 1-40 Reference: AI. 7

With respect to the AB Weekly Indemnity coverage [AI.7, Appendix E]:
a) Please provide the basis of selection of each selected incurred interval loss development factor assumption, including the Tabular Reserve 120 - Ultimate factor selection. [Pages 5, 6]
b) Please discuss the rationale for each of the changes made in the selected incurred interval loss development factor assumptions (including the Tabular Reserve 120 - Ultimate factor selection), relative to the corresponding selections made as at 28 February 2013. [Page 5, 6]
c) Please specify when the Tabular Reserve table was last re-calibrated to reflect Basic experience, and the expected timing of the next such re-calibration.
d) Please provide the $\$$ impact on the reported incurred losses and ALAE (by accident year and in total) specifically arising from the 2013 PIPP claims review.
e) Please provide documentation of the precise manner in which the Incurred Development Method analysis properly accounts for this change in case reserving practices. [Pages 5-9]
f) Please provide documentation of the precise manner in which the Incurred Bornhuetter-Ferguson Method analysis properly accounts for this change in case reserving practices. [Pages 10-11]
g) Please provide the Incurred Bornhuetter-Ferguson Method trend regression analysis with the customary regression diagnostics and a graphical representation. [Page 10]
h) Please provide the basis of selection of each selected paid interval loss development factor assumption, including the Tabular Reserve 120 - Ultimate factor selection. [Pages 13, 14]
i) Please discuss the rationale for each of the changes made in the selected paid interval loss development factor assumptions (including the Tabular Reserve 120 - Ultimate factor selection), relative to the corresponding selections made as at 28 February 2013. [Page 13, 14]
j) Please discuss how the change back to the 2011 methodology (using the higher of the incurred BF method and paid BF method for the most recent three years only) fully accounts for the 2013 PIPP claims review. [Exhibit 4, Sheet 5]

## RESPONSE:

a) In general, the selected factors were unchanged from last year's selections, except for the 36-44 to 68-80 factors and the 116-ultimate factor (see Volume III AI.7, Actuary's Report as at October 31, 2013). Given that the 2013 PIPP claims review resulted in significant increases in case reserves (and therefore reported), the factors for the most recent year were not indicative of "typical" loss development, i.e. the factors provide no new information to reevaluate the prior selections. As such, we have decided to leave the prior selections unchanged, assuming that case reserves are now at the appropriate level and will develop similar to prior development.
b) Changes to the selected factors were made to the $36-44$ to $68-80$ factors and the 116 -ultimate factor. The 116-ultimate factor was revised based on the indicated 'Latest 6 Volume Weighted' average. The other factors were revised based on the 'Simple Average of Middle 4 of Last 6' average (which excludes the most recent factor).
c) The last recalibration of the Tabular Reserve table was completed in 2005. No new recalibration is expected in the near future.
d) Refer to the table below which compares the actual reported to the budgeted reported for fiscal year 2013/14. We cannot account separately for the impact of

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the 2013 PIPP claims review since some of the case reserves would have been adjusted regardless of the review.

| Insurance <br> Year | 2013/14 Reported |  |  |
| :---: | ---: | ---: | ---: |
|  | $1,456,974$ | 0 | $1,456,974$ |
| 1995 | $1,607,799$ | 0 | $1,607,799$ |
| 1996 | 202,111 | 0 | 202,111 |
| 1997 | $1,454,284$ | 0 | $1,454,284$ |
| 1998 | $1,062,975$ | 0 | $1,062,975$ |
| 1999 | 483,300 | $-113,029$ | 596,329 |
| 2000 | $-1,168,960$ | $-137,824$ | $-1,031,136$ |
| 2001 | $1,274,066$ | $-563,667$ | $1,837,734$ |
| 2002 | 755,126 | $-592,188$ | $1,347,314$ |
| 2003 | $2,521,398$ | $-263,975$ | $2,785,373$ |
| 2004 | 602,861 | 72,232 | 530,628 |
| 2005 | $1,258,679$ | 262,240 | 996,439 |
| 2006 | $6,113,196$ | 274,337 | $5,838,860$ |
| 2007 | $3,360,217$ | 470,808 | $2,889,409$ |
| 2008 | $8,079,512$ | $2,841,176$ | $5,238,336$ |
| 2009 | $7,556,826$ | $5,608,601$ | $1,948,226$ |
| 2010 | $15,320,074$ | $9,451,906$ | $5,868,168$ |
| 2011 | $16,445,813$ | $15,400,106$ | $1,045,707$ |
| 2012 | $13,314,128$ | $10,741,198$ | $2,572,930$ |
| 2013 | $24,290,326$ | $26,780,064$ | $-2,489,738$ |
| $70 t a l$ | $105,990,705$ | $70,231,984$ | $35,758,720$ |
|  |  |  |  |

e) See the response to (a) above. No other adjustments were made since the purpose of the 2013 PIPP claims review was to ensure compliance with existing reserving guidelines.
f) We did not make any changes/adjustments to the Incurred Bornhuetter-Ferguson Method analysis.
g) Refer to the attached chart.
h) In general, the selected factors were based on the indicated 'Latest 6 Volume Weighted' average. Recent observations, specifically for development periods after 56 months, indicate higher than average paid loss development. For example, per Volume III AI.7, Actuary's Report as at October 31, 2013, the average of the two most recent loss development factors for the 56-68 development was 1.125 compared to the 1.092 for all other years. Similarly, for the $68-80$ development, the difference was 1.097 compared to 1.074 . The selection based on the 'Latest 6 Volume Weighted' average was to balance between using a longer term average and giving more weight to recent observations.
i) Per the response to ( h ) above, we selected factors based on the indicated "Latest 6 Volume Weighted" average. Changes were made to the selections as at February 28, 2013 as required.
j) The change done per the Actuary's Report as of October 31, 2012 (i.e., using the higher of the incurred BF method and paid BF method for the most recent five years) was to recognize that case reserves were inadequate especially for the five most recent years, and that a major reserve review was to be undertaken. Given that the review was completed, the Actuary's Report as of October 31, 2013 reverted back to the 2011 methodology. In doing so, we recognize that case reserves are appropriate for claims that are four years and older. We continue to use the higher of method for the most recent three years to account for the difference in the IBNR indications for those years.

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## PUB (MPI) 1-41 Reference: AI.7, Appendix F

With respect to the $A B$ Other Indexed coverage [AI.7, Appendix F]:
a) Please provide the basis of selection of each selected incurred interval loss development factor assumption, including the 216 - Ultimate factor selection. [Pages 10, 11]
b) Please discuss the rationale for each of the changes made in the selected incurred interval loss development factor assumptions, relative to the corresponding selections made as at 28 February 2013. [Page 10, 11]
c) Please provide the $\$$ impact on the reported incurred losses and ALAE (by accident year and in total) specifically arising from the 2013 PIPP claims review.
d) Please provide documentation of the precise manner in which the Incurred Development Method analysis properly accounts for this change in case reserving practices. [Pages 10-14]
e) Please provide documentation of the precise manner in which the Incurred Bornhuetter-Ferguson Method analysis properly accounts for this change in case reserving practices. [Pages 15-16]
f) Please provide the Incurred Bornhuetter-Ferguson Method trend regression analysis with the customary regression diagnostics and a graphical representation. [Page 15]
g) Please provide the basis of selection of each selected paid interval loss development factor assumption, including the 216 - Ultimate factor selection. [Pages 18, 19]
h) Please discuss the rationale for each of the changes made in the selected paid interval loss development factor assumptions, relative to the corresponding selections made as at 28 February 2013. [Page 18, 19]
i) Please discuss how the change back to the 2011 methodology (using the higher of the incurred BF method and paid BF method for the most recent three years only) fully accounts for the 2013 PIPP claims review. [Exhibit 4, Sheet 6]

## RESPONSE:

a) Our general approach in regards to the selected factors was to leave them unchanged from last year's selections. Given that the 2013 PIPP claims review resulted in significant increases in case reserves (and therefore reported), the factors for the most recent year were not indicative of "typical" loss development i.e. the factors provide no new information to reevaluate the prior selections. As such, we have decided to leave the prior selections unchanged, assuming that case reserves are now at the appropriate level and will develop similar to prior development.

Where selected factors were changed from last year's selections, we discuss the rationale for these changes in response to (b) below.
b) Changes made to the selected factors and the rationale for these changes are as provided in the following table. The selected factors are as presented in Volume III AI.7, Actuary's Report as at October 31, 2013.

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| Factor | Current <br> Selected | Prior <br> Selected | Rationale |
| :--- | :--- | :--- | :--- |
| $20-24$ | 1.0400 | 1.0200 | Factors for the most recent year were not <br> affected by the 2013 PIPP claims review; <br> selected based on the 'Simple Average of <br> Middle 3 of Last 5' average. |
| $32-36$ | 1.0100 | 1.0200 | Selected based on the 'Simple Average of <br> Middle 3 of Last 5' average (which excludes <br> the most recent factor). |
| $36-44$ | 1.0150 | 1.0125 | Selected based on the 'Simple Average of <br> Middle 3 of Last 5' average; equal selection for <br> both factors. |
| $44-56$ | 1.0200 | 1.0125 | 1.0200 |
| $56-68$ | 1.0125 | 1.0000 | Smooth out the prior selected factor for 128- <br> 140. |
| $116-128$ | 1.0040 | 1.0040 | 1.0080 |

c) Refer to the following table which compares the actual reported to the budgeted reported for fiscal year 2013/14. We cannot account separately for the impact of the 2013 PIPP claims review since some of the case reserves would have been adjusted regardless of the review.

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| Insurance <br> Year | $\mathbf{2 0 1 3 / 1 4 ~ R e p o r t e d ~}$ |  |  |
| :---: | ---: | ---: | ---: |
|  | Actual | Budget | Variance |
| 1994 | $-338,261$ | 136,039 | $-474,300$ |
| 1995 | 300,053 | 153,048 | 147,005 |
| 1996 | $-153,621$ | 106,943 | $-260,564$ |
| 1997 | 620,165 | 112,035 | 508,130 |
| 1998 | 398,352 | 102,288 | 296,064 |
| 1999 | $-250,916$ | 104,408 | $-355,323$ |
| 2000 | $-111,515$ | $-271,724$ | 160,209 |
| 2001 | 661,213 | $-307,058$ | 968,271 |
| 2002 | 673,251 | 163,043 | 510,208 |
| 2003 | 624,650 | 85,057 | 539,593 |
| 2004 | $1,677,201$ | 156,613 | $1,520,588$ |
| 2005 | $-931,897$ | 214,772 | $-1,146,669$ |
| 2006 | $2,595,112$ | 358,573 | $2,236,539$ |
| 2007 | $2,119,508$ | 443,561 | $1,675,947$ |
| 2008 | $2,197,855$ | 901,219 | $1,296,636$ |
| 2009 | $1,039,542$ | $1,018,953$ | 20,590 |
| 2010 | $1,102,160$ | $1,394,392$ | $-292,232$ |
| 2011 | $6,430,867$ | $2,352,417$ | $4,078,450$ |
| 2012 | $10,856,663$ | $3,203,160$ | $7,653,503$ |
| 2013 | $53,356,291$ | $53,044,809$ | 311,483 |
| Total | $82,866,674$ | $63,472,547$ | $19,394,127$ |
|  |  |  |  |

d) See the response to (a) above. No other adjustments were made since the purpose of the 2013 PIPP claims review was to ensure compliance with existing reserving guidelines.
e) We did not make any changes/adjustments to the Incurred Bornhuetter-Ferguson Method analysis.
f) Refer to the attached chart.
g) In general, the selected factors were based on the indicated 'Simple Average of Middle 3 of Last 5' average. Recent observations, particularly noticeable for development periods after 36 months, indicate higher than average paid loss development. For example, per Volume III AI.7, Actuary's Report as at October 31,2013 , the average of the five most recent loss development factors for the 36-44 development was 1.072 compared to the 1.051 for the five prior years. Similarly, for the 44-56 development, the difference was 1.070 compared to 1.054. The selection based on the 'Simple Average of Middle 3 of Last 5' average was to recognize these recent observations.
h) Per the response to ( g ) above, we selected factors based on the indicated 'Simple Average of Middle 3 of Last 5' average. Changes were made to the selections as at February 28, 2013 as required.
i) Refer to PUB (MPI) $1-40(\mathrm{j})$.


## PUB (MPI) 1-42 Reference: AI. 9

The cited quote from the 1992 GRA suggests that the "pure actuarial based method" is inconsistent with the Corporation's non-profit mandate, reportedly because the method does not recognize investment income on retained earnings as an offset to premium. Is this still the Corporation's position, and if so, why? [AI.9.3, Page 3]

## RESPONSE:

As shown on page 1 of AI.9.4, if Basic rates are calculated per accepted actuarial practice with a 0\% profit margin (i.e. "non-profit") then the Corporation required rate increase is $7.6 \%$. It is in this context that the Corporation was of the position that the pure actuarial based method was inconsistent with the Basic non-profit mandate. This method does not recognize investment income on retained earnings as an offset to premium.

However, if the Basic rate target is determined based on break-even net income in the rating period (i.e. the current PUB approved ratemaking methodology), then the Corporation believes that Basic rates can be calculated in accordance to accepted actuarial practice and also be consistent with the Basic non-profit mandate. These rates are shown on page 6 of AI.9.4.

## PUB (MPI) 1-43 Reference: AI. 9

Please describe the nature and extent of the actuarial foundation for the Driver Premiums and the Vehicle Premium discounts provided under DSR, and the implied balance between the resulting aggregated Driver Premiums and aggregated Vehicle Premiums, and discuss how these matters fit within the context of Mr. Johnston's opinion that indicated rates have been derived in accordance with accepted actuarial practice in Canada. [AI.9.4, Page 4]

## RESPONSE:

Per the Corporation's response to PUB(MPI) 2-24 in the 2014 Rate Application, the Corporation does not intend to review the experience under the DSR program until there are at least five to ten years of experience under the program.

Mr. Johnston has derived major classification indicated rates in accordance with accepted actuarial practice in Canada. Mr. Johnston's analysis does not include an opinion on the indicated DSR driver premiums or DSR vehicle discounts. However, the indicated rates (i) account for the revenue received from driver premium (i.e. as a reduction in the rate requirement) and (ii) are performed inclusive of DSR vehicle discounts (i.e. the revenue requirements by rating classification are actuarially sound net of vehicle discounts).

## PUB (MPI) 1-44 Reference: AI. 9

Please provide supporting documentation for the derivation of the "Req Rate (Bal)" values shown by Major Class and Overall. [AI.9.5, Page 8]

## RESPONSE:

Required Rate (Balanced) is derived as follows:

$$
\text { Required Rate (Balanced) }=\text { Required Rate }(\text { Raw }) * 0.9798
$$

The adjustment factor of 0.9798 is to recognize that premiums are received throughout the 2015/16 fiscal year. So, an overall required rate (balanced) of $\$ 800.27$ is required, so that when investment income is factored in on the premiums received, the overall required rate (raw) as of the average earned date is $\$ 816.76$.

The factor of 0.9798 is derived assuming that premiums for the 2015/16 fiscal year are received uniformly throughout the year.

| Quarter | Weight | Factor |
| :--- | :--- | :--- |
| 1 | $25 \%$ | $1.0362=1.0415 \wedge(10.5 / 12)$ |
| 2 | $25 \%$ | $1.0257=1.0415 \wedge(7.5 / 12)$ |
| 3 | $25 \%$ | $1.0154=1.0415 \wedge(4.5 / 12)$ |
| 4 | $25 \%$ | $1.0051=1.0415 \wedge(1.5 / 12)$ |
|  | Weighted Factor | 1.0206 |
| Reciprocal of Weighted Factor | $0.9798=1 / 1.0206$ |  |

## PUB (MPI) 1-45 Reference: AI. 9

Please discuss how the derivation of the estimated overall indicated rate change of $+7.6 \%$ recognizes the present value of cash flows relating to the revenue at the indicated rate.

## RESPONSE:

In determining the required rate (and therefore the required rate change of $+7.6 \%$ ) for rating year 2015/16, we considered the cash flow of all claims costs and expenses associated with the issuing of policies for the rating year. This cash flow was then discounted using the duration weighted interest rate of the Corporation's fixed income portfolio as at March 1, 2015 of 4.15\%. The derivation of the discounted cash flows is presented in Exhibit 1 to Exhibit 4 of AI.9, Volume III Actuary Standards Compliance.

## PUB (MPI) 1-46 Reference: AI. 9

Please provide a restated version of the "Major Classification - Required Rate Changes" derivation exhibit which includes a profit provision that recognizes as a premium offset the contribution of the expected investment return on the assets supporting Basic Total Equity. [AI.9.5, Page 8]

## RESPONSE:

The table below presents the derivation of the expected investment return on the assets supporting Basic Total Equity.

| (All figures in \$000) |  |  |  |
| :--- | :--- | ---: | ---: |
|  |  | $2014 / 15$ | $2015 / 16$ |
| Total Assets | Pro Formas, Pg 4 | $2,366,661$ | $2,424,071$ |
| Total Equity | Pro Formas, Pg 4 | 132,738 | 133,408 |
|  |  |  |  |
|  | Pro Formas, Pg 3 | 49,907 | 84,606 |
| Investment Income [a] |  | 2,799 | 4,656 |
| Investment Income from Equity [b] |  | 3,728 |  |
| Average Investment Income from <br> Equity |  |  |  |
| Notes: <br> [a] Investment income is assumed to be earned on the assets as at the end of the fiscal year. <br> [b] Total Equity / Total Assets * Investment Income |  |  |  |

The inclusion of the average investment income from equity of $\$ 3,728,000$ will result in a rate decrease of approximately $0.5 \%$ (i.e. the required overall rate increase would be $7.1 \%$ instead of $7.6 \%$ ).

## PUB (MPI) 1-47 Reference: AI. 9

Please provide supporting documentation for the selected discount rate of 4.15\%, with GRA cross-references as appropriate.

## RESPONSE:

Per Volume II, Claims Incurred, Page 8, the discount rate of the Corporation's fixed income portfolio as at fiscal year-end 2014/15 is 4.15\%.

## PUB (MPI) 1-48

## Reference: AI.9.5, p. 11

Please provide supporting rationale for choosing to discount cash flows to the end of the proposed rating year 2015/16, i.e., 28 February 2016.

## RESPONSE:

The date chosen corresponds to the average earning date and average accident date for policies written in the 2015/16 rating year.

## PUB (MPI) 1-49 Reference: CI.3.1

With respect to the PIPP AB Weekly Indemnity coverage:
a) Please confirm that the "Claim Count Incurred $>\$ 0$ " values [Page 11] are estimated ultimate claim counts by accident year. If so, please provide the supporting analysis for the derivation of these estimated ultimate claim counts. If not, please define the nature of these claim count statistics and the underlying rationale for their use in this analysis.
b) Please provide the claim count 10-year trend regression analysis with the customary regression diagnostics and a graphical representation.
c) Please provide exhibit/sheet or appendix/page cross references to the Actuary's Report as of 28 February 2014 in AI. 7 for the estimated ultimate amounts by accident year as shown [Page 11].
d) Please document the derivation of the estimated ultimate severities broken down between "Claims $\$ 0-\$ 100,000$ " and "Claims $\$ 250,000+$ " [Page 12], in particular explaining why claims between $\$ 100,001$ and $\$ 250,000$ are excluded, and how the possibility of distinct claim count and amount development patterns between the two groups is addressed.
e) Please provide the two claim severity 13-year trend regression analyses ("Claims $\$ 0-\$ 100,000$ " and "Claims $\$ 250,000+$ ", respectively) with the customary regression diagnostics and graphical representations.
f) Please link the projected amounts shown for "Interest Rate Impact" and "All Other Changes" by fiscal year [Page 13] to the supporting Exhibit 1/1b tables.
g) For each table comprising Exhibit 1, please provide footnotes with GRA crossreferences as needed to fully document the derivation formulae and data sources underlying forecasted values, in particular making it clear how the impact of
changing discount rates (as implied by the GRA's interest rate forecast) is captured.

## RESPONSE:

a) The "Claim Count Incurred $>\$ 0$ " values are estimated ultimate claim counts by accident year. These figures are estimated by using historical development of claim counts and selecting development factors that are then applied to calculate an ultimate claim count. See attached.
b) See attached.
c) Please refer to Exhibit 2 Sheet 5 Estimated Ultimate Claims (7).
d) The estimated ultimate severities were derived by taking a 13-year history of all claims and developing each claim to ultimate. These were then grouped into two categories, small ( $\$ 0-\$ 100,000$ ) and large claims (greater than $\$ 250,000$ ).
These two groups were chosen as they represent the majority of the incurred and claim count overall. The average claim severity in each group by accident year is what is shown in the table [Page 12].
e) See attached.
f) The projected amounts shown for "Interest Rate Impact" are a direct result of the change in interest rate that is reflected in the change in IBNR. These amounts are calculated by assuming a flat interest rate over the forecast period. "All Other Changes" are the changes in IBNR that happen irrespective of the change in interest rate.
g) Yearly claims paid are derived from Table 1 and shown in Table 2 of Volume II Claims Incurred, Exhibit 1. A complete table of yearly claims paid are shown in the attached document. An indexation rate of $2.00 \%$ is then applied each year to reflect the growing payment amount. These paid claim amounts are then

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discounted by the real discount rate and shown in Table 6. Total IBNR is a total of unpaid claims, any provisions, less case reserves. Therefore, a change in the interest rate will change the discounted unpaid claims and any applicable provisions.

## Accident Benefits Weekly Indemnity Ultimate Claim Counts

| Accident Year | Months Since Beginning of Accident Year |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Ultimate |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 | 108 | 120 | 132 | 144 | 156 | 168 | 180 | 192 | 204 | 216 | 228 |  |
| 00/01 | 2,164 | 2,327 | 2,345 | 2,340 | 2,343 | 2,340 | 2,339 | 2,339 | 2,334 | 2,335 | 2,328 | 2,328 | 2,331 | 2,330 | 2,330 | 2,330 | 2,330 | 2,330 | 2,330 | 2,330 |
| 01/02 | 2,088 | 2,257 | 2,244 | 2,244 | 2,237 | 2,233 | 2,233 | 2,229 | 2,228 | 2,219 | 2,218 | 2,220 | 2,221 | 2,221 | 2,221 | 2,221 | 2,221 | 2,221 | 2,221 | 2,221 |
| 02/03 | 2,182 | 2,223 | 2,213 | 2,215 | 2,215 | 2,209 | 2,201 | 2,201 | 2,196 | 2,196 | 2,198 | 2,196 | 2,196 | 2,196 | 2,196 | 2,196 | 2,196 | 2,196 | 2,196 | 2,196 |
| 03/04 | 2,060 | 2,132 | 2,123 | 2,114 | 2,116 | 2,107 | 2,103 | 2,106 | 2,107 | 2,107 | 2,110 | 2,110 | 2,110 | 2,110 | 2,110 | 2,110 | 2,110 | 2,110 | 2,110 | 2,110 |
| 04/05 | 1,985 | 2,072 | 2,052 | 2,055 | 2,044 | 2,040 | 2,040 | 2,039 | 2,039 | 2,041 | 2,041 | 2,041 | 2,041 | 2,041 | 2,041 | 2,041 | 2,041 | 2,041 | 2,041 | 2,041 |
| 05/06 | 1,884 | 1,975 | 1,966 | 1,952 | 1,947 | 1,945 | 1,944 | 1,942 | 1,943 | 1,943 | 1,943 | 1,943 | 1,943 | 1,943 | 1,943 | 1,943 | 1,943 | 1,943 | 1,943 | 1,943 |
| 06/07 | 2,055 | 2,130 | 2,112 | 2,102 | 2,103 | 2,102 | 2,103 | 2,104 | 2,104 | 2,104 | 2,104 | 2,104 | 2,104 | 2,104 | 2,104 | 2,104 | 2,104 | 2,104 | 2,104 | 2,104 |
| 07/08 | 2,000 | 2,071 | 2,060 | 2,058 | 2,056 | 2,056 | 2,054 | 2,054 | 2,054 | 2,054 | 2,054 | 2,054 | 2,054 | 2,054 | 2,054 | 2,054 | 2,054 | 2,054 | 2,054 | 2,054 |
| 08/09 | 1,750 | 1,892 | 1,891 | 1,881 | 1,882 | 1,884 | 1,884 | 1,884 | 1,884 | 1,884 | 1,884 | 1,884 | 1,884 | 1,884 | 1,884 | 1,884 | 1,884 | 1,884 | 1,884 | 1,884 |
| 09/10 | 1,725 | 1,892 | 1,878 | 1,876 | 1,877 | 1,877 | 1,877 | 1,877 | 1,877 | 1,877 | 1,877 | 1,877 | 1,877 | 1,877 | 1,877 | 1,877 | 1,877 | 1,877 | 1,877 | 1,877 |
| 10/11 | 1,799 | 1,920 | 1,924 | 1,926 | 1,926 | 1,926 | 1,926 | 1,926 | 1,926 | 1,926 | 1,926 | 1,926 | 1,926 | 1,926 | 1,926 | 1,926 | 1,926 | 1,926 | 1,926 | 1,926 |
| 11/12 | 1,698 | 1,821 | 1,830 | 1,830 | 1,830 | 1,830 | 1,830 | 1,830 | 1,830 | 1,830 | 1,830 | 1,830 | 1,830 | 1,830 | 1,830 | 1,830 | 1,830 | 1,830 | 1,830 | 1,830 |
| 12/13 | 1,880 | 2,031 | 2,031 | 2,031 | 2,031 | 2,031 | 2,031 | 2,031 | 2,031 | 2,031 | 2,031 | 2,031 | 2,031 | 2,031 | 2,031 | 2,031 | 2,031 | 2,031 | 2,031 | 2,031 |
| 13/14 | 1,763 | 1,893 | 1,893 | 1,893 | 1,893 | 1,893 | 1,893 | 1,893 | 1,893 | 1,893 | 1,893 | 1,893 | 1,893 | 1,893 | 1,893 | 1,893 | 1,893 | 1,893 | 1,893 | 1,893 |
| 14/15 | 1,747 | 1,876 | 1,876 | 1,876 | 1,876 | 1,876 | 1,876 | 1,876 | 1,876 | 1,876 | 1,876 | 1,876 | 1,876 | 1,876 | 1,876 | 1,876 | 1,876 | 1,876 | 1,876 | 1,876 |
| 15/16 | 1,733 | 1,861 | 1,861 | 1,861 | 1,861 | 1,861 | 1,861 | 1,861 | 1,861 | 1,861 | 1,861 | 1,861 | 1,861 | 1,861 | 1,861 | 1,861 | 1,861 | 1,861 | 1,861 | 1,861 |
| 16/17 | 1,719 | 1,846 | 1,846 | 1,846 | 1,846 | 1,846 | 1,846 | 1,846 | 1,846 | 1,846 | 1,846 | 1,846 | 1,846 | 1,846 | 1,846 | 1,846 | 1,846 | 1,846 | 1,846 | 1,846 |
| 17/18 | 1,705 | 1,831 | 1,831 | 1,831 | 1,831 | 1,831 | 1,831 | 1,831 | 1,831 | 1,831 | 1,831 | 1,831 | 1,831 | 1,831 | 1,831 | 1,831 | 1,831 | 1,831 | 1,831 | 1,831 |
| 18/19 | 1,691 | 1,816 | 1,816 | 1,816 | 1,816 | 1,816 | 1,816 | 1,816 | 1,816 | 1,816 | 1,816 | 1,816 | 1,816 | 1,816 | 1,816 | 1,816 | 1,816 | 1,816 | 1,816 | 1,816 |


| Year | 12-24 | 24-36 | 36-48 | 48-60 | 60-72 | 72-84 | 84-96 | 96-108 | 108-120 | 120-132 | 132-144 | 144-156 | 156-168 | 168-180 | 180-192 | 192-204 | 204-216 | 216-228 | 228-240 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3-Yr Weighted Average | 1.0735 | 0.9998 | 0.9982 | 1.0000 | 1.0002 | 0.9997 | 0.9997 | 1.0003 | 1.0003 | 1.0006 | 1.0000 |  |  |  |  |  |  |  |  |
| 5-Yr Average | 1.0796 | 0.9988 | 0.9978 | 0.9996 | 0.9995 | 0.9994 | 1.0001 | 0.9997 | 0.9995 |  |  |  |  |  |  |  |  |  |  |
| Selected Factor | 1.0735 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0001 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Factor to Ult | 1.0735 | 1.0001 | 1.0001 | 1.0001 | 1.0001 | 1.0001 | 1.0001 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |


| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.4925 |
| R Square | 0.2426 |
| Adjusted R Square | 0.1479 |
| Standard Error | 85.1848 |
| Observations | 10 |


| ANOVA | $d f$ |  | SS | MS | $F$ | Significance $F$ |
| :--- | :---: | :---: | :---: | :---: | :---: | ---: |
|  |  | 1 | 18592.51 | 18592.51 | 2.56 | 0.1481 |
| Regression | 8 | 58051.59 | 7256.45 |  |  |  |
| Residual | 9 | 76644.10 |  |  |  |  |
| Total |  |  |  |  |  |  |


|  | Coefficients | Standard Error | $t$ Stat | P-value | Lower 95\% | Upper 95\% |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Intercept | 2160.96 | 129.44 | 16.69 | 0.0000 | 1862.46 | 2459.46 |
| X Variable 1 | -15.01 | 9.38 | -1.60 | 0.1481 | -36.64 | 6.61 |



| Regression Statistics |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Multiple R | 0.9185 |  |  |  |  |  |
| R Square | 0.8437 |  |  |  |  |  |
| Adjusted R Square | 0.8264 |  |  |  |  |  |
| Standard Error | 0.0857 |  |  |  |  |  |
| Observations | 11 |  |  |  |  |  |
| ANOVA |  |  |  |  |  |  |
|  | df | SS | MS | $F$ | Significance $F$ |  |
| Regression | 1 | 0.3572 | 0.3572 | 48.5926 | 0.0001 |  |
| Residual | 9 | 0.0662 | 0.0074 |  |  |  |
| Total | 10 | 0.4234 |  |  |  |  |
|  | Coefficients | Standard Error | $t$ Stat | P-value | Lower 95\% | Upper 95\% |
| Intercept | 8.2769 | 0.0936 | 88.4573 | 0.0000 | 8.0652 | 8.4886 |
| X Variable 1 | 0.0570 | 0.0082 | 6.9708 | 0.0001 | 0.0385 | 0.0755 |

Ultimate Claim Severity of Weekly Indemnity (Incurred \$0 - \$100,000)


| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.0505 |
| R Square | 0.0026 |
| Adjusted R Squart | -0.1083 |
| Standard Error | 0.0518 |
| Observations | 11 |

ANOVA

|  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
|  | $d f$ | SS |  | MS | $F$ | Significance $F$ |
| Regression |  | 1 | 0.0001 | 0.0001 | 0.0231 | 0.8827 |
| Residual | 9 | 0.0241 | 0.0027 |  |  |  |
| Total | 10 | 0.0242 |  |  |  |  |


|  | Coefficients | Standard Error | t Stat | P-value | Lower 95\% | Upper 95\% |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Intercept | 13.3237 | 0.0565 | 235.8343 | 0.0000 | 13.1959 | 13.4515 |
| X Variable 1 | -0.0007 | 0.0049 | -0.1518 | 0.8827 | -0.0119 | 0.0104 |



Accident Benefits Weekly Indemnity
Yearly Claims Paid (\$000)

| Insuranœe | Insurance Year |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Acoident | Prior to |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Year | 10/11 | $10 / 11$ | 11/12 | 12/13 | 13114 | 14/15 | 15/16 | $16 / 17$ | $17 / 18$ | 1819 | 19120 | 20121 | $21 / 22$ | 22123 | 23124 | $24 / 25$ | 25126 | 26127 | 27128 | 28129 | 29130 | 30131 |
| 94495 and Prior | 32,769 | 974 | 1,171 | 1,015 | 1,114 | 858 | 765 | 680 | 604 | 611 | 618 | 625 | 632 | 639 | 647 | 654 | 661 | 669 | 676 | 684 | 692 | 700 |
| 95/96 | 35,512 | 1,224 | 1,048 | 1,623 | 1,190 | 1,216 | 1,087 | 969 | 862 | 765 | 774 | 783 | 792 | 801 | 810 | 819 | 828 | 838 | 847 | 857 | 866 | 876 |
| $96 / 97$ | 22,474 | 650 | 688 | 997 | 661 | 648 | 581 | 519 | 463 | 412 | 365 | 370 | 374 | 378 | 382 | 387 | 391 | 396 | 400 | 405 | 409 | 414 |
| 9798 | 24,677 | 602 | 695 | 769 | 926 | 834 | 750 | 672 | 600 | 535 | 476 | 423 | 427 | 432 | 437 | 442 | 447 | 452 | 457 | 463 | 468 | 473 |
| 9899 | 28,645 | 1,228 | 1,257 | 1,891 | 1,333 | 1,111 | 1,139 | 1,024 | 917 | 819 | 730 | 650 | 577 | 584 | 590 | 597 | 604 | 611 | 617 | 624 | 632 | 639 |
| $99 / 00$ | 28,136 | 925 | 1,418 | 1,163 | 1,246 | 933 | 956 | 980 | 880 | 789 | 705 | 628 | 559 | 496 | 502 | 508 | 513 | 519 | 525 | 531 | 537 | 543 |
| 0001 | 28,420 | 1,053 | 1,067 | 960 | 1,073 | 961 | 882 | 904 | 927 | 833 | 746 | 667 | 594 | 529 | 470 | 475 | 480 | 486 | 491 | 497 | 502 | 508 |
| 0102 | 23,857 | 919 | 888 | 1,433 | 1,100 | 924 | 847 | 777 | 797 | 817 | 734 | 657 | 587 | 524 | 466 | 414 | 418 | 423 | 428 | 433 | 438 | 443 |
| 0203 | 23,910 | 1,270 | 1,534 | 1,502 | 1,498 | 1,189 | 1,139 | 1,044 | 959 | 983 | 1,007 | 905 | 811 | 724 | 646 | 574 | 510 | 516 | 522 | 528 | 534 | 540 |
| $03 / 104$ | 23,613 | 1,364 | 1,404 | 1,667 | 1,606 | 1,146 | 1,078 | 1,033 | 947 | 869 | 891 | 913 | 820 | 735 | 657 | 585 | 521 | 462 | 468 | 473 | 478 | 484 |
| $04 / 05$ | 18,430 | 1,316 | 1,109 | 962 | 1,150 | 1,088 | 1,074 | 1,010 | 968 | 887 | 815 | 835 | 856 | 769 | 689 | 616 | 549 | 488 | 433 | 438 | 443 | 448 |
| 05/06 | 20,986 | 1,836 | 1,517 | 1,765 | 1,696 | 1,302 | 1,248 | 1,232 | 1,158 | 1,110 | 1,018 | 934 | 957 | 981 | 882 | 790 | 706 | 629 | 560 | 497 | 503 | 508 |
| $06 / 107$ | 20,964 | 2,695 | 2,259 | 2,978 | 2,642 | 1,832 | 1,703 | 1,632 | 1,611 | 1,515 | 1,451 | 1,331 | 1,221 | 1,252 | 1,283 | 1,153 | 1,033 | 923 | 823 | 732 | 650 | 657 |
| 0708 | 19,428 | 2,842 | 3,159 | 2,978 | 2,594 | 1,759 | 1,596 | 1,483 | 1,421 | 1,402 | 1,319 | 1,264 | 1,159 | 1,064 | 1,090 | 1,117 | 1,004 | 900 | 804 | 716 | 637 | 566 |
| $08 / 09$ | 16,109 | 4.426 | 3,962 | 3,711 | 2,963 | 2,051 | 1,671 | 1,516 | 1,409 | 1,350 | 1,332 | 1,253 | 1,200 | 1,101 | 1,010 | 1,036 | 1,061 | 954 | 854 | 763 | 681 | 605 |
| 09/10 | 7,997 | 7,924 | 4,127 | 3,304 | 3,034 | 2,480 | 1,656 | 1,349 | 1,224 | 1,137 | 1,090 | 1,075 | 1,012 | 969 | 889 | 816 | 836 | 857 | 770 | 690 | 616 | 549 |
| $10 / 11$ |  | 9,017 | 10,087 | 5,123 | 4,171 | 3,479 | 1,892 | 1,641 | 1,337 | 1,213 | 1,127 | 1,080 | 1,066 | 1,003 | 960 | 881 | 808 | 828 | 849 | 763 | 684 | 611 |
| 11/12 |  |  | 8,604 | 9,561 | 5,288 | 3,752 | 2,742 | 2,362 | 2,048 | 1,669 | 1,513 | 1,407 | 1,348 | 1,330 | 1,251 | 1,199 | 1,099 | 1,009 | 1,034 | 1,060 | 952 | 853 |
| 12/13 |  |  |  | 9,883 | 10,157 | 5,376 | 2,876 | 2,554 | 2,200 | 1,907 | 1,554 | 1,410 | 1,310 | 1,256 | 1,239 | 1,166 | 1,117 | 1,024 | 940 | 963 | 987 | 887 |
| 13/14 |  |  |  |  | 9,077 | 9,488 | 3,786 | 2,864 | 2,543 | 2,191 | 1,900 | 1,548 | 1,404 | 1,305 | 1,250 | 1,234 | 1,161 | 1,112 | 1,020 | 936 | 959 | 983 |
| 14/15 |  |  |  |  |  | 10,046 | 7,460 | 3,916 | 2,962 | 2,631 | 2,266 | 1,965 | 1,601 | 1,452 | 1,350 | 1,293 | 1,276 | 1,200 | 1,150 | 1,054 | 968 | 992 |
| 15/16 |  |  |  |  |  |  | 10,427 | 7,473 | 3,923 | 2,967 | 2,635 | 2,270 | 1,968 | 1,604 | 1,454 | 1,352 | 1,295 | 1,278 | 1,203 | 1,152 | 1,056 | 970 |
| $16 / 17$ |  |  |  |  |  |  |  | 10,821 | 7,484 | 3,928 | 2,972 | 2,639 | 2,273 | 1,971 | 1,606 | 1,457 | 1,354 | 1,297 | 1,280 | 1,204 | 1,154 | 1,058 |
| $17 / 18$ |  |  |  |  |  |  |  |  | 11,231 | 7,493 | 3,933 | 2,975 | 2,642 | 2,276 | 1,973 | 1,608 | 1,458 | 1,356 | 1,299 | 1,282 | 1,206 | 1,155 |
| 18/19 |  |  |  |  |  |  |  |  |  | 11,656 | 7,500 | 3,936 | 2,978 | 2,645 | 2,278 | 1,975 | 1,609 | 1,460 | 1,357 | 1,300 | 1,283 | 1,207 |

Accident Benefits Weekly Indemnity
Yearly Claims Paid (\$000)

| Insuranœ <br> Accident <br> Year | Insuranoe Year |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 31/32 | 32/33 | 33134 | 34/35 | 35/36 | 36/37 | 37/38 | $38 / 39$ | $39 / 40$ | $40 / 41$ | $41 / 42$ | 42143 | $43 / 44$ | 4445 | $45 / 46$ | 46147 | $47 / 48$ | $48 / 49$ | $49 / 50$ | $50 / 51$ | 51/52 | $52 / 53$ |
| 94/95 and Prior | 708 | 716 | 724 | 732 | 740 | 749 | 757 | 766 | - |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 95/96 | 886 | 896 | 906 | 917 | 927 | 938 | 948 | 959 | 970 | - |  |  |  |  |  |  |  |  |  |  |  |  |
| $96 / 97$ | 418 | 423 | 428 | 433 | 438 | 443 | 448 | 453 | 458 | 463 | - |  |  |  |  |  |  |  |  |  |  |  |
| 9798 | 479 | 484 | 489 | 495 | 501 | 506 | 512 | 518 | 524 | 530 | 536 | - |  |  |  |  |  |  |  |  |  |  |
| $98 / 99$ | 646 | 653 | 661 | 668 | 676 | 683 | 691 | 699 | 707 | 715 | 723 | 731 | - |  |  |  |  |  |  |  |  |  |
| 9900 | 549 | 556 | 562 | 568 | 575 | 581 | 588 | 594 | 601 | 608 | 615 | 622 | 629 | - |  |  |  |  |  |  |  |  |
| 0001 | 514 | 520 | 526 | 532 | 538 | 544 | 550 | 556 | 562 | 569 | 575 | 582 | 588 | 595 | - |  |  |  |  |  |  |  |
| 0102 | 448 | 453 | 458 | 463 | 468 | 474 | 479 | 484 | 490 | 496 | 501 | 507 | 513 | 518 | 524 | - |  |  |  |  |  |  |
| 0203 | 546 | 552 | 558 | 565 | 571 | 578 | 584 | 591 | 597 | 604 | 611 | 618 | 625 | 632 | 639 | 647 | - |  |  |  |  |  |
| $03 / 04$ | 489 | 495 | 500 | 506 | 512 | 518 | 524 | 529 | 536 | 542 | 548 | 554 | 560 | 567 | 573 | 580 | 586 | - |  |  |  |  |
| 0405 | 453 | 459 | 464 | 469 | 474 | 480 | 485 | 491 | 496 | 502 | 508 | 513 | 519 | 525 | 531 | 537 | 543 | 549 | - |  |  |  |
| 05/06 | 514 | 520 | 526 | 532 | 538 | 544 | 550 | 556 | 563 | 569 | 576 | 582 | 589 | 595 | 602 | 609 | 616 | 623 | 630 | - |  |  |
| $06 / 107$ | 665 | 672 | 680 | 688 | 696 | 703 | 711 | 719 | 728 | 736 | 744 | 753 | 761 | 770 | 779 | 787 | 796 | 805 | 815 | 824 | - |  |
| 0708 | 572 | 579 | 585 | 592 | 599 | 606 | 612 | 619 | 626 | 634 | 641 | 648 | 655 | 663 | 670 | 678 | 686 | 693 | 701 | 709 | 717 | - |
| 0809 | 538 | 544 | 550 | 556 | 562 | 569 | 575 | 582 | 588 | 595 | 602 | 609 | 616 | 623 | 630 | 637 | 644 | 651 | 659 | 666 | 674 | 681 |
| 09/10 | 489 | 434 | 439 | 444 | 449 | 454 | 459 | 464 | 470 | 475 | 480 | 486 | 491 | 497 | 503 | 508 | 514 | 520 | 526 | 532 | 538 | 544 |
| $10 / 11$ | 544 | 484 | 430 | 435 | 440 | 445 | 450 | 455 | 460 | 465 | 471 | 476 | 481 | 487 | 492 | 498 | 504 | 509 | 515 | 521 | 527 | 533 |
| 11/12 | 762 | 679 | 604 | 537 | 543 | 549 | 555 | 562 | 568 | 574 | 581 | 587 | 594 | 601 | 608 | 615 | 622 | 629 | 636 | 643 | 650 | 658 |
| $12 / 13$ | 795 | 710 | 633 | 563 | 500 | 506 | 511 | 517 | 523 | 529 | 535 | 541 | 547 | 553 | 560 | 566 | 573 | 579 | 586 | 592 | 599 | 606 |
| 13/14 | 883 | 791 | 707 | 630 | 561 | 498 | 504 | 509 | 515 | 521 | 527 | 533 | 539 | 545 | 551 | 557 | 564 | 570 | 577 | 583 | 590 | 596 |
| 14/15 | 1,017 | 914 | 819 | 731 | 652 | 580 | 515 | 521 | 527 | 533 | 539 | 545 | 551 | 557 | 564 | 570 | 577 | 583 | 590 | 596 | 603 | 610 |
| 15/16 | 994 | 1,019 | 915 | 820 | 733 | 653 | 581 | 516 | 522 | 528 | 534 | 540 | 546 | 552 | 558 | 565 | 571 | 578 | 584 | 591 | 597 | 604 |
| $16 / 17$ | 971 | 995 | 1,020 | 917 | 821 | 734 | 654 | 582 | 517 | 523 | 528 | 534 | 541 | 547 | 553 | 559 | 565 | 572 | 578 | 585 | 592 | 598 |
| $17 / 18$ | 1,059 | 972 | 996 | 1,021 | 918 | 822 | 735 | 655 | 583 | 517 | 523 | 529 | 535 | 541 | 547 | 554 | 560 | 566 | 573 | 579 | 586 | 592 |
| 18/19 | 1,156 | 1,060 | 973 | 997 | 1,022 | 919 | 823 | 735 | 655 | 583 | 518 | 524 | 530 | 536 | 542 | 548 | 554 | 560 | 567 | 573 | 580 | 586 |

## Accident Benefits Weekly Indemnity

 Yearly Claims Paid (\$000)| Insurance | Insurance Year |  |  |  |  |  |  |  |  |  |  | ThereAfter | Ulimate |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | 53/54 | $54 / 55$ | $55 / 56$ | 56/57 | $57 / 58$ | 58/59 | 59/60 | 60/61 | 61/62 | 62/63 | 63/64 |  |  |
| 94/95 and Prior |  |  |  |  |  |  |  |  |  |  |  | - | 54,350 |
| 95/96 |  |  |  |  |  |  |  |  |  |  |  | - | 63,733 |
| $96 / 97$ |  |  |  |  |  |  |  |  |  |  |  | - | 37,166 |
| $97 / 98$ |  |  |  |  |  |  |  |  |  |  |  | - | 42,031 |
| $98 / 99$ |  |  |  |  |  |  |  |  |  |  |  | - | 55,073 |
| $99 / 00$ |  |  |  |  |  |  |  |  |  |  |  | - | 51,640 |
| $00 / 01$ |  |  |  |  |  |  |  |  |  |  |  | - | 51,278 |
| $01 / 02$ |  |  |  |  |  |  |  |  |  |  |  | - | 45,599 |
| 0203 |  |  |  |  |  |  |  |  |  |  |  | - | 52,363 |
| $03 / 04$ |  |  |  |  |  |  |  |  |  |  |  | - | 51,332 |
| $04 / 05$ |  |  |  |  |  |  |  |  |  |  |  | - | 44,373 |
| 05/06 |  |  |  |  |  |  |  |  |  |  |  | - | 53,646 |
| $06 / 07$ |  |  |  |  |  |  |  |  |  |  |  | - | 67,175 |
| $07 / 08$ |  |  |  |  |  |  |  |  |  |  |  | - | 63,790 |
| $08 / 09$ | - |  |  |  |  |  |  |  |  |  |  | - | 64,369 |
| 09/10 | 550 | - |  |  |  |  |  |  |  |  |  | - | 55,665 |
| $10 / 11$ | 539 | 545 | - |  |  |  |  |  |  |  |  | - | 60,327 |
| 11/12 | 665 | 673 | 680 | - |  |  |  |  |  |  |  | - | 65,453 |
| 12/13 | 613 | 620 | 627 | 634 | - |  |  |  |  |  |  | - | 63,923 |
| 13/14 | 603 | 610 | 617 | 624 | 631 | - |  |  |  |  |  | - | 60,698 |
| 14/15 | 617 | 624 | 631 | 638 | 645 | 653 | - |  |  |  |  | - | 61,082 |
| 15/16 | 611 | 618 | 625 | 632 | 639 | 647 | 654 | - |  |  |  | - | 61,553 |
| $16 / 17$ | 605 | 612 | 619 | 626 | 633 | 640 | 647 | 655 | - |  |  | - | 62,023 |
| 17/18 | 599 | 606 | 613 | 620 | 627 | 634 | 641 | 648 | 656 | - |  | - | 62,493 |
| 18/19 | 593 | 600 | 606 | 613 | 620 | 627 | 634 | 642 | 649 | 656 | - | - | 62,962 |

## PUB (MPI) 1-50 Reference: CI.3.2

With respect to the PIPP ABO Indexed coverage:
a) Please provide the claim count 5-year trend regression analysis with the customary regression diagnostics and a graphical representation.
b) Please provide the two claim severity 13-year trend regression analyses ("Claims $\$ 0-\$ 100,000$ " and "Claims $\$ 250,000+$ ", respectively) with the customary regression diagnostics and graphical representations.

## RESPONSE:

a) see attached
b) see attached

| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.8338 |
| R Square | 0.6952 |
| Adjusted R Square | 0.5936 |
| Standard Error | 428.3271 |
| Observations | 5 |


|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | MS | $F$ | Significance $F$ |  |
| Regression | 1 | 1255284.90 | 1255284.90 | 6.84 | 0.0793 |  |
| Residual | 3 | 550392.30 | 183464.10 |  |  |  |
| Total | 4 | 1805677.20 |  |  |  |  |
|  | Coefficients | Standard Error | t Stat | $P$-value | Lower 95\% | Upper 95\% |
| Intercept | 6215.80 | 2175.63 | 2.86 | 0.0647 | -708.03 | 13139.63 |
| X Variable 1 | 354.30 | 135.45 | 2.62 | 0.0793 | -76.76 | 785.36 |



| Regression Statistics |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Multiple R | 0.8228 |  |  |  |  |  |
| R Square | 0.6770 |  |  |  |  |  |
| Adjusted R Square | 0.6411 |  |  |  |  |  |
| Standard Error | 0.0772 |  |  |  |  |  |
| Observations | 11 |  |  |  |  |  |
| ANOVA |  |  |  |  |  |  |
|  | df | SS | MS | $F$ | Significance $F$ |  |
| Regression | 1 | 0.1123 | 0.1123 | 18.8604 | 0.0019 |  |
| Residual | 9 | 0.0536 | 0.0060 |  |  |  |
| Total | 10 | 0.1659 |  |  |  |  |
|  | Coefficients | Standard Error | $t$ Stat | $P$-value | Lower 95\% | Upper 95\% |
| Intercept | 7.3062 | 0.0842 | 86.7612 | 0.0000 | 7.1157 | 7.4967 |
| X Variable 1 | 0.0320 | 0.0074 | 4.3429 | 0.0019 | 0.0153 | 0.0486 |



| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.1756 |
| R Square | 0.0309 |
| Adjusted R Square | -0.0768 |
| Standard Error | 0.2245 |
| Observations | 11 |


| ANOVA |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | df | SS | MS | $F$ | Significance $F$ |  |
| Regression | 1 | 0.0144 | 0.0144 | 0.2865 | 0.6054 |  |
| Residual | 9 | 0.4537 | 0.0504 |  |  |  |
| Total | 10 | 0.4681 |  |  |  |  |
|  | Coefficients | Standard Error | $t$ Stat | $P$-value | Lower 95\% | Upper 95\% |
| Intercept | 14.1776 | 0.2450 | 57.8638 | 0.0000 | 13.6233 | 14.7318 |
| X Variable 1 | -0.0115 | 0.0214 | -0.5353 | 0.6054 | -0.0599 | 0.0370 |



## PUB (MPI) 1-51 <br> Reference: CI.3.3

With respect to the PIPP ABO Non-Indexed coverage:
a) Please provide the claim count all year trend regression analysis with the customary regression diagnostics and a graphical representation.
b) Please provide the two claim severity 13-year trend regression analyses ("Claims $\$ 0-\$ 100,000$ " and "Claims $\$ 250,000+$ ", respectively) with the customary regression diagnostics and graphical representations.

## RESPONSE:

a) see attached
b) see attached

| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.1290 |
| R Square | 0.0166 |
| Adjusted R Square | -0.0728 |
| Standard Error | 109.9556 |
| Observations | 13 |


| ANOVA |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  | $d f$ |  | SS | MS | $F$ | Significance $F$ |  |
| Regression | 1 | 2250.55 | 2250.55 | 0.19 | 0.6745 |  |  |
| Residual | 11 | 132992.53 | 12090.23 |  |  |  |  |
| Total | 12 | 135243.08 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Intercept | 1441.42 | Standard Error | t Stat | P-value | Lower 95\% | Upper 95\% |  |
| X Variable 1 | 3.52 | 8.15 | 14.07 | 0.0000 | 1215.93 | 1666.91 |  |



| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.9142 |
| R Square | 0.8358 |
| Adjusted R Square | 0.8175 |
| Standard Error | 0.0289 |
| Observations | 11 |


| ANOVA | SS |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  | $d f$ |  | SS | $F$ | Significance $F$ |  |  |
| Regression |  | 1 | 0.0382 | 0.0382 | 45.7964 | 0.0001 |  |
| Residual | 9 | 0.0075 | 0.0008 |  |  |  |  |
| Total | 10 | 0.0457 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | Coefficients | Standard Error | t Stat | $P$-value | Lower 95\% | Upper 95\% |  |
| Intercept | 9.3074 | 0.0315 | 295.4114 | 0.0000 | 9.2361 | 9.3786 |  |
| X Variable 1 | 0.0186 | 0.0028 | 6.7673 | 0.0001 | 0.0124 | 0.0249 |  |



| Regression Statistics |  |
| :--- | ---: |
| Multiple R | 0.5796 |
| R Square | 0.3359 |
| Adjusted R Square | 0.2622 |
| Standard Error | 0.0542 |
| Observations | 11 |


| ANOVA |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $d f$ | SS | MS | $F$ | Significance $F$ |  |
| Regression | 1 | 0.0134 | 0.0134 | 4.5529 | 0.0616 |  |
| Residual | 9 | 0.0265 | 0.0029 |  |  |  |
| Total | 10 | 0.0398 |  |  |  |  |
|  | Coefficients | Standard Error | t Stat | $P$-value | Lower 95\% | Upper 95\% |
| Intercept | 12.5361 | 0.0592 | 211.8701 | 0.0000 | 12.4023 | 12.6700 |
| X Variable 1 | 0.0110 | 0.0052 | 2.1338 | 0.0616 | -0.0007 | 0.0227 |



## PUB (MPI) 1-52 Reference: CI. 5

With respect to the Collision coverage:
a) Please confirm that the cited "change in reserving practices" [Page 31] relates to the addition of a bulk IBNR provision of $\$ 13$ million (before provision for adverse deviations) due to the backlog of unrecorded vehicle damage claims resulting from the extreme cold weather. If not, please describe the nature, timing and extent of the cited "change in reserving practices".
b) Please provide the forecasted "HTA Earned Units" for accident years 2014/15 to 2018/19 underlying the forecasted ultimate incurred amounts [Page 36], and document the derivation of the forecasted "HTA Earned Units" for accident year 2014/15 providing GRA cross-references as appropriate.
c) Please document the derivation of the accident year 2014/15 ultimate severity providing GRA cross-references as appropriate.
d) Please comment on the extent to which the Corporation believes its frequency and severity forecasts fully encompass the expected impact of "changes in vehicle technology, more complex vehicle manufacturing, and use of nonrepairable components" as these types of vehicles grow in significance over time in the insured fleet of vehicles.

## RESPONSE:

a) Not confirmed. The cited "change in reserving practices" relates to a minor systems issue that resulted in an overstatement of reserves as at 12 months. In December 2013 through January 2014 the Corporation was implementing the new Mitchell WorkCentre system. During this transition period there were some collision claims that were double reserved (i.e. the estimated reserve was added twice). Since this impact does not reflect a true increase in exposure, the

2013/14 ultimate severity was adjusted downward by an offsetting amount (see the severity calculation on page 34 of Volume II Claims Incurred, section CI.5)
b) Please see Volume II Revenues, section R.1.1 Volume Factor [Page 9].
c) Per Volume II Claims Incurred, section CI.5, page 34-36, the 2014/15 collision ultimate severity is projected to increase by $3.24 \%$ over the prior year's ultimate severity. The growth rate is calculated as the weighted (based on claims incurred) combination of the collision repair and the collision total loss severity growth rates derived on page 34 of CI. 5 .
d) The Corporation has adjusted its collision severity forecast to be more reflective of recent historical trends and expected future trends. However, we are unable to assess the level to which this forecast fully encompasses the expected impact of "changes in vehicle technology, more complex vehicle manufacturing, and use of non-repairable components". The Corporation will be watching these trends closely and will continue to update our forecasts each year based on the latest information available.

## PUB (MPI) 1-53 Reference: CI.8.5, p. 54

Please provide additional supporting rationale for the assumption of no changes in the premium deficiency provision over the forecast period, in particular considering that the current GRA proposes a rate level in excess of the required rate level for the 2015/16 rating year due to the inclusion of a $1 \%$ RSR rebuilding fee.

## RESPONSE:

The Corporation's financial model was not constructed to forecast changes in the premium deficiency as this calculation is very complex. On pages 23 and 24 of the 2014 DCAT report (Volume II RSR.2), the Chief Actuary noted this issue, and as a result, restated the Corporation's base forecast to include a forecast of the expected premium deficiency and/or deferred policy acquisition cost (DPAC) write-down. See PUB (MPI) 1-107.

## PUB (MPI) 1-54 Reference: Recycled Parts

Please provide a table summarizing the Corporation's costs for new parts, aftermarket parts and recycled parts for vehicles repaired for the last ten years as a dollar and percentage of total parts used, in the form provided in answer to PUB/MPI I-44 at the 2011 GRA.

## RESPONSE:

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-55 Reference: SM5.3, TI.5 Trend Analysis 2014 GRA

a) Please provide an update to the trend analysis from 2010 to 2019 on a similar basis as that provided in response to PUB/MPI I-52 last year.
b) Provide the same analysis as (a) for the Corporation
c) Please re-file the table as restated in (a) above excluding expenditures on immobilizer installations, related administrative costs and BTO/BPR expenditures.
d) Please include in the trend analysis the compounded annual growth for 2009/10 through 2013/14 and 2013/14 to 2016/17.

## RESPONSE:

a) to d) Please refer to PUB (MPI) 1-3.

## PUB (MPI) 1-56

Reference: E.3, Appendix 4 Expense Allocation Formulas
a) Please file the cost allocation schematic for 2015/16
b) Please provide a comparison between E. 7 Appendix 2 provided at the last GRA with E. 3 Appendix 4 provided this year and indicate any changes in allocators used in the cost allocation methodology.
c) Please also provide details of any changes made to the cost categories, accounting units, groupings of accounting units or purification adjustments made to the methodology since the last GRA, in particular the Driver Licensing and Control cost category and all accounting units that appear to be in last year's schematic and not this year's.
d) Please indicate whether there were any changes in the allocation of Initiatives from the last GRA.

## RESPONSE:

a) Refer to the attached schedule.
b) The detailed allocation definitions in the two appendices (E. 7 Appendix 2 and E. 3 Appendix 4) are the same with the exception of the methodology description for Product \& Policy Management and the changes noted in part c). In the 2014 GRA, Product \& Policy Management was described as $100 \%$ operating. However, it was actually split between Claims and Operating based on FTE. The description in E. 3 Appendix 4 is appropriate for both 2013/14 and 2012/13.

The allocation methodology and process for the 2015 GRA is identical to that for the 2014 GRA. Allocation percentages may have changed due to the incorporation of current data. For example, the four year average Claims Incurred allocator for the 2015 GRA includes 2013/14 actual results.
c) In the 2015 GRA, any categories with no allocation to Basic (D, G, Y and Z) were removed from Appendix 2, since these allocators do not impact Basic results. The categories still exist and the methodology has not changed. The accounting units removed from the schedule in 2015 include eleven buildings under physical properties that are no longer owned or rented and unit 073 (Customer Research) which was combined with unit 058 (Corporate Strategic Analytics) in the category Product \& Policy Management.

The allocation methodology for initiatives is project specific. Initiatives that were allocated in the 2014 GRA are being allocated in the same manner in the 2015 GRA. Any new initiatives will be assigned a particular allocation method that is based on those business segments benefiting from the initiative.

Manitoba Public Insurance

## Manitoba Public Insurance

## Cost Allocation Methodology

for 2015/16


## PUB (MPI) 1-57 Reference: Expenses

a) "It should be noted that upon completion of a project, ongoing expenses will transfer into the normal operations expense grouping." [E.1, Page 6] Given this assertion, why are there forecasted amounts for Improvement Initiative Ongoing Expenses? [E.1, Page 5]
b) If the next replacement cycle for certain types of data processing equipment is scheduled to occur in 2016/17 following a three year cycle, why isn't the amount shown for 2013/14 actual in this regard elevated relative to the 2014/15 and 2015/16 forecast amounts? [E.2.1, Pages 7 and 9]
c) Please indicate when the last furniture and equipment refresh was made and provide a comparison with the level of expenditures then with those forecast for 2017P.
d) "The amortization of deferred development project costs starts on March $1^{\text {st }}$ of the year after the project is completed." "For projects that are still in
progress, the amortization of deferred development expenses are forecasted as part of ongoing expense related to improvement initiatives and are not included as normal operating expenses." [E.2.1, Page 10] Please reconcile and explain these two statements?

## RESPONSE:

a) The ongoing expenses included in the forecast are related to projects that are still in progress or expected to be in progress during the forecast years (for a list of current projects, please see Volume II Expenses, section E 4.2, page 26). Only when a project has been completed will the ongoing expenses related to that project be transferred into the normal operations classification grouping. Where a project has an estimated completion date in the forecast period, forecasted ongoing expenses are not transferred to forecasted normal operations. This transfer occurs only when a project is actually completed.
b) The previous equipment refresh purchases were made prior to the 2013/14 fiscal year, taking advantage of favourable pricing and model availability. The equipment was installed in the latter part of 2012/13.
c) The latest furniture and equipment refresh occurred with the purchase of equipment in 11/12 and installation of said equipment spread over the 12/13 and $13 / 14$ fiscal years. Going forward, the Corporation will be proceeding with the $16 / 17$ refresh as indicated.
d) For forecasting purposes, all amortization expenses relating to deferred development are still classified as an ongoing expense in the year after completion if the project was in progress at the start of the forecast period. Once the project has been completed the amortization expenses are reclassified and transferred into normal operations. As mentioned in the answer to part a), this transfer occurs only when the project is actually completed.

## PUB (MPI) 1-58

## Reference: Expenses E. 1 Overview Appendix 9 PUB/MPI I-80 (a) Attachment 2014 GRA

a) Please detail the costs incurred related to the Mainframe decommissioning and advise of to what extent those costs have been allocated to Basic.
b) Please explain the increase in ongoing IBM Data Centre expenses in 2012/13 and 2013/14 and why these one-time date conversion expenditures were not capitalized.
c) Please explain the differentiation between data processing IBM Data Centre expenditures and ongoing annual IBM Data Centre expenses.
d) Please explain why the annual IBM Data Centre expenditure appears to have increased from that forecast last year for the years 2014/15 through 2017/18.

## RESPONSE:

a) Please refer to PUB (MPI) 1-68 (c) from the 2014 GRA. The Corporation's position regarding the allocation of this project has not changed.
b) The ongoing IBM Data Centre expenses relate to the cost of IBM managing the Corporation's Data Centre off site. The one time conversion costs were in fact capitalized within the IT Optimization project.
c) Please refer to PUB (MPI) 1-7 a).
d) The forecast made for the 2014 GRA was based on the best available information at the time. The forecast was revised in the 2015 GRA as the costs became better understood and more accurate projections could be developed.

## PUB (MPI) 1-59

## Reference: E.2.1 Corporate Normal Operating Expenses

a) Please update the table to include fiscal years 1999/2000 through 2012/13.
b) Please provide additional columns indicating the compound annual growth rate for 2009/10 through 2013/14, 2013/14 to 2016/17 and 2016/17 to 2018/19.
c) Please provide a similar analysis in (a) for Basic Normal operations.
d) Please provide a summary of the details of Special Services and Other expenses for 2013/14 and a forecast for the years 2014/15, 2015/16 and 2016/17.
e) Please provide a schedule reflecting (a) and (b) for total Corporate operations.
f) Please provide a schedule on the same basis as (c) for total Basic operations.
g) Please refile (a) to include Initiative Implementation and Initiative Ongoing expenditures.
h) Please file Basic expenses on a similar basis as that provided in CAC/MPI I-6 (2014 GRA) for the years 2012/13 through 2016/17.

## RESPONSE:

a) to $h$ )

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-60

## Reference: Expenses, Appendix 1, Appendix 9, PF.6, PF. 7 - Data Processing Costs, E.4.2

a) Please reconcile for $2015 / 16$ the $\$ 29.6$ million in Corporate data processing costs on Appendix 1 with the data processing costs of $\$ 20.4$ million included in Appendix 9.
b) Please provide a detailed comparison of the Basic Initiative Implementation expenses for 2015/16 and 2016/17 forecast last year with that forecast this year by project.
c) Please provide detailed support for the provisions for future project expenses of \$2,397,000 for 2015/16 and \$3,195,000 for 2016/17 [E.4.2].

## RESPONSE:

a) The Information Technology Costs included in Volume II Expenses - Appendix 9 show the Corporate Information Technology (CIT) normal operating costs only and should be compared to the normal operation column on Appendix 1.
b) Please refer to PUB (MPI) 1-74 (a).
c) Please refer to PUB (MPI) 1-74 (b).

## PUB (MPI) 1-61

Reference: Expenses Appendix 1
pp. 5 \& 8 - Merchant Fees
a) Please provide the current merchant fee rates and the proposed revised rates and explain the basis for the expectation of an increase in merchant fee rates.
b) Please provide the determination of merchant fee costs for 2014/15 and the two test years.
c) Please explain why $2013 / 14$ is affected by an "anticipated" increase in merchant fee rates.

## RESPONSE:

a) Current merchant fee rates are as follows:

VISA Merchant Fees (includes 8\% card brand fee)
Type of Transaction Type of Card

|  | Consumer | Corporate | Premium |
| :--- | :--- | :--- | :--- |
| Electronic Transactions | $1.730 \%$ | $2.080 \%$ | $1.851 \%$ |
| Standard Transactions | $1.840 \%$ | $2.180 \%$ | $2.040 \%$ |
| Recurring Transactions | $1.680 \%$ | $2.020 \%$ | $1.880 \%$ |

MasterCard Merchant Fees (includes 7.7\% card brand fee)

## Type of Transaction Type of Card

|  | Consumer | Corporate | Premium | World Elite |
| :--- | :--- | :--- | :--- | :--- |
| Electronic Transactions | $1.757 \%$ | $2.167 \%$ | $2.167 \%$ | $2.417 \%$ |
| Standard Transactions | $1.887 \%$ | $2.167 \%$ | $2.297 \%$ | $2.817 \%$ |
|  |  |  |  |  |
| Debit transaction fee $-\$ 0.0782$ |  |  |  |  |

The card brand fee increased during the year - from .06\% to .08\% (VISA) and from $.064 \%$ to $.077 \%$ (MCard). These mid-year increases experienced in 2013/14 were extended to a full year for 2014/15. There are no proposed revised rates, merely the annualizing of the mid-year increases experienced in 2013/14.

There are shifts in customers' payment preferences that impact merchant fees, (i.e. from basic consumer credit cards), which trigger a lower merchant fee, to premium credit cards, which offer more benefits to the consumer, but trigger a higher merchant fee; and the customers' shift in payment preference from debit to credit.
b) The determination of merchant fees for 2014/15 were based on a review of actual spend in 2013/14 and as mentioned above, the full year impact of rate increases. The forecast years include the impact of CPI growth.
c) The increases in the card brand fees were anticipated, but not in sufficient lead time to afford revision of the original forecasted amounts.

## PUB (MPI) 1-62

## Reference: Expenses Appendix 9, PUB/MPI 2-33 (2014 GRA)

a) Please provide the Information Technology Costs Table in Appendix 9 broken down between Normal operations, Initiative implementation and Initiative ongoing expenses.
b) Please update the schedule of IT expenses to include the years 2005/06 through 2008/09 and include two columns providing the compound annual growth rate for 2005/06 to 2013/14 and 2013/14 through 2018/19.
c) Please update the corporate capital IT schedule as in (a) above, and include a column on the right of total capital costs by project.

## RESPONSE:

a) The table on pages 40 and 41 of Volume II Expenses - Appendix 9 shows normal operations and ongoing expenses related to IT costs. The first part of the table is normal operations expenses. Ongoing expenses are shown as a separate section on page 41. Implementation expenses are shown on pages 24 and 25 of the Expenses section of Volume II of the 2015 GRA.
b) Please refer to $\operatorname{PUB}(\mathrm{MPI})$ 1-3.
c) Refer to E.4.2 in the Expenses section of Volume II of the 2015 GRA for capital costs by project.

## PUB (MPI) 1-63 Reference: SM. 2 Benchmarking <br> pp. 12, 19, AI. 12

a) Please provide a description of each of the productivity factors that are being developed to assess cost containment measures [SM.2, p. 12].
b) In table format, please file a 5-year historical analysis of each of the metrics provided in AI. 12 for the fiscal years 2009/10 through 2013/14 and those forecast through 2016/17, including all relevant data to determine the ratios. Please comment on the internal trends.
c) Please file a copy of any reports, presentations or customized analyses provided by the Ward Group to the Corporation's management since the last GRA, including the Trend Analysis Report referenced.
d) Please provide the composition of the Canadian Personal Auto Group, Canadian Benchmark Group and US Personal Auto Group.

## RESPONSE:

a) to d)

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-64

## Reference: SM5.2 Benchmarking p. 19, AI.12, CAC/MPI I-5 2014 GRA

Please file an update to CAC/MPI I-5 from the 2014 GRA, providing operational, claims costs and premium historical statistics similar to TI. 5 Part $1 \& 2$ from the 2013 GRA.

## RESPONSE:

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-65

Reference: CAC/MPI 1-20 2014 GRA, AI. 12
a) Please provide an update to CAC/MPI I-20 (2014 GRA).
b) Please reconcile the claims/claims employee ratio per CAC/MPI I-20 (2014 GRA) with that reported in 1.2.3 Reported Claim per Claims FTE for 2010 through 2012.
c) Please reconcile the claims expense per claims ratio provided in response to CAC/MPI I-20 at 2014 GRA with that presented in 1.2.2.

## RESPONSE:

a) to c )

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-66

## Reference: AI.12 1.1 Corporate Comparison

Please provide a Corporate Performance benchmarking comparison with SGI for 2012 and 2013 (from publicly available information if required) relative to the operational efficiency metrics listed by MPI.

## RESPONSE:

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-67 Reference: Benchmarking

a) Is it practical to provide benchmarking of the Corporation's claims handling practices by reference to the disability duration guidelines and rehabilitation plans built on leading industry practices as provided to staff? [SM.1, Page 21]
b) Is it practical to produce benchmarking vs. Basic operations for SGI and ICBC? [SM.2, Page 16]
c) With respect to the Operational Efficiency Measures employed, it is practical to develop any of these metrics for Basic operations only? [SM.2, Page 17]

## RESPONSE:

a) to c )

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-68

Reference: Compensation Expense

## p. 16 \& 17

a) Please provide supporting calculations for the vacancy provision in 2015/16.
b) Please file a headcount analysis indicating where the Corporation targets reducing its staffing levels.
c) Please provide a schedule providing the estimated current number of staff that are eligible for retirement, the assumed retirement pattern for the years 2014/15, 2015/16 and 2016/17 and discuss the proposed salary savings to be realized.
d) Please extend the Corporate Annual Salary Changes - Normal Operations schedule to include forecast years, 2014/15 through 2016/17.

## RESPONSE:

a) The vacancy provision for $2015 / 16$ is based on the average vacancy rate of approximately 75 staff at an average compensation rate (salaries and benefits).
b) Management will undertake a careful analysis of each vacated position to assess the value to the Corporation and will look to eliminate up to 30 positions. The 30 positions have not yet been determined.
c) Any proposed salary savings to be realized regarding retirements are factored into the overall $1.75 \%$ step on scale increase; i.e., it is assumed that $50 \%$ of staff are at top of scale and will not receive an additional increment - this would include staff that is near or at retirement.
d) Information to support the salary forecast is located in Volume II, Expenses, pages 11-15.

## PUB (MPI) 1-69

Reference: 2 Expenses E2.1.2,
Appendix 3 Staffing Levels
a) Please provide the detailed Normal Operations budget for 2014/15
b) Please provide the same level of detail in Appendix 3 for staffing levels of Implementation operations, segregating between MPI employees and contractors.
c) Please explain how MPI has adjusted its salary expense for rate setting purposes to counter this persistent under budget variance.

## RESPONSE:

a) The normal operations budget on a corporate basis is located on page 7 of Volume II Expenses and again in comparison to last year's forecast in Expenses Appendix 1 on page 7. Appendix 1, page 7 also provides the Basic normal operations budget for 2014/15.
b) \& c) Staffing levels do not include contract staff. Expenses Appendix 1 provides the total amounts forecasted for compensation related to Improvement Initiatives allocated to Basic projects. Similar to normal operations, a vacancy allowance is netted in this budget amount to allow for variances in actual activity. You will notice that in the 2014 GRA, compensation was not separately forecasted for improvement initiatives, this was rectified this GRA.

## PUB (MPI) 1-70

## Reference: E.2.1.2 Corporate Staff Levels, p. 15

Please provide an updated staffing comparison (actual versus budget or forecast) from 2005/06 through 2018/19 including Normal Operations and Initiative staffing levels, both with and without contractors.

## RESPONSE:

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-71

Reference: Expenses pp. 12, 13 Compensation
a) Please provide the staffing analysis in support of the assumption that for forecasting purposes $50 \%$ of the staff are eligible for step increases in light of the hiring freeze currently in place.
b) Please file the detail of payroll in a similar format to TI. 8 from the 2013 GRA for the fiscal years 2011/12 to 2016/17.
c) Please refile the Compensation and Salary analysis from Expenses p. 12 including fiscal years 2011/12 to 2016/17.

## RESPONSE:

a) The hiring freeze is not related to the percentage of staff eligible for steps in scale. Per the collective agreement, each in scope position has an associated pay grade that has six salary levels or steps. Annual pay increments move staff from one salary step to the next, other than when a staff member has reached the highest step for the pay grade. For forecasting purposes, the Corporation has estimated that $50 \%$ of staff is eligible for salary increments.

The hiring freeze affects only the number of staff. The number of staff is independent of what proportion is eligible for salary increments.
b) In the current year application, the Corporation took a much more in-depth approach to discussing and explaining the compensation increases. Information is provided in various locations throughout the application, predominately in Volume II Expenses.

Specifically with respect to the old TI. 8 schedule, please find the relevant information in Volume II Expenses, sections E.2.1.1 and E.2.1.3.
c) Refer to the attachment. Fiscal years 2012/13 and on are provided. Fiscal years 2010/11 and 2011/12 are not provided as these years include pension valuation adjustments which make the comparison to current years irrelevant.

Manitoba Public Insurance Compensation and Salary Analysis

| CORPORATE COMPENSATION CHANGES - NORMAL OPERATIONS |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (C\$ 000s, except where noted) | $\begin{gathered} \text { 2013A } \\ \text { (Restated)* } \end{gathered}$ | 2014A | Change | \% | 2015P | Change | \% | 2016P | Change | \% | 2017P | Change | \% |
| Gross Salaries | 122,928 | 124,546 | 1,618 |  | 128,073 | 3,527 |  | 134,093 | 6,020 |  | 139,412 | 5,319 |  |
| Vacancy Allowance | $(4,651)$ | $(4,851)$ | (200) |  | $(5,981)$ | $(1,130)$ |  | $(6,250)$ | (269) |  | $(6,507)$ | (257) |  |
| Total Net Salaries | 118,277 | 119,695 | 1,418 | 1.20\% | 122,092 | 2,397 | 2.00\% | 127,843 | 5,751 | 4.71\% | 132,905 | 5,062 | 3.96\% |
| Overtime | 2,317 | 3,030 | 713 |  | 2,192 | (838) |  | 2,295 | 103 |  | 2,386 | 91 |  |
| Benefits | 27,821 | 27,533 | (288) |  | 27,868 | 335 |  | 28,843 | 975 |  | 30,049 | 1,206 |  |
| H \& E Tax | 2,526 | 2,503 | (23) |  | 2,684 | 181 |  | 2,810 | 126 |  | 2,925 | 115 |  |
| Compensation | 150,941 | 152,761 | 1,820 | 1.21\% | 154,836 | 2,075 | 1.36\% | 161,791 | 6,955 | 4.49\% | 168,265 | 6,474 | 4.00\% |
| \% Change in compensation |  |  | 1.21\% |  |  | 1.36\% |  |  | 4.49\% |  |  | 4.00\% |  |
| Basic Allocation. \% | 74.71\% | 73.48\% | -1.23\% |  | 74.28\% | 0.80\% |  | 74.84\% | 0.56\% |  | 74.59\% | -0.25\% |  |
| Basic Total | 112,768 | 112,249 | (519) | -0.46\% | 115,012 | 2,763 | 2.46\% | 121,083 | 6,071 | 5.28\% | 125,509 | 4,426 | 3.66\% |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 2013A | 2014A | Change |  | 2015P | Change |  | 2016P | Change |  | 2017P | Change |  |
| Prior Year Balance |  |  | 122,928 |  |  | 124,546 |  |  | 128,073 |  |  | 134,093 |  |
| Economic | 1.45\% | 0.00\% | - |  | 1.15\% | 1,432 |  | 2.75\% | 3,522 |  | 2.38\% | 3,191 |  |
| Steps in scale | 1.05\% | 1.75\% | 2,151 |  | 1.75\% | 2,180 |  | 1.75\% | 2,241 |  | 1.75\% | 2,347 |  |
| Other Salary Acct adjustments |  |  | 266 |  |  | 1,000 |  |  | 500 |  |  | - |  |
| OOS salary adjustment (no increment) |  |  |  |  |  | (330) |  |  |  |  |  |  |  |
| Staff Changes (Adj reclassses, add-del, vacancy allowance) |  |  | (799) |  |  | (315) |  |  | (243) |  |  | (219) |  |
| FTE Reduction (7 FTE @ \$63.5k) |  |  |  |  |  | (440) |  |  |  |  |  |  |  |
|  |  |  | 124,546 |  |  | 128,073 |  |  | 134,093 |  |  | 139,412 |  |

* Restated for the impact of IAS 19 Employee Benefits, specifically the movement of the pension adjustment out of compensation into Other Comprehensive Income


## PUB (MPI) 1-72

Reference: Expenses Appendix 3 2013/14 Reorganization
a) Please explain the reason for and timing of the reorganization which saw the elimination of the Claims Control and Safety Operations Department in 2013/14. Please provide a schedule indicating where the staff from that department was reassigned.
b) Please explain how the re-organization has impacted the cost allocations between Basic and the other lines of business.

## RESPONSE:

a) and b)

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-73

## Reference: E.4.1 p. 23 -

 Capitalized PayrollPlease provide a schedule of total salaries and benefits and the portion of internal payroll costs capitalized in each of the years 2005/06 through 2018/19.

## RESPONSE:

Internal payroll costs are not capitalized by the Corporation; they are considered implementation expenses and are expensed as incurred.

## PUB (MPI) 1-74

Reference: E.4.1 Appendices 7, 8
Project costs
a) Please provide a budget comparison of BTO/BPR projects by major component this year with the budget provided last year for 2013/14, 2014/15 and 2015/16 in similar format to PUB I-58 (b) Attachment at the last GRA.
b) Please provide any supporting calculations for the provisions for projects, by project, for 2015/16 to 2018/19.
c) Please file Information Technology Costs including the compound annual growth rate for 2009/10 to 2013/14 and 2013/14 to 2018/19.

## RESPONSE:

a) Refer to attachment a).
b) The provision for future project expenses is a management forecast of project expenses that have yet to be formalized. The Corporation is committed to continual improvements in service and efficiency through the application of technology. As such, it is to be expected that projects will be undertaken in the future and adequate provision for these projects should be included in the forecast.
c) The Information Technology Costs are included in Volume II Expenses - Appendix 9 (pages 38 to 43). They have been resubmitted in Attachment c) with compound growth rates.

Manitoba Public Insurance
Project Costs - Capital Expenditures

| Basic | $\frac{2013 / 14}{2015 \text { GRA }}$ |  |  | 2014/15 |  |  | 2015/16 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 2014 GRA | 2015 GRA | Difference | 2014 GRA | 2015 GRA | Difference |
| Deferred Development |  |  |  |  |  |  |  |  |  |
| IT Optimization | 3,251 | 1,967 | 1,284 | 1,115 | 3,153 | $(2,038)$ | - | 1,208 | $(1,208)$ |
| Physical Damage Re-Engineering | 12,298 | 10,272 | 2,026 | 15,973 | 16,115 | (142) | 14,010 | 14,134 | (124) |
| Disaster Recovery | 5,292 | 9,202 | $(3,910)$ | - | - | - | - | - | - |
| HRMS | 1,167 | 2,371 | $(1,204)$ | - | 979 | (979) | - | - | - |
| HRMS TM10 |  |  | - | - | 1,198 | $(1,198)$ |  | - | - |
| Predictive Analytics | - |  | - | - | 679 | (679) |  | - | - |
| Legal Management | - |  | - | - | 949 | (949) |  | - | - |
| BI3 Fineos Upgrade | - | 257 | (257) | - | 1,172 | $(1,172)$ |  | - | - |
| Other/ Provision | 2,344 | - | 2,344 | 7,003 | 1,090 | 5,913 | 7,003 | 4,793 | 2,210 |
| Total Deferred Development | 24,352 | 24,069 | 283 | 24,091 | 25,335 | $(1,244)$ | 21,013 | 20,135 | 878 |
| Capital Expenditures |  |  |  |  |  |  |  |  |  |
| IT Optimization | 3,112 | - | 3,112 | - | - | - | - | - | - |
| Physical Damage Re-Engineering | 184 | - | 184 | 211 | 213 | (2) | 220 | 222 | (2) |
| Legal Management | - | - | - | - | 314 | (314) |  | - | - |
| Information Security Strategy \& Road Map | - | - | - |  | 20 | (20) |  | - | - |
| Other / Provision | - | - | - | 389 | - | 389 | 389 | 399 | (10) |
| Total Capital Expenditures | 3,296 | - | 3,296 | 600 | 547 | 53 | 609 | 621 | (12) |
| Implementation Expense |  |  |  |  |  |  |  |  |  |
| IT Optimization | 462 | 168 | 294 | - | 461 | (461) | - | 115 | (115) |
| Physical Damage Re-Engineering | 191 | 435 | (244) | 893 | 901 | (8) | 1,508 | 1,522 | (14) |
| Disaster Recovery | - | 91 | (91) | - | - | - | - | - | - |
| HRMS | - | 299 | (299) | - | 60 | (60) | - | - | - |
| Legal Management | - | - | - | - | 334 | (334) |  |  | - |
| BI3 Fineos Upgrade | - | 33 | (33) | - | 85 | (85) |  |  | - |
| Information Security Strategy \& Road Map | - | - | - |  | 1,824 | $(1,824)$ |  |  | - |
| PIPP Mediation | - | 626 | (626) | - | 506 | (506) | - | - | - |
| Other / Provision | 1,468 | 1,006 | 462 | 545 | 491 | 54 | - | 2,396 | $(2,396)$ |
|  | 2,121 | 2,658 | (537) | 1,438 | 4,662 | $(3,224)$ | 1,508 | 4,033 | $(2,525)$ |
|  |  |  |  |  |  |  |  |  |  |
| Total | 29,769 | 26,727 | 3,042 | 26,129 | 30,544 | $(4,415)$ | 23,130 | 24,789 | $(1,659)$ |

[^1]Information Technology Costs (Corporate) For 2009/10 to 2018/19
(\$ in thousands)

Summary
(including amortization/depreciation)
Deferred Development Costs Data Processing Equipment Total IT Capital

| 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | Compound Annual Growth Rate |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Actual | Actual | Actual | Actual | Actual | Forecast | Projected | Projected | Projected | Projected | 09/10-13/14 | 13/14-18/19 |
| 29,162 | 36,689 | 40,980 | 50,075 | 56,272 | 57,599 | 55,293 | 60,085 | 63,696 | 79,185 | 17.9\% | 7.1\% |
| 20,869 | 11,079 | 7,308 | 19,820 | 29,819 | 28,857 | 22,993 | 18,971 | 21,175 | 15,172 | 9.3\% | -12.6\% |
| 1,766 | 1,485 | 2,618 | 2,131 | 1,155 | 1,651 | 1,783 | 2,139 | 2,015 | 2,000 | -10.1\% | 11.6\% |
| 22,635 | 12,564 | 9,926 | 21,951 | 30,974 | 30,508 | 24,776 | 21,110 | 23,190 | 17,172 | 8.2\% | -11.1\% |

As projects are completed, IT Operating Ex penses will increase with the resulting amorization and depreciation relating to these projects.
The large IT Capital ex penditures in earlier years impacts the IT Operating Ex penses in current and future years.
IT Capital ex penditures are forecasted to decrease in future years.

## PUB (MPI) 1-75

## Reference: E4.2 p. 24, Physical Damage Reengineering AI. 10 pp. 4, 8

a) Please provide a detailed description and supporting calculations in respect of the anticipated savings of $\$ 13.3$ million in operating and claims incurred related to the PDR project.
b) Please file a detailed budget in support of the $\$ 65.5$ million PDR project cost and provide a comparison of the budget established in the Project Charter with the actual and forecast expenditures on the project found in E.4.2.
c) Please provide a comparison to the $\$ 56.4$ million budgeted for the project last year (PUB/MPI 2-33 Attachment) and explain the reason for the increase.
d) Please describe the nature of expenditures being expensed on the Physical Damage Re-engineering project.
e) Please provide details of each contract issued, by consultant, and amount of contract related to the PDR.

## RESPONSE:

a) Please see PUB (MPI) 1-3.
b) Please see PUB (MPI) 1-3.
c) The $\$ 56.4$ million budget stated in PUB (MPI) 2-23 from the 2013 General Rate Application was the deferred development aspect of the project budget, not the entire project budget of $\$ 65.5$ million.
d) The expenses on the PDR program incurred to date are associated with the following categories:

- Compensation
- Travel
- Training
- Miscellaneous
e) Manitoba Public Insurance has not issued contracts with individual consultants for the PDR program. The Corporation secures labour through various Master Services Agreements that cannot be disclosed.


## PUB (MPI) 1-76

## Reference: PUB/MPI I-62 p. 2, 2014 GRA

Please explain what concerns were raised by Gartner related to MPI's tendering process and describe the current IT tendering process.

## RESPONSE:

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-77

## Reference: E.4.1 Project costs Basic Expenses, pp. 23, 26

a) Please provide a detailed breakdown by cost element of implementation expenses by improvement initiative projects for 2013/14 to 2018/19.
b) Please provide a detailed breakdown by cost element of ongoing expenses by improvement initiative projects for 2013/14 to 2018/19.

## RESPONSE:

a) Refer to attachment A for 2013/14 information. Refer to page 26 of the 2015 Rate Application, Volume II Expenses, section E.4.2 Total Capital Expenditures, Multi-year Capital table, for the breakdown of 2014/15 to 2018/19.
b) Refer to attachment B.

| Manitoba Public Insurance <br> Basic Implementation Expenses |  |
| :---: | :---: |
| Basic |  |
| Project: | 2014A |
| Physical Damage Re-Engineering |  |
| Deferred Development Costs | 10,272 |
| Capital Expenditures |  |
| Implementation Expense | 435 |
| Total | 10,707 |
| IT Optimization |  |
| Deferred Development Costs | 1,967 |
| Capital Expenditures |  |
| Implementation Expense | 168 |
| Total | 2,101 |
| Disaster Recovery |  |
| Deferred Development Costs | 9,202 |
| Capital Expenditures |  |
| Implementation Expense | 91 |
| Total | 9,293 |
| HRMS - Phase 1 \& 2 |  |
| Deferred Development Costs | 2,261 |
| Capital Expenditures |  |
| Implementation Expense | 299 |
| Total | 2,560 |
| HRMS - Phase 3 \& 4 |  |
| Deferred Development Costs | 110 |
| Capital Expenditures |  |
| Implementation Expense |  |
| Total | 110 |
| PIPP Mediation |  |
| Deferred Development Costs |  |
| Capital Expenditures |  |
| Implementation Expense | 626 |
| Total | 626 |
| B13 / Fineos Upgrade |  |
| Deferred Development Costs | 257 |
| Capital Expenditures |  |
| Implementation Expense | 33 |
| Total | 290 |
| Other Initiatives |  |
| Deferred Development Costs |  |
| Capital Expenditures | - |
| Implementation Expense | 1,006 |
| Total | 1,006 |
| Total |  |
| Deferred Development Costs | 24,069 |
| Capital Expenditures | - |
| Implementation Expense | 2,658 |
| TOTAL BASIC | $\underline{\text { 26,727 }}$ |

Note: Implementation expenses presented in the E.4.1
Project Costs table included $\$ 834$ in other initiatives
(Auto Theft Suppression \& Talent Management)

## Manitoba Public Insurance Basic Ongoing Expenses

| Basic |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Project: | 2014A | 2015P | 2016P | 2017P | 2018P | 2019P |
| Physical Damage Re-Engineering |  |  |  |  |  |  |
| Deferred Development Amortization | - | - | - | - | - | 9,325 |
| Capital Depreciation | - | 84 | 147 | 160 | 112 | 51 |
| Ongoing Expenses | - | - | - | - | - | - |
| Total | - | 84 | 147 | 160 | 112 | 9,376 |
| IT Optimization |  |  |  |  |  |  |
| Deferred Development Amortization | - | - | - | 3,307 | 3,307 | 3,307 |
| Capital Depreciation | - | 1,219 | 491 | 245 | - | - |
| Ongoing Expenses | 5,650 | 1,348 | 1,348 | 1,348 | 1,348 | 1,348 |
| Total | 5,650 | 2,567 | 1,839 | 4,900 | 4,655 | 4,655 |
| HRMS - Phase 3 \& 4 |  |  |  |  |  |  |
| Deferred Development Amortization | - | - | 196 | 196 | 196 | 196 |
| Capital Depreciation | - | - | - | - | - | - |
| Ongoing Ex penses | - | - | - | - | - | - |
| Total | - | - | 196 | 196 | 196 | 196 |
| Provision for Future Projects |  |  |  |  |  |  |
| Deferred Development Amortization | - | - | - | 959 | 3,035 | 5,272 |
| Capital Depreciation | - | - | 67 | 266 | 533 | 732 |
| Ongoing Ex penses | - | - | - | - | - | - |
| Total | - | - | 67 | 1,225 | 3,568 | 6,004 |
| BI3 / Fineos Upgrade |  |  |  |  |  |  |
| Deferred Development Amortization | - | - | 469 | 469 | 469 | 469 |
| Capital Depreciation | - | - | - | - | - | - |
| Ongoing Ex penses | - | - | - | - | - | - |
| Total | - | - | 469 | 469 | 469 | 469 |
| Other |  |  |  |  |  |  |
| Deferred Development Amortization | - | - | 1,077 | 1,077 | 1,163 | 1,163 |
| Capital Depreciation | - | 55 | 116 | 131 | 87 | 26 |
| Ongoing Expenses | - | 15 | 236 | 214 | 1,415 | 1,274 |
| Total | - | 70 | 1,429 | 1,422 | 2,665 | 2,463 |
| Total |  |  |  |  |  |  |
| Deferred Development Amortization | - | - | 1,742 | 6,008 | 8,170 | 19,732 |
| Capital Depreciation | - | 1,358 | 821 | 802 | 732 | 809 |
| Ongoing Ex penses | 5,650 | 1,363 | 1,584 | 1,562 | 2,763 | 2,622 |
| Total | 5,650 | 2,721 | 4,147 | 8,372 | 11,665 | 23,163 |

## PUB (MPI) 1-78

## Reference: E.4.2 Information Security Strategy \& Roadmap

Please file the Project Charter and total capital, implementation and ongoing costs related to this project.

## RESPONSE:

The project was created to align MPI security standards with a framework that is compliant with ISO 27001 and ISO 27002. MPI will not be providing project details due to the sensitivity of security protocols.

Please refer to the 2015 GRA E.4.2 Total Capital Expenditures Page 24 for project costs.

## PUB (MPI) 1-79

## Reference: Gartner Scorecard <br> PUB/MPI 2-23, 2014 GRA

## AI. 12 Appendix 4

a) Please file an update to the response to Gartner's recommendations provided at PUB/MPI 1-62 last year, for activities that were acted upon or were being evaluated last year and please provide a description of the actions and the financial and operational impact of those actions.
b) Please provide a new schedule detailing all recommendations made by Gartner in this year's Scorecard, the status of each recommendation and the Corporation's comments.
c) For any recommendations that were made and not accepted by MPI last year or this year, please summarize the reasons for not implementing the recommendation.

## RESPONSE:

a) to c )

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-80

Reference: AI. 12 Appendix 4
Gartner 2014 Scorecard

Gartner indicates that MPI has increased its IT base and as a result should experience an increase in IT "run rate" costs. Gartner has identified $\$ 19.5$ million in IT spending that will impact future IT Costs. Please indicate what MPI is budgeting for increased annual IT operating costs related to the new IT infrastructure.

## RESPONSE:

Please see response to PUB (MPI) 1-74 c).

## PUB (MPI) 1-81

## Reference: AI. 12 Appendix 4 Gartner 2014 Scorecard pp. 11, 12

Gartner observes that IT staffing is above the peer group and insurance industry averages and that staffing should decline given the transition to third party service providers. Please indicate the current IT staffing level (MPI and Contractors) and the expenses that MPI expects to incur over the next five years.

## RESPONSE:

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-82 Reference: PUB/MPI I-76 2014 GRA, Expenses Appendix 1

Please provide a detailed breakdown by cost category of Basic Claims, operating and road safety expenses for the years 2009/10 through 2018/19 and provide the compound annual growth rate for 2009/10 to 2013/14, 2013/14 to 2016/17 and 2016/17 to 2019/20.

## RESPONSE:

The information on the breakdown of the Basic expenses into the cost categories are provided in Volume II Pro Formas, pages 6, 8, 10 and 12.

To break these allocations down further into expense categories does not provide a useful comparison year over year. Costs are accumulated at the corporate level and allocated to Basic via the allocation process (standard allocators for normal operations and by project for improvement initiatives based on purpose of project). The costs are then further allocated to the cost categories of claims, operating, and road safety. As a result detailed breakdown by cost category shows an allocation of an allocation and is not comparable year over year. The key comparison year over year is outlined in Volume II Expenses - Appendix 1.

## PUB (MPI) 1-83

# Reference: Information Technology <br> Expenses - Appendix 9 

Please update the IT Corporate costs schedule and delineate the costs paid to external parties versus those incurred internally and include compounded annual growth rates from 2009/10 through 2013/14 and 2013/14 through 2018/19.

## RESPONSE:

Compensation costs are the only internally incurred costs in respect of Information
Technology Expenses. All other expenses and costs are paid to external parties.
Refer to PUB (MPI) 1-74 c) attachment for the compounded annual growth rates.

## PUB (MPI) 1-84 Reference: OV. 15 IFRS

a) Please file any internal or external reports prepared subsequent to the August 2013 Deloitte report on IFRS 9 and/or IFRS 4.
b) Please indicate whether there has been any evolution of MPI's considerations on the elections available under IFRS 9 and/or IFRS 4 and whether MPI continues to intend to consult with the Board in advance of any decisions.

## RESPONSE:

a) No internal or external reports have been prepared on IFRS 9 or IFRS 4 subsequent to the August 2013 Deloitte report.
b) The Corporation continues to monitor developments in IFRS 9 and IFRS 4. The Corporation will evaluate the decisions required as part of the management of the business.

## PUB (MPI) 1-85 Reference: PFT of Dan Guimond

Mr. Guimond has stated at Slide 9 that "Predictable and clear criteria for RSR rebuilding \& rebating is needed."
a) With two proposed criteria for establishing the lower bound for the RSR target level, one based on the RSR balance and the other based on the Total Equity balance, how does the Corporation propose that the two criteria will work together to define a lower bound for the RSR target level?
b) What are the proposed criteria for establishing the proposed increase or decrease of the RSR rebuilding fee for a given rating year?
c) What are the proposed criteria for establishing the proposed size of the RSR rebate for a given rating year?
d) Please provide the supporting argument and rationale for adoption of a $100 \%$ MCT ratio (vs. some other level of MCT ratio) for defining the upper bound for the RSR target level.
e) For reference purposes, please describe the nature and extent of the reliance on the MCT for Basic RSR target level setting purposes currently in use by SGI and ICBC.

## RESPONSE:

a) In preparing the 2014 DCAT report, the Chief Actuary believed it was necessary to address both the indicated RSR target (i.e., existing capital target used by the Board) and the total equity target (i.e., the target which is more consistent with accepted actuarial practice and which was a recommended improvement to the DCAT report by both the Appointed Actuary and the PUB Actuary) to aid the Board in the Corporation's proposed transition to a DCAT risk-based capital target.

If the Board wishes to continue using the DCAT to determine the RSR as the capital target, then the Corporation's recommendation is to maintain a minimum RSR of $\$ 194$ million, but to still consider the balance in AOCI before making decisions on rebates and RSR rebuilding fees. Alternatively, if the Board wishes to move to a total equity based target, which is also consistent with the upper MCT target, then the Corporation recommends a minimum total equity of $\$ 213$ million.
b) In any given rating year there will be numerous different circumstances, projections, financial implications, and considerations, including the amount of the actuarially indicated rate increase/decrease. Any criteria would be specific to that rating year. The criteria for the GRA for rates effective March 1, 2015, have been set out in this application which is before the PUB.
c) See b) above
d) See Volume II RSR section, page 10.
e) See Volume II RSR section, page 10 .

## PUB (MPI) 1-86

Reference: Volume III, 2013 Annual Report p. 25, Corporate Strategic Plan p. 15

MPI has indicated that it will transfer excess funds from the competitive lines, dependent on the Board's Order relative to the RSR Target methodology. In last year's Annual Report and this year's Corporate Strategic Plan MPI has reflected retained earnings targets of $\$ 32$ million for Extension and $\$ 35$ million for SRE. In this year's Annual Report, MPI has restated the target for Extension to be $\$ 72$ million and the SRE target to be $\$ 42$ million.
a) Please reconcile the RSR Targets for the three lines of business set out on Page 15 of the Corporate Strategic Plan with the current targets indicated in the Annual Report.
b) Please explain why MPI increased the target for the Extension line of business by $55 \%$ or $\$ 40$ million, to $\$ 72$ million.
c) Please explain why MPI increased the target for the SRE line of business by $14 \%$, or $\$ 5$ million.
d) Please provide a description of the basis for setting the retained earnings target levels for Extension and SRE.

## RESPONSE:

a) The Corporate Strategic Plan contains the Basic RSR balance at the end of the $3^{\text {rd }}$ quarter of 2013/14 whereas the annual report reflects the RSR balance as at February 28, 2014.
b), c) and d) Please refer to PUB (MPI) 1-3.

## PUB (MPI) 1-87 Reference: PFT, p. 19

Please provide the Corporation's definitions of the terms "Road Safety" and "Loss Prevention" and the source of each definition.

## RESPONSE:

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-88

## Reference: Expenses-Appendix 6

Please identify which line items the Corporation characterizes as Road Safety expenses and which line items the Corporation characterizes as Loss Prevention expenses, with reasons for each characterization.

## RESPONSE:

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-89 Reference: SM.1.3.3, p. 28

The Corporation has provided examples of its current loss prevention strategies.
a) Are there other loss prevention strategies being undertaken by the Corporation?
b) If so, what are those strategies and what are the corresponding savings to the Corporation?

## RESPONSE:

a) and b)

Please refer to PUB(MPI) 1-3.

## PUB (MPI) 1-90

Reference: Expenses - Appendix 6, SM.3, Attachment B
a) Please provide a forecast of Road Safety and Loss Prevention expenses at the same level of detail found at Expenses - Appendix 6 through the outlook period.
b) Please advise of why there is no material increase to the overall budget being forecast through the outlook period, either for existing or new programs.
c) Please provide a detailed Road Safety and Loss Prevention budget for 2014/15 by specific program and compare that to 2013/14 actual spending.
d) Please explain the reasons for reductions in spending in 2013/14 for Occupant Safety Strategies and Motorcycle Safety Education and Program Evaluation.
e) Please advise of why the Road Safety Programming budget is to fall by approximately $\$ 500,000$, or almost $1 / 3$.

## RESPONSE:

a) Refer to the attachment.
b) As noted in Volume I SM. 3 Road Safety, Attachment B; excluding auto crime funding, total road safety funding will increase $\$ 408,000$ through the outlook period.
c) Refer to the attachment.
d) Lower spending on Occupant Safety and Motorcycle Safety in 2013/14 related primarily to reductions in advertising costs.
e) The decrease in the road safety programming budget for 2014/15 (shown in Volume I Road Safety, section SM.3.5) is due almost entirely to a reduction in
departmental operating expenses resulting from the organizational changes in the road safety department as addressed in Volume I Road Safety, section SM.3.6.1.

## APPROVED BUDGETS AND ACTUALS ROAD SAFETY AND LOSS PREVENTION PROGRAM COSTS (\$ in thousands)

|  | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| BASIC'S SHARE | Forecast | Forecast | Forecast | Forecast | Forecast |
| Driver Education and Improvement | 3,520 | 3,605 | 3,664 | 3,716 | 3,790 |
| Impaired Driving Prevention Strategies | 1,090 | 1,115 | 1,134 | 1,150 | 1,174 |
| Speed Management Strategies | 297 | 305 | 309 | 314 | 319 |
| Occupant Safety Education Strategies | 325 | 333 | 339 | 344 | 351 |
| Auto-Crime Prevention Strategies | 2,509 | 1,444 | 1,347 | 1,148 | 974 |
| Motorcycle Safety Education | 105 | 108 | 110 | 111 | 113 |
| Vulnerable Road User Education Strategies | 215 | 221 | 224 | 228 | 232 |
| Safety Programming Other | 405 | 415 | 422 | 427 | 436 |
| Safety Grants and Sponsorships | 288 | 295 | 300 | 305 | 311 |
| Road Safety Production and Advertising | 356 | 365 | 370 | 376 | 384 |
| ProgramEvaluation | 18 | 18 | 19 | 19 | 19 |
| Cell Phone/Distracted Driver Advertising | 246 | 252 | 256 | 260 | 265 |
| Driver Education On-Line Curriculum | - | - | - | - | - |
| Other | - | - | - | - | - |
| Total | 9,374 | 8,476 | 8,494 | 8,398 | 8,368 |

Note: Other than A uto-Crime Prevention Strategies, Road Safety/Loss Prevention costs are forecasted to increase $2 \%$ each year in keeping with the standard forecasted expense increase.

## APPROVED BUDGETS AND ACTUALS ROAD SAFETY AND LOSS PREVENTION PROGRAM COSTS

## (\$ in thousands)

|  | 2013/14 | 2014/15 | Increase <br>  <br>  <br> BASIC'S SHARE |
| :--- | ---: | ---: | ---: |
| Actual | Forecast | (Decrease) |
| Driver Education and Improvement | 3,200 | 3,520 | 320 |
| Impaired Driving Prevention Strategies | 932 | 1,090 | 158 |
| Speed Management Strategies | 357 | 297 | $(60)$ |
| Occupant Safety Education Strategies | 123 | 325 | 202 |
| Auto-Crime Prevention Strategies | 4,007 | 2,509 | $(1,498)$ |
| Motorcycle Safety Education | 67 | 105 | 38 |
| Vulnerable Road User Education Strategies | 255 | 215 | $(40)$ |
| Safety Programming Other | 314 | 405 | 91 |
| Safety Grants and Sponsorships | 317 | 288 | $(29)$ |
| Road Safety Production and Advertising | 466 | 356 | $(110)$ |
| Program Evaluation | 5 | 18 | 13 |
| Cell Phone/Distracted Driver Advertising | 592 | 246 | $(346)$ |
| Driver Education On-Line Curriculum | - | - | - |
| Other | - | - | - |
| Total | $\mathbf{1 0 , 6 3 5}$ | $\mathbf{9 , 3 7 4}$ | $(1,261)$ |

Manitoba Public Insurance

## PUB (MPI) 1-91 <br> Reference: Anti-Theft Initiatives, SM. 3

For the years 2009/10 through 2013/14 (actual) and that forecast for 2014/15 through 2018/19, please provide the annual spending on all aspects on the anti-theft initiative including the immobilizer program, support of the specialized auto theft prosecution team, support of the Winnipeg Police Service, WATSS and all other antitheft initiatives delivered either internally or by external parties for which the Corporation has extended financial support as set out in PUB/MPI I-63 [sic] last year.

## RESPONSE:

Refer to attachment. Please note that the reference above is from 2013 GRA. The question that was part of the 2014 GRA was PUB(MPI) 1-88.

Manitoba Public Insurance
Auto Crime Prevention Strategies - Basic's Share (\$ in thousands)

| Strategy | 2009/10 <br> Actual | 2010/11 <br> Actual | 2011/12 <br> Actual | $\begin{aligned} & \text { 2012/13 } \\ & \text { Actual } \end{aligned}$ | 2013/14 <br> Actual | 2014/15 <br> Projected | $2015 / 16$ <br> Projected | 2016/17 <br> Projected | 2017/18 <br> Projected | 2018/19 <br> Projected |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Immobilizer Project | 13,739 | 6,091 | 3,387 | 2,516 | 2,225 | 1,215 | 945 | 840 | 635 | 450 |
| Theft Suppression | 907 | 727 | 724 | 746 | 803 | 807 | - | - | - | - |
| Other. |  |  |  |  |  |  |  |  |  |  |
| Winnipeg Police Auto Theft | 613 | 650 | 636 | 693 | 708 | 270 | 276 | 281 | 285 | 291 |
| Auto Crime Strategies | 4 | 2 | 6 | 14 | 7 | 6 | 6 | 6 | 6 | 7 |
| HTA-Antitheft | - | - | - | - | - | - | - | - | - | - |
| AutoTheft Countermeasures | 259 | 302 | 269 | 221 | 264 | 211 | 217 | 220 | 222 | 226 |
| Total | 15,522 | 7,772 | 5,022 | 4,190 | 4,007 | 2,509 | 1,444 | 1,347 | 1,148 | 974 |

## PUB (MPI) 1-92 Reference: SM.3.6.5, p. 22

The Corporation has stated that it is investigating the potential uses of certain emerging vehicle technologies. Please describe each of the emerging technologies and the extent to which these technologies have been implemented in other jurisdictions, to the Corporation's knowledge. What is the status of the Corporation's investigation with respect to each technology, and when are the results of each investigation expected to be available?

## RESPONSE:

Please refer to PUB (MPI) 1-3.

## PUB (MPI) 1-93 Reference: E.4.3.1, p. 28

a) Please confirm that Phase I of the HSDE program redevelopment is completed and that the ADTSEA report filed last year represents the Phase I report. If the ADTSEA report filed last year does not represent the Phase I report, please identify the report and file a copy.
b) Please advise of when Phase II of the HSDE program redevelopment will commence, with the issuance of a Request for Proposal by the Corporation.
c) Last year the Corporation advised the Board (PUB/MPI I-95(b)) that the formative evaluation of the HSDE program completed by Northport \& Associates helped to inform the Corporation's review and redesign of the program. Do each of the recommendations made by Northport \& Associates (Attachment B to PUB/MPI I-95 last year) continue to be implemented by the Corporation? If not, why not?

## RESPONSE:

a) to c )

Please refer to PUB (MPI) 1-3.

## PUB (MPI) 1-94 Reference: SM.3.6.5, p. 21

a) Last year the Corporation advised the Board (PUB/MPI I-95(c)) that it expected to receive the final AAA Foundation for Traffic Safety summative evaluation report before the end of 2013, subject to change based on the timing to complete evaluations in other participating jurisdictions. Please advise of when the release of the report is expected and the reasons for the delay.
b) Please advise of the cost to the Corporation for the AAA Foundation for Traffic Safety summative evaluation.
c) Please advise of why the Corporation did not conduct its own summative analysis as ordered by the Board in Order 151/13.

## RESPONSE:

a) to $c$ )

Please refer to PUB (MPI) 1-3.

## PUB (MPI) 1-95 Reference: OV.9, p. 23

What education and awareness efforts is the Corporation undertaking that are different than those which it has undertaken in the past?

## RESPONSE:

Please refer to PUB (MPI) 1-3.

## PUB (MPI) 1-96

## Reference: SM.3.2, p. 7

Please advise of what changes were made to the Road Safety Calendar and how those changes are expected to enhance awareness and expand enforcement programs.

## RESPONSE:

Please refer to PUB (MPI) 1-3.

## PUB (MPI) 1-97 Reference: SM.3.3, p. 9

a) Please advise of the depth of the analysis conducted by the Corporation relative to collision and claims data.
b) Please confirm whether this analysis was conducted by the Corporation in previous years.
c) If not, please advise of the source of the change in circumstance that has enabled the Corporation to commence conducting this analysis.

## RESPONSE:

a) to c )

Please refer to PUB (MPI) 1-3.

## PUB (MPI) 1-98 Reference: SM.6.14

a) The Board ordered that the Corporation file an independent review of its current Road Safety portfolio with a view to optimizing the portfolio. Why has the Corporation not done so?
b) The Board ordered that the Corporation file an independent review of the optimal size of its Road Safety budget. Why has the Corporation not done so?

## RESPONSE:

a) and b)

Please refer to PUB (MPI) 1-3.

## PUB (MPI) 1-99 Reference: SM.3.6.1, p. 13

The Corporation has advised that its Road Safety delivery function has been integrated into its broader Community Relations portfolio for greater alignment of programming and better leveraging of sponsorship opportunities.
a) From which portfolio were Road Safety matters handled previously, and did that portfolio liaise with Community Relations?
b) Is the "new Road Safety Manager" reflective of a new position within the Corporation or has a new individual been hired to fulfill an existing role?
c) Are the two analyst positions reflective of new positions within the Corporation or have new individuals been hired to fulfill in existing roles?

## RESPONSE:

a) to c )

Please refer to PUB (MPI) 1-3.

## PUB (MPI) 1-100 Reference: SM.3.6.2, p. 14

a) What external firm retained has been retained by the Corporation and what is the anticipated cost of that retainer?
b) Please file the proposal of the successful firm and advise of whether the work plan in the proposal has since changed.
c) How will the work of the external firm interplay with the work of the Road Safety Manager and the two analysts referenced above?
d) How far has the external firm progressed with its analysis to date and when is the work anticipated to be completed?
e) The timeline provided at Attachment C will result in the research \& analysis for a given year not being available for that year's GRA process, and the Corporation's priorities being identified concurrently with the Board's Order being issued. Can the timeline be revised such that the Board can see the completion of the research \& analysis within the GRA process and have the opportunity for input into the priorities being identified?
f) Please confirm that RACI stands for "responsible, accountable, consulted and informed".

## RESPONSE:

a) to f)

Please refer to PUB (MPI) 1-3.

## PUB (MPI) 1-101 Reference: SM.3.6.3, pp. 16 and 19

a) Please advise of whether Attachments D and E were prepared for the GRA filing, or for another primary purpose.
b) Please describe the function of an automated license plate reader, including why it is advantageous, and please advise of the cost of the device.

## RESPONSE:

a) and b)

Please refer to PUB (MPI) 1-3.

## PUB (MPI) 1-102 Reference: SM.3.6.4, p. 20

a) Please advise of any other examples of the Corporation's new and innovative approaches to target key audiences about Road Safety (aside from the social media strategy and distracted driving simulator referenced).
b) Please advise of when the social media strategy will be implemented and what action items that strategy will include.
c) Please advise of whether the distracted driver simulator will be incorporated into the existing HSDE program. If not, how will the simulator be made available to teen audiences?

## RESPONSE:

a) to c

Please refer to PUB (MPI) 1-3.

## PUB (MPI) 1-103 Reference: SM.3.7, p. 24

a) Please advise of whether the Corporation:
(i) engages in any further discussion with the stakeholders to whom data is communicated regarding ideas or plans for changes to collision "hotspots";
(ii) monitors changes in data over time relative to collision "hotspots";
(iii) identifies common characteristics as between collision "hotspots";
(iv) considers specific strategies relative to each of the three categories of vulnerable road users for the purposes of improving safety.
b) Please advise of why locations of fatalities are not included in claims data, and whether the Corporation has plans to change that practice.
c) Please advise of why the locations of collisions in rural areas of Manitoba are not tracked by the Corporation.
d) Please advise of whether the Corporation records and tracks the locations of claims arising from road conditions including potholes. If so, please file that data for the last five years.

## RESPONSE:

a) to d)

Please refer to PUB (MPI) 1-3.

## PUB (MPI) 1-104

Please clarify or correct the table provided summarizing the "DCAT Restated Base Forecast" [RSR. 1 Page 6].

## RESPONSE:

The corrected table is shown below:

DCAT Adverse Scenarios before Management Action:
Retained Earnings (in \$millions)

|  | $2014 / 15$ | $2015 / 16$ | $2016 / 17$ | $2017 / 18$ | $2018 / 19$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Combined Scenario: Interest <br> Rates, Equities, Claims Incurred | $\$ 72$ | $(\$ 17)$ | $(\$ 83)$ | $(\$ 153)$ | $(\$ 221)$ |
| Sustained Low Interest Rates | $\$ 72$ | $(\$ 15)$ | $(\$ 85)$ | $(\$ 126)$ | $(\$ 179)$ |
| Equity Decline | $\$ 72$ | $\$ 72$ | $\$ 72$ | $\$ 85$ | $\$ 72$ |
| High Loss Ratio | $\$ 72$ | $\$ 10$ | $\$ 0$ | $\$ 72$ | $\$ 29$ |
| DCAT Base Forecast | $\$ 72$ | $\$ 85$ | $\$ 98$ | $\$ 141$ | $\$ 154$ |

## PUB (MPI) 1-105

Please provide supporting rationale for why the proposed 100\% MCT ratio upper target is an RSR target (excluding Accumulated Other Comprehensive Income), rather than a Total Equity target[RSR. 1 Pages 10, 11].

## RESPONSE:

The Corporation agrees that $100 \%$ MCT is a Total Equity target, rather than an RSR target.

## PUB (MPI) 1-106

Please provide supporting analysis and rationale for the proposed $100 \%$ level for the MCT ratio as an RSR upper target [RSR. 1 Pages 10, 11].

## RESPONSE:

The Corporation's rationale for the proposed $100 \%$ MCT is as stated on page 10 and 11 of Volume II Rate Stabilization Reserve, RSR. 1 and repeated below.

The Corporation is proposing that a $100 \%$ MCT ratio be used as the upper RSR target for the following reasons:

- The DCAT-based methodology, which was developed in collaboration with the PUB advisors and interveners, would be used to determine the appropriate minimum RSR level for the Basic program. By using the DCAT methodology for the minimum RSR requirement, the Corporation is still not proposing that the MCT be used to determine the minimum RSR. The Corporation believes that this approach addresses the concerns about whether the MCT should be used to determine the minimum capital requirements for a public automobile insurer.
- By establishing the RSR upper target at $100 \%$ MCT the Board has an objective measure in place that is comparable to other automobile insurers (both public and private) in Canada.
- The upper RSR target gives the Corporation and the Board a more flexible range above the minimum DCAT-based RSR target for which to provide rate stability and make decisions about potential RSR rebates.


## PUB (MPI) 1-107

Please identify and justify all significant differences in modeling assumptions between the GRA Basic forecast [PF. 1 to PF.3] and the DCAT Base Scenario [RSR. 2 Exhibit 1a to 1c]. Which forecast represents the Corporation's best estimate projection of Basic operations?

## RESPONSE:

The only difference between the GRA Basic forecast and the DCAT Base Scenario is the adjustment for premium deficiency and DPAC write-downs as described in the 2014 DCAT Report, page 23. For the GRA base forecast, the Corporation assumes a constant level of premium adequacy over the forecast period, which in general, is a reasonable assumption for the Basic program. This forecasting assumption also ensures that net income in the rating period is not impacted by changes to the premium deficiency / DPAC calculation, which in the Corporation's opinion, would not be appropriate to include in the calculation of break-even rates. For example, an assumed $\$ 10$ million recovery in deficient premiums in the rating period should not result in the Corporation asking for a rate decrease to offset this $\$ 10$ million recovery in deficient premiums (again resulting in deficient premiums - i.e. a circular calculation).

For DCAT purposes the Chief Actuary determined it was necessary to modify the premium deficiency and DPAC write-down calculation in order to make the DCAT projections consistent with the assumptions used in the GRA base forecast (i.e. if all of the forecast assumptions from the GRA base scenario materialize, then it would be reasonable to expect a change in the premium deficiency and DPAC write-down). The restated base forecast in the DCAT is the best estimate of projected operations.

## PUB (MPI) 1-108

Please identify and discuss the significance of the main driving forces behind the increase in the Corporation's proposed RSR lower target of $\$ 172$ million from the 2013 DCAT up to $\$ 194$ million from the 2014 DCAT [RSR. 2 Page 25]. Please include commentary on the reasonableness of the magnitude of this shift from one DCAT to the next, and how indicative this might be of the expected stability in proposed RSR lower targets going forward.

## RESPONSE:

The most significant benefit of a DCAT-based RSR target is that the indication reacts to changes in the risk level for the Basic program. The changes to this year's DCAT target are driven mainly by changes to the Corporation's base forecast assumptions, rather than by changes to the actual risk factors themselves. The key changes are outlined below:

- The Corporation increased its forecasted total return on equity assets from $6.2 \%$ in the 2014 GRA to $7.3 \%$ in the 2015 GRA. Although there were no material changes made to the modeling of equity returns in the DCAT analysis, the Corporation's risk of being under budget on investment income has increased because it is forecasting higher equity returns in its base forecast.
- The Corporation changed its forecasted interest rates in the 2015 GRA to reflect the average of the banks' forecasts. This revised interest rate forecast is much more aggressive (i.e. assumes a faster rate of increase in interest rates) than that used in the 2014 GRA. By utilizing more aggressive forecasting assumptions, there is a corresponding increase in the risk of a net loss (relative to the base forecast) if these assumptions do not materialize.

It is important that the Board understand that more aggressive forecasting assumptions in the base forecast should (and do) result in an increase in the DCAT risk-based target.

## PUB (MPI) 1-109

Please provide a restated Exhibit 1 a, 1 b and 1 c , separating the vehicle premiums from the RSR Rebuilding Fees, and separating out amounts relating to the premium deficiency reserves [RSR. 2 Exhibit 1].

## RESPONSE:

Refer to the response for PUB (MPI) 1-4(a) for the separation of vehicle premiums and RSR Rebuliding Fees. Premium deficiency reserves can be found in Volume II Rate Stabilization Reserve, section RSR. 2 Exhibit 1f.

## PUB (MPI) 1-110

Please provide a restated Exhibit $1 \mathrm{a}, 1 \mathrm{~b}$ and 1 c , assuming $0.0 \%$ RSR rebuilding fees, and separating out amounts relating to the premium deficiency reserves [RSR. 2 Exhibit 1].

## RESPONSE:

Refer to the response for PUB (MPI) 1-4 (e) for the restated exhibits with 0\% RSR rebuilding fees and separation of vehicle premiums and RSR fees. Refer to the response for PUB (MPI) 1-109 for premium deficiency reserves.

## PUB (MPI) 1-111

Please discuss the reasonableness of the assumed 0.0\% rate changes in 2016/17 and beyond as best estimate assumptions considering Basic's break-even mandate [RSR. 2 Page 22 and SM. 4 Page 8].

## RESPONSE:

As per the restated base forecast on page 5 of the 2014 DCAT report, the Corporation anticipates making average net income of approximately $\$ 23$ million per fiscal year over the 2016/17 to 2018/19 period. However, the $1.0 \%$ RSR Rebuilding Fee, which is assumed to be in-force over the entire period, accounts for approximately $\$ 10$ million per year of this net income. Therefore, the average net income, net of the RSR rebuilding fee, is approximately $\$ 13$ million per year.

In theory, the Corporation would apply for an approximately $1.5 \%$ rate decrease in 2016/17 if these results materialized exactly. However, the Corporation's base forecast (i.e. business plan) and the DCAT report have assumed no rate changes after the 2015/16 year. The Chief Actuary believes this assumption is reasonable for DCAT purposes.

## PUB (MPI) 1-112

Please discuss the reasonableness of the assumed steady 1.0\% RSR Rebuilding Fee in 2016/17 and beyond as best estimate assumptions considering the forecasted level of Basic RSR and Total Equity [RSR. 2 Page 22, PF.2].

## RESPONSE:

Per the restated base forecast on page 24 of the 2014 DCAT report, the Total Equity of Basic is expected to increase to $\$ 202$ million by 2018/19 if the base forecast assumptions materialize. Given that this amount is still below the Corporation's current proposed minimum Total Equity target of $\$ 213$ million, it is reasonable to assume that the rebuilding fee is required for the entire period.

## PUB (MPI) 1-113

Please provide the supporting analysis for the assumed "Change in the Premium Deficiency or Deferred Policy Acquisition Cost Write Down - Impact on Net Income" [RSR. 2 Page 24].

## RESPONSE:

Please see Volume II Rate Stabilization Reserve, section RSR. 2 Exhibit 1f.

## PUB (MPI) 1-114

Please provide the supporting analysis of "Historical Total Returns on the S\&P/TSX by Percentile and Return Period (Cumulative)" and the distribution fitting process underlying the "Selected Adverse Scenarios by Percentile and Return Period (Cumulative)" [RSR. 2 Pages 29 and 30].

## RESPONSE:

Please find attached the supporting analysis.

|  | 1 Year <br> S\&P Composite <br> TR Index | 2 Year S\&P Composite TR Index | 3 Year <br> S\&P Composite <br> TR Index | 4 Year <br> S\&P Composite <br> TR Index |
| :---: | :---: | :---: | :---: | :---: |
| 1/31/1957 | 11.73\% |  |  |  |
| 2/28/1957 | 3.43\% |  |  |  |
| 3/29/1957 | -0.97\% |  |  |  |
| 4/30/1957 | 4.49\% |  |  |  |
| 5/31/1957 | 11.98\% |  |  |  |
| 6/28/1957 | 6.58\% |  |  |  |
| 7/31/1957 | -3.27\% |  |  |  |
| 8/30/1957 | -10.82\% |  |  |  |
| 9/30/1957 | -11.70\% |  |  |  |
| 10/31/1957 | -16.20\% |  |  |  |
| 11/29/1957 | -9.41\% |  |  |  |
| 12/31/1957 | -20.58\% |  |  |  |
| 1/31/1958 | -17.90\% | -8.27\% |  |  |
| 2/28/1958 | -15.37\% | -12.46\% |  |  |
| 3/31/1958 | -15.63\% | -16.45\% |  |  |
| 4/30/1958 | -19.83\% | -16.23\% |  |  |
| 5/30/1958 | -18.85\% | -9.13\% |  |  |
| 6/30/1958 | -14.94\% | -9.34\% |  |  |
| 7/31/1958 | -8.38\% | -11.38\% |  |  |
| 8/29/1958 | 3.02\% | -8.12\% |  |  |
| 9/30/1958 | 14.42\% | 1.04\% |  |  |
| 10/31/1958 | 24.72\% | 4.52\% |  |  |
| 11/28/1958 | 22.44\% | 10.92\% |  |  |
| 12/31/1958 | 31.25\% | 4.23\% |  |  |
| 1/30/1959 | 29.65\% | 6.44\% | 18.93\% |  |
| 2/27/1959 | 31.95\% | 11.68\% | 15.51\% |  |
| 3/31/1959 | 27.07\% | 7.21\% | 6.17\% |  |
| 4/30/1959 | 29.14\% | 3.53\% | 8.18\% |  |
| 5/29/1959 | 24.21\% | 0.80\% | 12.87\% |  |
| 6/30/1959 | 22.06\% | 3.82\% | 10.66\% |  |
| 7/31/1959 | 21.54\% | 11.36\% | 7.71\% |  |
| 8/31/1959 | 13.85\% | 17.29\% | 4.60\% |  |
| 9/30/1959 | 4.94\% | 20.07\% | 6.03\% |  |
| 10/30/1959 | 3.83\% | 29.50\% | 8.53\% |  |
| 11/30/1959 | 2.80\% | 25.87\% | 14.03\% |  |
| 12/31/1959 | 4.59\% | 37.27\% | 9.01\% |  |
| 1/29/1960 | -2.78\% | 26.04\% | 3.48\% | 15.62\% |
| 2/29/1960 | -6.66\% | 23.17\% | 4.24\% | 7.82\% |
| 3/31/1960 | -5.99\% | 19.46\% | 0.79\% | -0.19\% |
| 4/29/1960 | -8.45\% | 18.23\% | -5.21\% | -0.96\% |
| 5/31/1960 | -5.89\% | 16.89\% | -5.14\% | 6.22\% |
| 6/30/1960 | -8.84\% | 11.27\% | -5.36\% | 0.87\% |
| 7/29/1960 | -14.59\% | 3.81\% | -4.89\% | -8.00\% |
| 8/31/1960 | -4.07\% | 9.22\% | 12.52\% | 0.35\% |
| 9/30/1960 | -4.20\% | 0.53\% | 15.02\% | 1.57\% |
| 10/31/1960 | -4.20\% | -0.52\% | 24.07\% | 3.97\% |
| 11/30/1960 | 0.03\% | 2.83\% | 25.91\% | 14.06\% |


|  | 1 Year <br> S\&P Composite <br> TR Index | 2 Year <br> S\&P Composite <br> TR Index | 3 Year <br> S\&P Composite TR Index | 4 Year S\&P Composite TR Index |
| :---: | :---: | :---: | :---: | :---: |
| 12/30/1960 | 1.78\% | 6.45\% | 39.71\% | 10.95\% |
| 1/31/1961 | 12.65\% | 9.51\% | 41.98\% | 16.56\% |
| 2/28/1961 | 20.30\% | 12.29\% | 48.16\% | 25.40\% |
| 3/31/1961 | 22.55\% | 15.22\% | 46.40\% | 23.52\% |
| 4/28/1961 | 30.41\% | 19.39\% | 54.19\% | 23.61\% |
| 5/31/1961 | 29.19\% | 21.58\% | 51.01\% | 22.55\% |
| 6/30/1961 | 33.30\% | 21.52\% | 48.32\% | 26.16\% |
| 7/31/1961 | 38.63\% | 18.41\% | 43.91\% | 31.85\% |
| 8/31/1961 | 32.00\% | 26.64\% | 44.18\% | 48.53\% |
| 9/29/1961 | 36.55\% | 30.81\% | 37.28\% | 57.07\% |
| 10/31/1961 | 37.34\% | 31.57\% | 36.62\% | 70.39\% |
| 11/30/1961 | 36.23\% | 36.27\% | 40.09\% | 71.53\% |
| 12/29/1961 | 32.75\% | 35.11\% | 41.31\% | 85.46\% |
| 1/31/1962 | 22.37\% | 37.84\% | 34.01\% | 73.73\% |
| 2/28/1962 | 19.14\% | 43.32\% | 33.77\% | 76.52\% |
| 3/30/1962 | 16.74\% | 43.07\% | 34.51\% | 70.92\% |
| 4/30/1962 | 8.63\% | 41.66\% | 29.70\% | 67.49\% |
| 5/31/1962 | -2.30\% | 26.22\% | 18.78\% | 47.54\% |
| 6/29/1962 | -9.19\% | 21.06\% | 10.35\% | 34.70\% |
| 7/31/1962 | -8.62\% | 26.69\% | 8.21\% | 31.51\% |
| 8/31/1962 | -7.76\% | 21.77\% | 16.81\% | 33.00\% |
| 9/28/1962 | -10.65\% | 22.01\% | 16.89\% | 22.66\% |
| 10/31/1962 | -9.74\% | 23.96\% | 18.76\% | 23.31\% |
| 11/30/1962 | -5.52\% | 28.71\% | 28.76\% | 32.36\% |
| 12/31/1962 | -7.09\% | 23.33\% | 25.53\% | 31.28\% |
| 1/31/1963 | 0.09\% | 22.48\% | 37.97\% | 34.13\% |
| 2/28/1963 | -3.71\% | 14.72\% | 38.00\% | 28.81\% |
| 3/29/1963 | -0.66\% | 15.98\% | 42.13\% | 33.63\% |
| 4/30/1963 | 7.05\% | 16.28\% | 51.64\% | 38.83\% |
| 5/31/1963 | 18.59\% | 15.87\% | 49.69\% | 40.87\% |
| 6/28/1963 | 22.06\% | 10.85\% | 47.77\% | 34.70\% |
| 7/31/1963 | 16.02\% | 6.02\% | 46.99\% | 25.54\% |
| 8/30/1963 | 14.00\% | 5.16\% | 38.82\% | 33.17\% |
| 9/30/1963 | 23.27\% | 10.14\% | 50.40\% | 44.08\% |
| 10/31/1963 | 22.32\% | 10.40\% | 51.63\% | 45.26\% |
| 11/29/1963 | 12.32\% | 6.13\% | 44.58\% | 44.62\% |
| 12/31/1963 | 15.60\% | 7.40\% | 42.57\% | 45.11\% |
| 1/31/1964 | 13.12\% | 13.22\% | 38.55\% | 56.07\% |
| 2/28/1964 | 15.94\% | 11.64\% | 33.01\% | 60.00\% |
| 3/31/1964 | 16.93\% | 16.16\% | 35.61\% | 66.20\% |
| 4/30/1964 | 15.64\% | 23.78\% | 34.46\% | 75.35\% |
| 5/29/1964 | 17.73\% | 39.61\% | 36.41\% | 76.22\% |
| 6/30/1964 | 22.00\% | 48.92\% | 35.24\% | 80.28\% |
| 7/31/1964 | 28.26\% | 48.81\% | 35.99\% | 88.53\% |
| 8/31/1964 | 26.55\% | 44.27\% | 33.08\% | 75.67\% |
| 9/30/1964 | 28.08\% | 57.88\% | 41.07\% | 92.64\% |
| 10/30/1964 | 27.50\% | 55.96\% | 40.77\% | 93.33\% |


|  | 1 Year <br> S\&P Composite <br> TR Index | 2 Year <br> S\&P Composite <br> TR Index | 3 Year <br> S\&P Composite TR Index | 4 Year <br> S\&P Composite <br> TR Index |
| :---: | :---: | :---: | :---: | :---: |
| 11/30/1964 | 29.29\% | 45.22\% | 37.21\% | 86.92\% |
| 12/31/1964 | 25.43\% | 45.00\% | 34.71\% | 78.83\% |
| 1/29/1965 | 28.98\% | 45.90\% | 46.04\% | 78.71\% |
| 2/26/1965 | 29.53\% | 50.18\% | 44.61\% | 72.28\% |
| 3/31/1965 | 23.59\% | 44.52\% | 43.57\% | 67.61\% |
| 4/30/1965 | 22.09\% | 41.18\% | 51.12\% | 64.16\% |
| 5/31/1965 | 17.74\% | 38.60\% | 64.37\% | 60.60\% |
| 6/30/1965 | 9.89\% | 34.06\% | 63.64\% | 48.61\% |
| 7/30/1965 | 6.27\% | 36.30\% | 58.14\% | 44.52\% |
| 8/31/1965 | 9.64\% | 38.75\% | 58.18\% | 45.91\% |
| 9/30/1965 | 6.93\% | 36.96\% | 68.82\% | 50.85\% |
| 10/29/1965 | 8.45\% | 38.27\% | 69.13\% | 52.66\% |
| 11/30/1965 | 4.99\% | 35.74\% | 52.47\% | 44.06\% |
| 12/31/1965 | 6.68\% | 33.81\% | 54.69\% | 43.72\% |
| 1/31/1966 | 5.23\% | 35.73\% | 53.53\% | 53.68\% |
| 2/28/1966 | 3.11\% | 33.55\% | 54.85\% | 49.10\% |
| 3/31/1966 | 2.64\% | 26.86\% | 48.33\% | 47.36\% |
| 4/29/1966 | 1.15\% | 23.49\% | 42.80\% | 52.86\% |
| 5/31/1966 | -1.96\% | 15.43\% | 35.89\% | 61.16\% |
| 6/30/1966 | 4.67\% | 15.02\% | 40.33\% | 71.29\% |
| 7/29/1966 | 4.04\% | 10.56\% | 41.81\% | 64.52\% |
| 8/31/1966 | -5.94\% | 3.13\% | 30.51\% | 48.78\% |
| 9/30/1966 | -9.71\% | -3.45\% | 23.66\% | 52.43\% |
| 10/31/1966 | -9.49\% | -1.85\% | 25.14\% | 53.07\% |
| 11/30/1966 | -7.47\% | -2.85\% | 25.61\% | 41.09\% |
| 12/30/1966 | -7.07\% | -0.86\% | 24.36\% | 43.76\% |
| 1/31/1967 | -4.62\% | 0.37\% | 29.46\% | 46.44\% |
| 2/28/1967 | -1.28\% | 1.79\% | 31.85\% | 52.87\% |
| 3/31/1967 | 3.45\% | 6.18\% | 31.23\% | 53.44\% |
| 4/28/1967 | 4.63\% | 5.84\% | 29.21\% | 49.42\% |
| 5/31/1967 | 4.19\% | 2.15\% | 20.26\% | 41.58\% |
| 6/30/1967 | 7.49\% | 12.51\% | 23.63\% | 50.83\% |
| 7/31/1967 | 12.80\% | 17.36\% | 24.71\% | 59.96\% |
| 8/31/1967 | 20.34\% | 13.19\% | 24.11\% | 57.06\% |
| 9/29/1967 | 25.76\% | 13.56\% | 21.42\% | 55.53\% |
| 10/31/1967 | 16.14\% | 5.11\% | 13.99\% | 45.34\% |
| 11/30/1967 | 19.87\% | 10.92\% | 16.46\% | 50.57\% |
| 12/29/1967 | 18.09\% | 9.74\% | 17.08\% | 46.85\% |
| 1/31/1968 | 7.39\% | 2.43\% | 7.79\% | 39.03\% |
| 2/29/1968 | 1.72\% | 0.43\% | 3.55\% | 34.12\% |
| 3/29/1968 | -3.95\% | -0.64\% | 1.99\% | 26.05\% |
| 4/30/1968 | 2.51\% | 7.26\% | 8.49\% | 32.45\% |
| 5/31/1968 | 5.49\% | 9.90\% | 7.75\% | 26.86\% |
| 6/28/1968 | 8.22\% | 16.32\% | 21.76\% | 33.80\% |
| 7/31/1968 | 4.25\% | 17.59\% | 22.34\% | 30.01\% |
| 8/30/1968 | 8.24\% | 30.26\% | 22.52\% | 34.33\% |
| 9/30/1968 | 11.17\% | 39.81\% | 26.24\% | 34.98\% |


|  | 1 Year <br> S\&P Composite <br> TR Index | 2 Year <br> S\&P Composite <br> TR Index | 3 Year <br> S\&P Composite TR Index | 4 Year S\&P Composite TR Index |
| :---: | :---: | :---: | :---: | :---: |
| 10/31/1968 | 19.79\% | 39.13\% | 25.92\% | 36.56\% |
| 11/29/1968 | 21.19\% | 45.27\% | 34.43\% | 41.13\% |
| 12/31/1968 | 22.45\% | 44.59\% | 34.38\% | 43.35\% |
| 1/31/1969 | 29.22\% | 38.76\% | 32.36\% | 39.28\% |
| 2/28/1969 | 28.69\% | 30.91\% | 29.24\% | 33.25\% |
| 3/31/1969 | 35.98\% | 30.62\% | 35.12\% | 38.68\% |
| 4/30/1969 | 28.30\% | 31.52\% | 37.61\% | 39.19\% |
| 5/30/1969 | 32.86\% | 40.14\% | 46.01\% | 43.16\% |
| 6/30/1969 | 12.57\% | 21.82\% | 30.94\% | 37.06\% |
| 7/31/1969 | 6.79\% | 11.33\% | 25.58\% | 30.65\% |
| 8/29/1969 | 9.24\% | 18.24\% | 42.29\% | 33.84\% |
| 9/30/1969 | 3.57\% | 15.13\% | 44.79\% | 30.74\% |
| 10/31/1969 | 3.53\% | 24.02\% | 44.04\% | 30.37\% |
| 11/28/1969 | 2.33\% | 24.01\% | 48.65\% | 37.55\% |
| 12/31/1969 | -0.81\% | 21.45\% | 43.42\% | 33.29\% |
| 1/30/1970 | -7.02\% | 20.15\% | 29.03\% | 23.07\% |
| 2/27/1970 | 0.16\% | 28.89\% | 31.12\% | 29.44\% |
| 3/31/1970 | -2.93\% | 32.00\% | 26.79\% | 31.16\% |
| 4/30/1970 | -13.86\% | 10.53\% | 13.30\% | 18.54\% |
| 5/29/1970 | -24.19\% | 0.72\% | 6.24\% | 10.69\% |
| 6/30/1970 | -16.68\% | -6.21\% | 1.50\% | 9.10\% |
| 7/31/1970 | -7.55\% | -1.28\% | 2.92\% | 16.09\% |
| 8/31/1970 | -9.64\% | -1.30\% | 6.84\% | 28.57\% |
| 9/30/1970 | -4.89\% | -1.50\% | 9.50\% | 37.71\% |
| 10/30/1970 | -8.89\% | -5.67\% | 13.00\% | 31.24\% |
| 11/30/1970 | -7.25\% | -5.09\% | 15.02\% | 37.88\% |
| 12/31/1970 | -3.57\% | -4.35\% | 17.12\% | 38.31\% |
| 1/29/1971 | 3.27\% | -3.98\% | 24.08\% | 33.24\% |
| 2/26/1971 | 0.52\% | 0.68\% | 29.56\% | 31.80\% |
| 3/31/1971 | 4.56\% | 1.50\% | 38.02\% | 32.57\% |
| 4/30/1971 | 13.15\% | -2.52\% | 25.06\% | 28.20\% |
| 5/31/1971 | 22.74\% | -6.95\% | 23.63\% | 30.41\% |
| 6/30/1971 | 27.46\% | 6.20\% | 19.55\% | 29.38\% |
| 7/30/1971 | 20.10\% | 11.03\% | 18.56\% | 23.60\% |
| 8/31/1971 | 16.32\% | 5.10\% | 14.81\% | 24.27\% |
| 9/30/1971 | 7.29\% | 2.04\% | 5.68\% | 17.48\% |
| 10/29/1971 | 3.18\% | -5.99\% | -2.67\% | 16.60\% |
| 11/30/1971 | 1.61\% | -5.75\% | -3.56\% | 16.87\% |
| 12/31/1971 | 8.01\% | 4.16\% | 3.31\% | 26.50\% |
| 1/31/1972 | 14.17\% | 17.90\% | 9.63\% | 41.67\% |
| 2/29/1972 | 18.34\% | 18.96\% | 19.15\% | 53.33\% |
| 3/31/1972 | 10.75\% | 15.80\% | 12.41\% | 52.85\% |
| 4/28/1972 | 13.35\% | 28.26\% | 10.49\% | 41.76\% |
| 5/31/1972 | 17.78\% | 44.56\% | 9.60\% | 45.60\% |
| 6/30/1972 | 14.14\% | 45.48\% | 21.21\% | 36.45\% |
| 7/31/1972 | 18.52\% | 42.34\% | 31.59\% | 40.52\% |
| 8/31/1972 | 24.90\% | 45.28\% | 31.27\% | 43.40\% |


|  | 1 Year <br> S\&P Composite <br> TR Index | 2 Year <br> S\&P Composite <br> TR Index | 3 Year <br> S\&P Composite <br> TR Index | 4 Year S\&P Composite TR Index |
| :---: | :---: | :---: | :---: | :---: |
| 9/29/1972 | 27.53\% | 36.82\% | 30.13\% | 34.77\% |
| 10/31/1972 | 31.29\% | 35.46\% | 23.43\% | 27.78\% |
| 11/30/1972 | 36.10\% | 38.28\% | 28.26\% | 31.25\% |
| 12/29/1972 | 27.38\% | 37.58\% | 32.68\% | 31.60\% |
| 1/31/1973 | 19.09\% | 35.97\% | 40.41\% | 30.56\% |
| 2/28/1973 | 13.12\% | 33.87\% | 34.57\% | 34.78\% |
| 3/30/1973 | 17.14\% | 29.73\% | 35.65\% | 31.67\% |
| 4/30/1973 | 11.17\% | 26.01\% | 42.58\% | 22.83\% |
| 5/31/1973 | 4.33\% | 22.88\% | 50.83\% | 14.34\% |
| 6/29/1973 | 7.02\% | 22.15\% | 55.69\% | 29.72\% |
| 7/31/1973 | 10.92\% | 31.46\% | 57.88\% | 45.96\% |
| 8/31/1973 | 3.93\% | 29.80\% | 50.98\% | 36.43\% |
| 9/28/1973 | 10.20\% | 40.54\% | 50.78\% | 43.40\% |
| 10/31/1973 | 21.69\% | 59.76\% | 64.84\% | 50.19\% |
| 11/30/1973 | 1.60\% | 38.28\% | 40.50\% | 30.32\% |
| 12/31/1973 | 0.27\% | 27.73\% | 37.96\% | 33.04\% |
| 1/31/1974 | 0.79\% | 20.04\% | 37.05\% | 41.53\% |
| 2/28/1974 | 5.40\% | 19.23\% | 41.10\% | 41.83\% |
| 3/29/1974 | 1.21\% | 18.55\% | 31.30\% | 37.28\% |
| 4/30/1974 | -4.12\% | 6.59\% | 20.82\% | 36.71\% |
| 5/31/1974 | -6.05\% | -1.98\% | 15.44\% | 41.70\% |
| 6/28/1974 | -9.06\% | -2.68\% | 11.08\% | 41.59\% |
| 7/31/1974 | -12.87\% | -3.35\% | 14.54\% | 37.56\% |
| 8/30/1974 | -20.20\% | -17.07\% | 3.58\% | 20.48\% |
| 9/30/1974 | -30.70\% | -23.63\% | -2.61\% | 4.49\% |
| 10/31/1974 | -28.53\% | -13.04\% | 14.17\% | 17.80\% |
| 11/29/1974 | -24.98\% | -23.77\% | 3.74\% | 5.41\% |
| 12/31/1974 | -25.93\% | -25.72\% | -5.39\% | 2.19\% |
| 1/31/1975 | -15.84\% | -15.17\% | 1.02\% | 15.34\% |
| 2/28/1975 | -15.85\% | -11.30\% | 0.34\% | 18.74\% |
| 3/31/1975 | -14.40\% | -13.37\% | 1.48\% | 12.38\% |
| 4/30/1975 | -3.84\% | -7.80\% | 2.50\% | 16.18\% |
| 5/30/1975 | 5.12\% | -1.24\% | 3.04\% | 21.35\% |
| 6/30/1975 | 10.01\% | 0.04\% | 7.06\% | 22.19\% |
| 7/31/1975 | 8.04\% | -5.86\% | 4.42\% | 23.76\% |
| 8/29/1975 | 18.79\% | -5.21\% | -1.49\% | 23.04\% |
| 9/30/1975 | 23.24\% | -14.60\% | -5.88\% | 20.02\% |
| 10/31/1975 | 7.45\% | -23.21\% | -6.55\% | 22.68\% |
| 11/28/1975 | 21.28\% | -9.01\% | -7.55\% | 25.82\% |
| 12/31/1975 | 18.48\% | -12.24\% | -12.00\% | 12.10\% |
| 1/30/1976 | 11.43\% | -6.22\% | -5.47\% | 12.57\% |
| 2/27/1976 | 12.00\% | -5.75\% | -0.66\% | 12.38\% |
| 3/31/1976 | 11.64\% | -4.44\% | -3.29\% | 13.28\% |
| 4/30/1976 | 11.77\% | 7.48\% | 3.05\% | 14.56\% |
| 5/31/1976 | 9.40\% | 15.01\% | 8.05\% | 12.73\% |
| 6/30/1976 | 4.77\% | 15.25\% | 4.81\% | 12.17\% |
| 7/30/1976 | 4.61\% | 13.02\% | -1.52\% | 9.23\% |


|  | 1 Year <br> S\&P Composite <br> TR Index | 2 Year <br> S\&P Composite <br> TR Index | 3 Year <br> S\&P Composite TR Index | 4 Year <br> S\&P Composite <br> TR Index |
| :---: | :---: | :---: | :---: | :---: |
| 8/31/1976 | 5.72\% | 25.59\% | 0.22\% | 4.15\% |
| 9/30/1976 | 10.26\% | 35.89\% | -5.83\% | 3.78\% |
| 10/29/1976 | 11.29\% | 19.59\% | -14.53\% | 4.00\% |
| 11/30/1976 | -1.75\% | 19.16\% | -10.60\% | -9.17\% |
| 12/31/1976 | 11.02\% | 31.54\% | -2.56\% | -2.30\% |
| 1/31/1977 | 0.57\% | 12.07\% | -5.68\% | -4.93\% |
| 2/28/1977 | -1.24\% | 10.61\% | -6.92\% | -1.89\% |
| 3/31/1977 | 2.13\% | 14.01\% | -2.41\% | -1.23\% |
| 4/29/1977 | -2.73\% | 8.71\% | 4.54\% | 0.23\% |
| 5/31/1977 | -3.94\% | 5.09\% | 10.47\% | 3.79\% |
| 6/30/1977 | 3.13\% | 8.04\% | 18.85\% | 8.08\% |
| 7/29/1977 | 3.58\% | 8.36\% | 17.08\% | 2.01\% |
| 8/31/1977 | 0.90\% | 6.68\% | 26.72\% | 1.12\% |
| 9/30/1977 | 2.69\% | 13.23\% | 39.54\% | -3.30\% |
| 10/31/1977 | 3.26\% | 14.93\% | 23.49\% | -11.75\% |
| 11/30/1977 | 16.68\% | 14.64\% | 39.04\% | 4.31\% |
| 12/30/1977 | 10.71\% | 22.91\% | 45.63\% | 7.87\% |
| 1/31/1978 | 5.20\% | 5.81\% | 17.90\% | -0.78\% |
| 2/28/1978 | 4.65\% | 3.36\% | 15.76\% | -2.59\% |
| 3/31/1978 | 9.34\% | 11.67\% | 24.67\% | 6.71\% |
| 4/28/1978 | 14.23\% | 11.10\% | 24.18\% | 19.41\% |
| 5/31/1978 | 20.84\% | 16.07\% | 26.99\% | 33.49\% |
| 6/30/1978 | 14.71\% | 18.30\% | 23.94\% | 36.34\% |
| 7/31/1978 | 21.30\% | 25.65\% | 31.44\% | 42.01\% |
| 8/31/1978 | 28.88\% | 30.04\% | 37.48\% | 63.31\% |
| 9/29/1978 | 34.71\% | 38.33\% | 52.53\% | 87.97\% |
| 10/31/1978 | 31.37\% | 35.66\% | 50.98\% | 62.23\% |
| 11/30/1978 | 30.96\% | 52.81\% | 50.13\% | 82.09\% |
| 12/29/1978 | 29.72\% | 43.61\% | 59.44\% | 88.91\% |
| 1/31/1979 | 42.47\% | 49.88\% | 50.74\% | 67.97\% |
| 2/28/1979 | 44.44\% | 51.16\% | 49.28\% | 67.20\% |
| 3/30/1979 | 44.43\% | 57.92\% | 61.28\% | 80.05\% |
| 4/30/1979 | 43.71\% | 64.15\% | 59.66\% | 78.45\% |
| 5/31/1979 | 41.04\% | 70.42\% | 63.70\% | 79.10\% |
| 6/29/1979 | 50.42\% | 72.54\% | 77.94\% | 86.42\% |
| 7/31/1979 | 36.59\% | 65.69\% | 71.63\% | 79.54\% |
| 8/31/1979 | 44.23\% | 85.88\% | 87.55\% | 98.29\% |
| 9/28/1979 | 42.83\% | 92.40\% | 97.58\% | 117.86\% |
| 10/31/1979 | 36.03\% | 78.70\% | 84.53\% | 105.37\% |
| 11/30/1979 | 40.15\% | 83.54\% | 114.16\% | 110.41\% |
| 12/31/1979 | 44.77\% | 87.80\% | 107.90\% | 130.82\% |
| 1/31/1980 | 56.41\% | 122.83\% | 134.43\% | 135.77\% |
| 2/29/1980 | 65.43\% | 138.94\% | 150.06\% | 146.95\% |
| 3/31/1980 | 28.06\% | 84.95\% | 102.23\% | 106.54\% |
| 4/30/1980 | 31.63\% | 89.16\% | 116.07\% | 110.16\% |
| 5/30/1980 | 35.58\% | 91.22\% | 131.06\% | 121.95\% |
| 6/30/1980 | 32.99\% | 100.03\% | 129.46\% | 136.63\% |


|  | 1 Year <br> S\&P Composite <br> TR Index | 2 Year <br> S\&P Composite <br> TR Index | 3 Year <br> S\&P Composite TR Index | 4 Year <br> S\&P Composite <br> TR Index |
| :---: | :---: | :---: | :---: | :---: |
| 7/31/1980 | 47.38\% | 101.31\% | 144.19\% | 152.95\% |
| 8/29/1980 | 36.49\% | 96.87\% | 153.71\% | 156.00\% |
| 9/30/1980 | 34.56\% | 92.18\% | 158.89\% | 165.85\% |
| 10/31/1980 | 47.88\% | 101.16\% | 164.26\% | 172.88\% |
| 11/28/1980 | 47.17\% | 106.25\% | 170.11\% | 215.17\% |
| 12/31/1980 | 30.13\% | 88.40\% | 144.39\% | 170.55\% |
| 1/30/1981 | 14.23\% | 78.67\% | 154.55\% | 167.80\% |
| 2/27/1981 | 3.45\% | 71.13\% | 147.17\% | 158.68\% |
| 3/31/1981 | 35.02\% | 72.90\% | 149.71\% | 173.05\% |
| 4/30/1981 | 28.21\% | 68.76\% | 142.52\% | 177.03\% |
| 5/29/1981 | 24.94\% | 69.39\% | 138.90\% | 188.67\% |
| 6/30/1981 | 19.00\% | 58.25\% | 138.03\% | 173.05\% |
| 7/31/1981 | 6.51\% | 56.97\% | 114.41\% | 160.08\% |
| 8/31/1981 | 1.93\% | 39.13\% | 100.68\% | 158.62\% |
| 9/30/1981 | -13.38\% | 16.56\% | 66.48\% | 124.26\% |
| 10/30/1981 | -14.45\% | 26.50\% | 72.08\% | 126.07\% |
| 11/30/1981 | -12.79\% | 28.34\% | 79.87\% | 135.55\% |
| 12/31/1981 | -10.25\% | 16.80\% | 69.09\% | 119.35\% |
| 1/29/1982 | -16.35\% | -4.44\% | 49.46\% | 112.94\% |
| 2/26/1982 | -20.05\% | -17.30\% | 36.82\% | 97.61\% |
| 3/31/1982 | -28.81\% | -3.88\% | 23.09\% | 77.78\% |
| 4/30/1982 | -29.74\% | -9.92\% | 18.58\% | 70.40\% |
| 5/31/1982 | -32.61\% | -15.81\% | 14.15\% | 60.99\% |
| 6/30/1982 | -39.16\% | -27.60\% | -3.72\% | 44.82\% |
| 7/30/1982 | -34.13\% | -29.84\% | 3.40\% | 41.23\% |
| 8/31/1982 | -22.02\% | -20.51\% | 8.49\% | 56.48\% |
| 9/30/1982 | -10.38\% | -22.36\% | 4.46\% | 49.20\% |
| 10/29/1982 | 1.40\% | -13.26\% | 28.27\% | 74.49\% |
| 11/30/1982 | -3.72\% | -16.04\% | 23.56\% | 73.17\% |
| 12/31/1982 | 5.54\% | -5.27\% | 23.27\% | 78.46\% |
| 1/31/1983 | 19.74\% | 0.17\% | 14.42\% | 78.96\% |
| 2/28/1983 | 31.77\% | 5.35\% | 8.98\% | 80.28\% |
| 3/31/1983 | 42.62\% | 1.54\% | 37.09\% | 75.56\% |
| 4/29/1983 | 58.81\% | 11.58\% | 43.06\% | 88.31\% |
| 5/31/1983 | 66.43\% | 12.15\% | 40.12\% | 89.97\% |
| 6/30/1983 | 86.93\% | 13.73\% | 35.34\% | 79.98\% |
| 7/29/1983 | 83.01\% | 20.55\% | 28.39\% | 89.23\% |
| 8/31/1983 | 60.33\% | 25.02\% | 27.44\% | 73.94\% |
| 9/30/1983 | 62.18\% | 45.35\% | 25.91\% | 69.41\% |
| 10/31/1983 | 38.36\% | 40.30\% | 20.02\% | 77.48\% |
| 11/30/1983 | 43.84\% | 38.48\% | 20.77\% | 77.73\% |
| 12/30/1983 | 35.49\% | 42.99\% | 28.34\% | 67.02\% |
| 1/31/1984 | 26.32\% | 51.25\% | 26.53\% | 44.53\% |
| 2/29/1984 | 20.19\% | 58.38\% | 26.62\% | 30.99\% |
| 3/30/1984 | 14.70\% | 63.58\% | 16.46\% | 57.24\% |
| 4/30/1984 | 3.03\% | 63.62\% | 14.96\% | 47.40\% |
| 5/31/1984 | -4.36\% | 59.17\% | 7.26\% | 34.00\% |


|  | 1 Year <br> S\&P Composite <br> TR Index | 2 Year <br> S\&P Composite <br> TR Index | 3 Year <br> S\&P Composite TR Index | 4 Year <br> S\&P Composite <br> TR Index$\|$ |
| :---: | :---: | :---: | :---: | :---: |
| 6/29/1984 | -5.67\% | 76.34\% | 7.28\% | 27.66\% |
| 7/31/1984 | -10.17\% | 64.41\% | 8.29\% | 15.34\% |
| 8/31/1984 | -0.02\% | 60.29\% | 24.99\% | 27.41\% |
| 9/28/1984 | -0.40\% | 61.53\% | 44.77\% | 25.41\% |
| 10/31/1984 | 3.71\% | 43.50\% | 45.50\% | 24.47\% |
| 11/30/1984 | -3.34\% | 39.03\% | 33.86\% | 16.73\% |
| 12/31/1984 | -2.39\% | 32.25\% | 39.57\% | 25.27\% |
| 1/31/1985 | 9.08\% | 37.78\% | 64.98\% | 38.01\% |
| 2/28/1985 | 11.22\% | 33.68\% | 76.15\% | 40.83\% |
| 3/29/1985 | 13.81\% | 30.54\% | 86.17\% | 32.54\% |
| 4/30/1985 | 17.70\% | 21.27\% | 92.59\% | 35.31\% |
| 5/31/1985 | 27.39\% | 21.83\% | 102.76\% | 36.63\% |
| 6/28/1985 | 26.68\% | 19.50\% | 123.38\% | 35.90\% |
| 7/31/1985 | 34.59\% | 20.91\% | 121.28\% | 45.76\% |
| 8/30/1985 | 22.47\% | 22.44\% | 96.31\% | 53.08\% |
| 9/30/1985 | 13.98\% | 13.53\% | 84.11\% | 65.01\% |
| 10/31/1985 | 17.76\% | 22.13\% | 68.98\% | 71.35\% |
| 11/29/1985 | 24.91\% | 20.74\% | 73.67\% | 67.20\% |
| 12/31/1985 | 25.07\% | 22.07\% | 65.39\% | 74.56\% |
| 1/31/1986 | 13.36\% | 23.65\% | 56.19\% | 87.02\% |
| 2/28/1986 | 13.84\% | 26.61\% | 52.18\% | 100.53\% |
| 3/31/1986 | 20.57\% | 37.22\% | 57.39\% | 124.47\% |
| 4/30/1986 | 20.75\% | 42.13\% | 46.44\% | 132.55\% |
| 5/30/1986 | 17.74\% | 49.98\% | 43.44\% | 138.72\% |
| 6/30/1986 | 17.38\% | 48.69\% | 40.26\% | 162.19\% |
| 7/31/1986 | 8.99\% | 46.70\% | 31.78\% | 141.18\% |
| 8/29/1986 | 10.73\% | 35.61\% | 35.58\% | 117.37\% |
| 9/30/1986 | 16.72\% | 33.03\% | 32.50\% | 114.89\% |
| 10/31/1986 | 17.11\% | 37.91\% | 43.03\% | 97.90\% |
| 11/28/1986 | 9.89\% | 37.27\% | 32.68\% | 90.85\% |
| 12/31/1986 | 8.95\% | 36.26\% | 33.00\% | 80.20\% |
| 1/30/1987 | 21.39\% | 37.61\% | 50.10\% | 89.60\% |
| 2/27/1987 | 26.20\% | 43.67\% | 59.79\% | 92.06\% |
| 3/31/1987 | 26.32\% | 52.30\% | 73.33\% | 98.81\% |
| 4/30/1987 | 24.20\% | 49.97\% | 76.52\% | 81.87\% |
| 5/29/1987 | 21.47\% | 43.01\% | 82.18\% | 74.23\% |
| 6/30/1987 | 24.65\% | 46.31\% | 85.34\% | 74.83\% |
| 7/31/1987 | 41.15\% | 53.85\% | 107.07\% | 86.02\% |
| 8/31/1987 | 35.52\% | 50.05\% | 83.77\% | 83.73\% |
| 9/30/1987 | 34.50\% | 56.98\% | 78.92\% | 78.21\% |
| 10/30/1987 | 2.02\% | 19.48\% | 40.70\% | 45.92\% |
| 11/30/1987 | 0.47\% | 10.41\% | 37.92\% | 33.31\% |
| 12/31/1987 | 5.88\% | 15.36\% | 44.27\% | 40.82\% |
| 1/29/1988 | -6.18\% | 13.89\% | 29.10\% | 40.82\% |
| 2/29/1988 | -5.82\% | 18.86\% | 35.32\% | 50.50\% |
| 3/31/1988 | -8.83\% | 15.16\% | 38.85\% | 58.02\% |
| 4/29/1988 | -7.53\% | 14.84\% | 38.67\% | 63.22\% |


|  | 1 Year <br> S\&P Composite TR Index | 2 Year <br> S\&P Composite TR Index | 3 Year <br> S\&P Composite TR Index | 4 Year <br> S\&P Composite TR Index |
| :---: | :---: | :---: | :---: | :---: |
| 5/31/1988 | -9.18\% | 10.32\% | 29.89\% | 65.46\% |
| 6/30/1988 | -5.18\% | 18.20\% | 38.74\% | 75.75\% |
| 7/29/1988 | -13.63\% | 21.91\% | 32.88\% | 78.84\% |
| 8/31/1988 | -14.94\% | 15.27\% | 27.63\% | 56.31\% |
| 9/30/1988 | -12.94\% | 17.10\% | 36.67\% | 55.77\% |
| 10/31/1988 | 16.39\% | 18.75\% | 39.07\% | 63.77\% |
| 11/30/1988 | 14.50\% | 15.05\% | 26.43\% | 57.92\% |
| 12/30/1988 | 11.08\% | 17.61\% | 28.14\% | 60.26\% |
| 1/31/1989 | 22.51\% | 14.94\% | 39.52\% | 58.16\% |
| 2/28/1989 | 15.45\% | 8.74\% | 37.23\% | 56.23\% |
| 3/31/1989 | 11.93\% | 2.05\% | 28.90\% | 55.42\% |
| 4/28/1989 | 12.61\% | 4.13\% | 29.33\% | 56.16\% |
| 5/31/1989 | 18.43\% | 7.56\% | 30.65\% | 53.82\% |
| 6/30/1989 | 13.46\% | 7.59\% | 34.11\% | 57.42\% |
| 7/31/1989 | 22.11\% | 5.46\% | 48.87\% | 62.25\% |
| 8/31/1989 | 26.51\% | 7.60\% | 45.82\% | 61.46\% |
| 9/29/1989 | 24.49\% | 8.39\% | 45.78\% | 70.15\% |
| 10/31/1989 | 19.70\% | 39.33\% | 42.14\% | 66.46\% |
| 11/30/1989 | 24.08\% | 42.07\% | 42.74\% | 56.86\% |
| 12/29/1989 | 21.37\% | 34.82\% | 42.75\% | 55.53\% |
| 1/31/1990 | 6.17\% | 30.07\% | 22.03\% | 48.13\% |
| 2/28/1990 | 6.98\% | 23.51\% | 16.32\% | 46.80\% |
| 3/30/1990 | 5.38\% | 17.95\% | 7.53\% | 35.83\% |
| 4/30/1990 | -4.57\% | 7.46\% | -0.63\% | 23.41\% |
| 5/31/1990 | 0.03\% | 18.46\% | 7.59\% | 30.68\% |
| 6/29/1990 | -2.41\% | 10.73\% | 5.00\% | 30.88\% |
| 7/31/1990 | -7.11\% | 13.43\% | -2.03\% | 38.28\% |
| 8/31/1990 | -13.50\% | 9.42\% | -6.93\% | 26.13\% |
| 9/28/1990 | -16.94\% | 3.41\% | -9.97\% | 21.09\% |
| 10/31/1990 | -18.48\% | -2.42\% | 13.58\% | 15.88\% |
| 11/30/1990 | -17.09\% | 2.87\% | 17.79\% | 18.35\% |
| 12/31/1990 | -14.80\% | 3.41\% | 14.87\% | 21.62\% |
| 1/31/1991 | -8.24\% | -2.57\% | 19.36\% | 11.98\% |
| 2/28/1991 | -2.38\% | 4.43\% | 20.56\% | 13.55\% |
| 3/29/1991 | -0.17\% | 5.20\% | 17.75\% | 7.35\% |
| 4/30/1991 | 8.00\% | 3.06\% | 16.06\% | 7.32\% |
| 5/31/1991 | 3.09\% | 3.11\% | 22.11\% | 10.91\% |
| 6/28/1991 | 1.87\% | -0.59\% | 12.80\% | 6.96\% |
| 7/31/1991 | 3.50\% | -3.86\% | 17.40\% | 1.40\% |
| 8/30/1991 | 9.39\% | -5.38\% | 19.70\% | 1.82\% |
| 9/30/1991 | 11.58\% | -7.32\% | 15.38\% | 0.45\% |
| 10/31/1991 | 18.62\% | -3.30\% | 15.75\% | 34.72\% |
| 11/29/1991 | 13.68\% | -5.75\% | 16.95\% | 33.91\% |
| 12/31/1991 | 12.02\% | -4.56\% | 15.84\% | 28.67\% |
| 1/31/1992 | 14.11\% | 4.71\% | 11.18\% | 36.20\% |
| 2/28/1992 | 7.38\% | 4.82\% | 12.13\% | 29.46\% |
| 3/31/1992 | 1.30\% | 1.13\% | 6.57\% | 19.29\% |


|  | 1 Year <br> S\&P Composite <br> TR Index | 2 Year <br> S\&P Composite <br> TR Index | 3 Year <br> S\&P Composite TR Index | 4 Year <br> S\&P Composite <br> TR Index |
| :---: | :---: | :---: | :---: | :---: |
| 4/30/1992 | 0.30\% | 8.33\% | 3.37\% | 16.41\% |
| 5/29/1992 | -1.13\% | 1.93\% | 1.95\% | 20.74\% |
| 6/30/1992 | 1.11\% | 3.00\% | 0.52\% | 14.05\% |
| 7/31/1992 | 0.60\% | 4.12\% | -3.28\% | 18.10\% |
| 8/31/1992 | 0.01\% | 9.41\% | -5.37\% | 19.72\% |
| 9/30/1992 | 0.67\% | 12.32\% | -6.71\% | 16.15\% |
| 10/30/1992 | -1.88\% | 16.38\% | -5.12\% | 13.57\% |
| 11/30/1992 | -1.52\% | 11.96\% | -7.18\% | 15.17\% |
| 12/31/1992 | -1.43\% | 10.41\% | -5.93\% | 14.18\% |
| 1/29/1993 | -5.08\% | 8.32\% | -0.60\% | 5.53\% |
| 2/26/1993 | -0.55\% | 6.79\% | 4.24\% | 11.51\% |
| 3/31/1993 | 8.96\% | 10.38\% | 10.19\% | 16.12\% |
| 4/30/1993 | 16.51\% | 16.86\% | 26.21\% | 20.44\% |
| 5/31/1993 | 18.37\% | 17.04\% | 20.65\% | 20.68\% |
| 6/30/1993 | 20.83\% | 22.17\% | 24.45\% | 21.45\% |
| 7/30/1993 | 18.86\% | 19.57\% | 23.76\% | 14.96\% |
| 8/31/1993 | 25.35\% | 25.36\% | 37.14\% | 18.62\% |
| 9/30/1993 | 24.61\% | 25.44\% | 39.96\% | 16.25\% |
| 10/29/1993 | 31.32\% | 28.85\% | 52.84\% | 24.60\% |
| 11/30/1993 | 30.95\% | 28.96\% | 46.60\% | 21.55\% |
| 12/31/1993 | 32.55\% | 30.65\% | 46.35\% | 24.69\% |
| 1/31/1994 | 41.56\% | 34.37\% | 53.33\% | 40.71\% |
| 2/28/1994 | 31.67\% | 30.94\% | 40.60\% | 37.26\% |
| 3/31/1994 | 23.35\% | 34.41\% | 36.16\% | 35.93\% |
| 4/29/1994 | 15.55\% | 34.62\% | 35.03\% | 45.84\% |
| 5/31/1994 | 14.16\% | 35.13\% | 33.61\% | 37.73\% |
| 6/30/1994 | 3.93\% | 25.58\% | 26.97\% | 29.35\% |
| 7/29/1994 | 7.87\% | 28.21\% | 28.98\% | 33.49\% |
| 8/31/1994 | 7.64\% | 34.92\% | 34.94\% | 47.61\% |
| 9/30/1994 | 11.69\% | 39.18\% | 40.11\% | 56.33\% |
| 10/31/1994 | 3.23\% | 35.57\% | 33.01\% | 57.78\% |
| 11/30/1994 | 0.24\% | 31.26\% | 29.27\% | 46.96\% |
| 12/30/1994 | -0.18\% | 32.31\% | 30.42\% | 46.09\% |
| 1/31/1995 | -9.69\% | 27.85\% | 21.35\% | 38.48\% |
| 2/28/1995 | -4.54\% | 25.69\% | 25.00\% | 34.22\% |
| 3/31/1995 | 2.03\% | 25.86\% | 37.13\% | 38.92\% |
| 4/28/1995 | 2.71\% | 18.67\% | 38.27\% | 38.68\% |
| 5/31/1995 | 5.31\% | 20.22\% | 42.30\% | 40.70\% |
| 6/30/1995 | 15.17\% | 19.69\% | 44.63\% | 46.23\% |
| 7/31/1995 | 13.08\% | 21.97\% | 44.98\% | 45.85\% |
| 8/31/1995 | 6.35\% | 14.47\% | 43.49\% | 43.51\% |
| 9/29/1995 | 6.54\% | 19.00\% | 48.28\% | 49.27\% |
| 10/31/1995 | 6.41\% | 9.85\% | 44.26\% | 41.54\% |
| 11/30/1995 | 16.62\% | 16.90\% | 53.08\% | 50.75\% |
| 12/29/1995 | 14.53\% | 14.33\% | 51.54\% | 49.37\% |
| 1/31/1996 | 26.60\% | 14.34\% | 61.86\% | 53.64\% |
| 2/29/1996 | 22.45\% | 16.90\% | 53.92\% | 53.07\% |


|  | 1 Year <br> S\&P Composite <br> TR Index | 2 Year <br> S\&P Composite TR Index | 3 Year <br> S\&P Composite TR Index | 4 Year <br> S\&P Composite TR Index |
| :---: | :---: | :---: | :---: | :---: |
| 3/29/1996 | 17.90\% | 20.30\% | 48.39\% | 61.68\% |
| 4/30/1996 | 23.03\% | 26.36\% | 46.00\% | 70.11\% |
| 5/31/1996 | 20.61\% | 27.01\% | 44.99\% | 71.63\% |
| 6/28/1996 | 13.93\% | 31.22\% | 36.37\% | 64.78\% |
| 7/31/1996 | 9.23\% | 23.51\% | 33.23\% | 58.36\% |
| 8/30/1996 | 16.41\% | 23.80\% | 33.26\% | 67.04\% |
| 9/30/1996 | 19.37\% | 27.17\% | 42.04\% | 77.00\% |
| 10/31/1996 | 28.32\% | 36.54\% | 40.95\% | 85.11\% |
| 11/29/1996 | 31.86\% | 53.77\% | 54.14\% | 101.84\% |
| 12/31/1996 | 28.35\% | 46.99\% | 46.73\% | 94.49\% |
| 1/31/1997 | 25.53\% | 58.92\% | 43.53\% | 103.18\% |
| 2/28/1997 | 27.36\% | 55.96\% | 48.89\% | 96.04\% |
| 3/31/1997 | 20.04\% | 41.53\% | 44.41\% | 78.13\% |
| 4/30/1997 | 18.44\% | 45.71\% | 49.65\% | 72.92\% |
| 5/30/1997 | 24.05\% | 49.62\% | 57.56\% | 79.87\% |
| 6/30/1997 | 30.05\% | 48.18\% | 70.65\% | 77.36\% |
| 7/31/1997 | 42.15\% | 55.26\% | 75.57\% | 89.38\% |
| 8/29/1997 | 30.92\% | 52.41\% | 62.09\% | 74.47\% |
| 9/30/1997 | 35.43\% | 61.66\% | 72.23\% | 92.37\% |
| 10/31/1997 | 24.37\% | 59.58\% | 69.81\% | 75.30\% |
| 11/28/1997 | 10.13\% | 45.21\% | 69.34\% | 69.75\% |
| 12/31/1997 | 14.98\% | 47.57\% | 69.01\% | 68.71\% |
| 1/30/1998 | 11.55\% | 40.02\% | 77.28\% | 60.10\% |
| 2/27/1998 | 17.13\% | 49.18\% | 82.68\% | 74.39\% |
| 3/31/1998 | 31.31\% | 57.63\% | 85.85\% | 89.62\% |
| 4/30/1998 | 30.35\% | 54.39\% | 89.94\% | 95.08\% |
| 5/29/1998 | 20.80\% | 49.86\% | 80.74\% | 90.33\% |
| 6/30/1998 | 16.22\% | 51.15\% | 72.21\% | 98.33\% |
| 7/31/1998 | 2.36\% | 45.51\% | 58.93\% | 79.72\% |
| 8/31/1998 | -15.03\% | 11.24\% | 29.50\% | 37.72\% |
| 9/30/1998 | -18.96\% | 9.76\% | 31.01\% | 39.58\% |
| 10/30/1998 | -7.78\% | 14.69\% | 47.16\% | 56.60\% |
| 11/30/1998 | -1.01\% | 9.02\% | 43.75\% | 67.63\% |
| 12/31/1998 | -1.58\% | 13.16\% | 45.23\% | 66.33\% |
| 1/29/1999 | 2.07\% | 13.86\% | 42.93\% | 80.95\% |
| 2/26/1999 | -9.55\% | 5.94\% | 34.93\% | 65.23\% |
| 3/31/1999 | -11.26\% | 16.53\% | 39.88\% | 64.92\% |
| 4/30/1999 | -6.96\% | 21.28\% | 43.64\% | 76.71\% |
| 5/31/1999 | -8.35\% | 10.72\% | 37.35\% | 65.65\% |
| 6/30/1999 | -3.27\% | 12.42\% | 46.20\% | 66.58\% |
| 7/30/1999 | 3.87\% | 6.32\% | 51.13\% | 65.08\% |
| 8/31/1999 | 28.12\% | 8.86\% | 42.53\% | 65.92\% |
| 9/30/1999 | 25.93\% | 2.05\% | 38.21\% | 64.98\% |
| 10/29/1999 | 18.75\% | 9.51\% | 36.19\% | 74.76\% |
| 11/30/1999 | 20.46\% | 19.25\% | 31.33\% | 73.16\% |
| 12/31/1999 | 31.71\% | 29.63\% | 49.04\% | 91.29\% |
| 1/31/2000 | 27.95\% | 30.60\% | 45.69\% | 82.88\% |


|  | 1 Year <br> S\&P Composite <br> TR Index | 2 Year <br> S\&P Composite TR Index | 3 Year <br> S\&P Composite TR Index | 4 Year <br> S\&P Composite TR Index |
| :---: | :---: | :---: | :---: | :---: |
| 2/29/2000 | 46.78\% | 32.76\% | 55.49\% | 98.05\% |
| 3/31/2000 | 45.48\% | 29.10\% | 69.53\% | 103.50\% |
| 4/28/2000 | 35.14\% | 25.73\% | 63.89\% | 94.10\% |
| 5/31/2000 | 37.10\% | 25.65\% | 51.79\% | 88.30\% |
| 6/30/2000 | 47.41\% | 42.59\% | 65.72\% | 115.52\% |
| 7/31/2000 | 48.87\% | 54.63\% | 58.28\% | 124.99\% |
| 8/31/2000 | 63.42\% | 109.38\% | 77.91\% | 132.92\% |
| 9/29/2000 | 50.97\% | 90.11\% | 54.07\% | 108.66\% |
| 10/31/2000 | 34.41\% | 59.61\% | 47.19\% | 83.05\% |
| 11/30/2000 | 18.63\% | 42.90\% | 41.46\% | 55.79\% |
| 12/29/2000 | 7.41\% | 41.47\% | 39.23\% | 60.08\% |
| 1/31/2001 | 11.20\% | 42.28\% | 45.23\% | 62.01\% |
| 2/28/2001 | -10.47\% | 31.42\% | 18.86\% | 39.22\% |
| 3/30/2001 | -18.61\% | 18.41\% | 5.08\% | 37.98\% |
| 4/30/2001 | -13.94\% | 16.30\% | 8.20\% | 41.05\% |
| 5/31/2001 | -10.67\% | 22.47\% | 12.25\% | 35.59\% |
| 6/29/2001 | -23.11\% | 13.35\% | 9.64\% | 27.43\% |
| 7/31/2001 | -25.10\% | 11.51\% | 15.82\% | 18.55\% |
| 8/31/2001 | -33.30\% | 9.01\% | 39.66\% | 18.67\% |
| 9/28/2001 | -33.12\% | 0.96\% | 27.14\% | 3.04\% |
| 10/31/2001 | -27.46\% | -2.50\% | 15.77\% | 6.77\% |
| 11/30/2001 | -14.51\% | 1.41\% | 22.16\% | 20.93\% |
| 12/31/2001 | -12.57\% | -6.09\% | 23.69\% | 21.73\% |
| 1/31/2002 | -16.63\% | -7.29\% | 18.62\% | 21.08\% |
| 2/28/2002 | -3.91\% | -13.97\% | 26.27\% | 14.21\% |
| 3/29/2002 | 4.88\% | -14.64\% | 24.18\% | 10.20\% |
| 4/30/2002 | -1.99\% | -15.65\% | 13.99\% | 6.06\% |
| 5/31/2002 | -4.64\% | -14.82\% | 16.78\% | 7.03\% |
| 6/28/2002 | -6.11\% | -27.80\% | 6.42\% | 2.94\% |
| 7/31/2002 | -12.65\% | -34.57\% | -2.60\% | 1.17\% |
| 8/30/2002 | -9.13\% | -39.39\% | -0.95\% | 26.91\% |
| 9/30/2002 | -8.07\% | -38.52\% | -7.19\% | 16.88\% |
| 10/31/2002 | -7.68\% | -33.03\% | -9.99\% | 6.88\% |
| 11/29/2002 | -9.97\% | -23.04\% | -8.70\% | 9.98\% |
| 12/31/2002 | -12.44\% | -23.45\% | -17.77\% | 8.30\% |
| 1/31/2003 | -12.53\% | -27.08\% | -18.91\% | 3.76\% |
| 2/28/2003 | -12.52\% | -15.94\% | -24.74\% | 10.47\% |
| 3/31/2003 | -17.60\% | -13.58\% | -29.67\% | 2.32\% |
| 4/30/2003 | -12.33\% | -14.08\% | -26.05\% | -0.07\% |
| 5/30/2003 | -8.59\% | -12.83\% | -22.13\% | 6.75\% |
| 6/30/2003 | -0.27\% | -6.37\% | -28.00\% | 6.13\% |
| 7/31/2003 | 12.10\% | -2.08\% | -26.66\% | 9.19\% |
| 8/29/2003 | 15.91\% | 5.32\% | -29.75\% | 14.81\% |
| 9/30/2003 | 22.45\% | 12.57\% | -24.72\% | 13.65\% |
| 10/31/2003 | 26.84\% | 17.10\% | -15.06\% | 14.17\% |
| 11/28/2003 | 21.99\% | 9.82\% | -6.11\% | 11.37\% |
| 12/31/2003 | 26.72\% | 10.96\% | -2.99\% | 4.20\% |


|  | 1 Year <br> S\&P Composite <br> TR Index | 2 Year <br> S\&P Composite <br> TR Index | 3 Year <br> S\&P Composite <br> TR Index | 4 Year <br> S\&P Composite <br> TR Index |
| :---: | :---: | :---: | :---: | :---: |
| 1/30/2004 | 32.20\% | 15.63\% | -3.60\% | 7.20\% |
| 2/27/2004 | 36.51\% | 19.43\% | 14.75\% | 2.74\% |
| 3/31/2004 | 37.73\% | 13.49\% | 19.02\% | -3.13\% |
| 4/30/2004 | 27.40\% | 11.68\% | 9.46\% | -5.79\% |
| 5/31/2004 | 24.88\% | 14.15\% | 8.85\% | -2.76\% |
| 6/30/2004 | 24.48\% | 24.14\% | 16.55\% | -10.38\% |
| 7/30/2004 | 18.57\% | 32.92\% | 16.10\% | -13.04\% |
| 8/31/2004 | 13.50\% | 31.55\% | 19.53\% | -20.27\% |
| 9/30/2004 | 18.85\% | 45.54\% | 33.79\% | -10.52\% |
| 10/29/2004 | 16.13\% | 47.30\% | 35.99\% | -1.36\% |
| 11/30/2004 | 16.92\% | 42.63\% | 28.41\% | 9.77\% |
| 12/31/2004 | 14.48\% | 45.07\% | 27.03\% | 11.06\% |
| 1/31/2005 | 9.90\% | 45.28\% | 27.08\% | 5.95\% |
| 2/28/2005 | 11.95\% | 52.83\% | 33.70\% | 28.47\% |
| 3/31/2005 | 13.93\% | 56.92\% | 29.30\% | 35.60\% |
| 4/29/2005 | 15.72\% | 47.43\% | 29.24\% | 26.67\% |
| 5/31/2005 | 16.21\% | 45.12\% | 32.66\% | 26.50\% |
| 6/30/2005 | 18.04\% | 46.93\% | 46.53\% | 37.58\% |
| 7/29/2005 | 25.47\% | 48.77\% | 66.77\% | 45.68\% |
| 8/31/2005 | 29.66\% | 47.16\% | 70.57\% | 54.99\% |
| 9/30/2005 | 29.34\% | 53.72\% | 88.24\% | 73.04\% |
| 10/31/2005 | 19.13\% | 38.34\% | 75.47\% | 62.00\% |
| 11/30/2005 | 22.02\% | 42.67\% | 74.04\% | 56.69\% |
| 12/30/2005 | 24.13\% | 42.10\% | 80.08\% | 57.68\% |
| 1/31/2006 | 32.18\% | 45.26\% | 92.03\% | 67.97\% |
| 2/28/2006 | 23.14\% | 37.86\% | 88.20\% | 64.64\% |
| 3/31/2006 | 28.43\% | 46.32\% | 101.53\% | 66.06\% |
| 4/28/2006 | 32.73\% | 53.60\% | 95.68\% | 71.54\% |
| 5/31/2006 | 24.65\% | 44.86\% | 80.89\% | 65.36\% |
| 6/30/2006 | 19.64\% | 41.23\% | 75.80\% | 75.32\% |
| 7/31/2006 | 15.92\% | 45.44\% | 72.45\% | 93.32\% |
| 8/31/2006 | 15.65\% | 49.95\% | 70.19\% | 97.25\% |
| 9/29/2006 | 9.23\% | 41.28\% | 67.92\% | 105.62\% |
| 10/31/2006 | $21.67 \%$ | 44.95\% | 68.32\% | 113.51\% |
| 11/30/2006 | 20.63\% | 47.19\% | 72.10\% | 109.94\% |
| 12/29/2006 | 17.26\% | 45.55\% | 66.63\% | 111.16\% |
| 1/31/2007 | 11.84\% | 47.82\% | 62.45\% | 114.76\% |
| 2/28/2007 | 14.43\% | 40.91\% | 57.75\% | 115.35\% |
| 3/30/2007 | 11.42\% | 43.10\% | 63.04\% | 124.56\% |
| 4/30/2007 | 12.72\% | 49.62\% | 73.14\% | 120.58\% |
| 5/31/2007 | 22.73\% | 52.98\% | 77.78\% | 122.00\% |
| 6/29/2007 | 22.73\% | 46.84\% | 73.33\% | 115.75\% |
| 7/31/2007 | 20.13\% | 39.26\% | 74.72\% | 107.17\% |
| 8/31/2007 | 15.95\% | 34.10\% | 73.87\% | 97.34\% |
| 9/28/2007 | 22.81\% | 34.15\% | 73.51\% | 106.22\% |
| 10/31/2007 | 21.43\% | 47.74\% | 76.00\% | 104.39\% |
| 11/30/2007 | 10.01\% | 32.70\% | 61.92\% | 89.32\% |


|  | 1 Year <br> S\&P Composite TR Index | 2 Year <br> S\&P Composite TR Index | 3 Year <br> S\&P Composite TR Index | 4 Year <br> S\&P Composite TR Index |
| :---: | :---: | :---: | :---: | :---: |
| 12/31/2007 | 9.83\% | 28.79\% | 59.86\% | 83.01\% |
| 1/31/2008 | 3.46\% | 15.70\% | 52.93\% | 68.07\% |
| 2/29/2008 | 6.75\% | 22.15\% | 50.42\% | 68.40\% |
| 3/31/2008 | 4.00\% | 15.88\% | 48.83\% | 69.56\% |
| 4/30/2008 | 6.58\% | 20.14\% | 59.47\% | 84.54\% |
| 5/30/2008 | 7.40\% | 31.80\% | 64.29\% | 90.93\% |
| 6/30/2008 | 6.75\% | 31.01\% | 56.75\% | 85.03\% |
| 7/31/2008 | 0.62\% | 20.88\% | 40.12\% | 75.81\% |
| 8/29/2008 | 3.51\% | 20.03\% | 38.81\% | 79.98\% |
| 9/30/2008 | -14.40\% | 5.13\% | 14.84\% | 48.53\% |
| 10/31/2008 | -31.35\% | -16.64\% | 1.43\% | 20.83\% |
| 11/28/2008 | -30.27\% | -23.29\% | -7.47\% | 12.91\% |
| 12/31/2008 | -33.00\% | -26.42\% | -13.72\% | 7.10\% |
| 1/30/2009 | -31.77\% | -29.41\% | -21.06\% | 4.35\% |
| 2/27/2009 | -38.20\% | -34.03\% | -24.52\% | -7.05\% |
| 3/31/2009 | -32.42\% | -29.72\% | -21.69\% | 0.57\% |
| 4/30/2009 | -30.70\% | -26.14\% | -16.74\% | 10.51\% |
| 5/29/2009 | -26.99\% | -21.59\% | -3.77\% | 19.95\% |
| 6/30/2009 | -25.69\% | -20.67\% | -2.64\% | 16.48\% |
| 7/31/2009 | -17.73\% | -17.22\% | -0.56\% | 15.27\% |
| 8/31/2009 | -18.22\% | -15.34\% | -1.84\% | 13.52\% |
| 9/30/2009 | 0.51\% | -13.96\% | 5.66\% | 15.42\% |
| 10/30/2009 | 15.74\% | -20.55\% | -3.52\% | 17.39\% |
| 11/30/2009 | 27.75\% | -10.91\% | -2.00\% | 18.21\% |
| 12/31/2009 | 35.05\% | -9.52\% | -0.62\% | 16.53\% |
| 1/29/2010 | 31.73\% | -10.12\% | -7.01\% | 4.00\% |
| 2/26/2010 | 47.60\% | -8.79\% | -2.63\% | 11.41\% |
| 3/31/2010 | 42.15\% | -3.94\% | -0.10\% | 11.32\% |
| 4/30/2010 | 34.73\% | -6.64\% | -0.49\% | 12.17\% |
| 5/31/2010 | 16.67\% | -14.82\% | -8.52\% | 12.27\% |
| 6/30/2010 | 11.95\% | -16.80\% | -11.19\% | 9.00\% |
| 7/30/2010 | 11.68\% | -8.13\% | -7.56\% | 11.06\% |
| 8/31/2010 | 12.73\% | -7.81\% | -4.57\% | 10.66\% |
| 9/30/2010 | 11.60\% | 12.16\% | -3.98\% | 17.92\% |
| 10/29/2010 | 19.45\% | 38.25\% | -5.09\% | 15.24\% |
| 11/30/2010 | 16.29\% | 48.56\% | 3.60\% | 13.96\% |
| 12/31/2010 | 17.61\% | 58.83\% | 6.41\% | 16.87\% |
| 1/31/2011 | 25.48\% | 65.29\% | 12.78\% | 16.68\% |
| 2/28/2011 | 24.84\% | 84.26\% | 13.86\% | 21.55\% |
| 3/31/2011 | 20.41\% | 71.15\% | 15.66\% | 20.29\% |
| 4/29/2011 | 17.22\% | 57.94\% | 9.44\% | 16.65\% |
| 5/31/2011 | 20.39\% | 40.47\% | 2.55\% | 10.14\% |
| 6/30/2011 | 20.87\% | 35.32\% | 0.56\% | 7.35\% |
| 7/29/2011 | 13.37\% | 26.60\% | 4.15\% | 4.80\% |
| 8/31/2011 | 9.91\% | 23.90\% | 1.33\% | 4.89\% |
| 9/30/2011 | -3.55\% | 7.63\% | 8.18\% | -7.40\% |
| 10/31/2011 | -0.83\% | 18.46\% | 37.10\% | -5.88\% |


|  | 1 Year <br> S\&P Composite <br> TR Index | 2 Year <br> S\&P Composite <br> TR Index | 3 Year <br> S\&P Composite <br> TR Index | 4 Year <br> S\&P Composite <br> TR Index |
| :---: | :---: | :---: | :---: | :---: |
| 11/30/2011 | -3.33\% | 12.41\% | 43.61\% | 0.14\% |
| 12/30/2011 | -8.71\% | 7.36\% | 45.00\% | -2.86\% |
| 1/31/2012 | -5.65\% | 18.39\% | 55.96\% | 6.41\% |
| 2/29/2012 | -8.15\% | 14.67\% | 69.25\% | 4.59\% |
| 3/30/2012 | -9.76\% | 8.66\% | 54.46\% | 4.38\% |
| 4/30/2012 | -9.37\% | 6.24\% | 43.14\% | -0.81\% |
| 5/31/2012 | -14.19\% | 3.31\% | 20.54\% | -12.00\% |
| 6/29/2012 | -10.25\% | 8.48\% | 21.45\% | -9.75\% |
| 7/31/2012 | -7.22\% | 5.18\% | 17.46\% | -3.37\% |
| 8/31/2012 | -3.60\% | 5.96\% | 19.44\% | -2.32\% |
| 9/28/2012 | 9.17\% | 5.29\% | 17.50\% | 18.09\% |
| 10/31/2012 | 4.47\% | 3.60\% | 23.76\% | 43.23\% |
| 11/30/2012 | 3.35\% | -0.09\% | 16.18\% | 48.43\% |
| 12/31/2012 | 7.19\% | -2.15\% | 15.08\% | 55.42\% |
| 1/31/2013 | 5.01\% | -0.92\% | 24.32\% | 63.77\% |
| 2/28/2013 | 4.58\% | -3.94\% | 19.92\% | 76.99\% |
| 3/31/2013 | 6.11\% | -4.24\% | 15.30\% | 63.89\% |
| 4/30/2013 | 4.53\% | -5.26\% | 11.06\% | 49.63\% |
| 5/31/2013 | 13.34\% | -2.74\% | 17.10\% | 36.62\% |
| 6/28/2013 | 7.90\% | -3.17\% | 17.04\% | 31.04\% |
| 7/31/2013 | 10.45\% | 2.48\% | 16.17\% | 29.74\% |
| 8/30/2013 | 9.27\% | 5.34\% | 15.78\% | 30.51\% |
| 9/30/2013 | 7.12\% | 16.94\% | 12.79\% | 25.87\% |
| 10/31/2013 | 11.00\% | 15.96\% | 15.00\% | 37.37\% |
| 11/29/2013 | 12.95\% | 16.73\% | 12.84\% | 31.22\% |
| 12/31/2013 | 12.99\% | 21.11\% | 10.56\% | 30.03\% |
| 1/31/2014 | 11.41\% | 16.99\% | 10.38\% | 38.50\% |
| 2/28/2014 | 14.34\% | 19.58\% | 9.84\% | 37.12\% |
| 3/31/2014 | 15.97\% | 23.05\% | 11.05\% | 33.71\% |
| 4/30/2014 | 21.29\% | 26.79\% | 14.91\% | 34.71\% |



## PUB (MPI) 1-115

Please provide the supporting analysis of "Historical Declines in Long-Term Bond Yields (1956 to April 2014)" and the distribution fitting process underlying the "Selected Adverse Scenarios by Percentile and Period (Cumulative)" [RSR. 2 Page 42].

## RESPONSE:

Please find attached the supporting analysis.

|  | 1 Year <br> Government of <br> Canada <br> marketable | 2 Year <br> Government of <br> Canada <br> marketable | 3 Year Government of Canada marketable | $\qquad$ |
| :---: | :---: | :---: | :---: | :---: |
| 1/31/1957 | 0.84\% |  |  |  |
| 2/28/1957 | 0.70\% |  |  |  |
| 3/29/1957 | 0.59\% |  |  |  |
| 4/30/1957 | 0.52\% |  |  |  |
| 5/31/1957 | 0.72\% |  |  |  |
| 6/28/1957 | 0.82\% |  |  |  |
| 7/31/1957 | 0.67\% |  |  |  |
| 8/30/1957 | 0.55\% |  |  |  |
| 9/30/1957 | 0.43\% |  |  |  |
| 10/31/1957 | 0.22\% |  |  |  |
| 11/29/1957 | -0.08\% |  |  |  |
| 12/31/1957 | -0.15\% |  |  |  |
| 1/31/1958 | -0.23\% | 0.61\% |  |  |
| 2/28/1958 | 0.01\% | 0.71\% |  |  |
| 3/31/1958 | -0.01\% | 0.58\% |  |  |
| 4/30/1958 | -0.09\% | 0.43\% |  |  |
| 5/30/1958 | -0.40\% | 0.32\% |  |  |
| 6/30/1958 | -0.21\% | 0.61\% |  |  |
| 7/31/1958 | -0.19\% | 0.48\% |  |  |
| 8/29/1958 | -0.20\% | 0.35\% |  |  |
| 9/30/1958 | -0.02\% | 0.41\% |  |  |
| 10/31/1958 | 0.28\% | 0.50\% |  |  |
| 11/28/1958 | 0.71\% | 0.63\% |  |  |
| 12/31/1958 | 0.81\% | 0.66\% |  |  |
| 1/30/1959 | 0.74\% | 0.51\% | 1.35\% |  |
| 2/27/1959 | 0.74\% | 0.75\% | 1.45\% |  |
| 3/31/1959 | 0.85\% | 0.84\% | 1.43\% |  |
| 4/30/1959 | 0.90\% | 0.81\% | 1.33\% |  |
| 5/29/1959 | 1.09\% | 0.69\% | 1.41\% |  |
| 6/30/1959 | 1.02\% | 0.81\% | 1.63\% |  |
| 7/31/1959 | 0.93\% | 0.74\% | 1.41\% |  |
| 8/31/1959 | 1.16\% | 0.96\% | 1.51\% |  |
| 9/30/1959 | 1.20\% | 1.18\% | 1.61\% |  |
| 10/30/1959 | 0.92\% | 1.20\% | 1.42\% |  |
| 11/30/1959 | 0.74\% | 1.45\% | 1.37\% |  |
| 12/31/1959 | 0.82\% | 1.63\% | 1.48\% |  |
| 1/29/1960 | 0.91\% | 1.65\% | 1.42\% | 2.26\% |
| 2/29/1960 | 0.69\% | 1.43\% | 1.44\% | 2.14\% |
| 3/31/1960 | 0.47\% | 1.32\% | 1.31\% | 1.90\% |
| 4/29/1960 | 0.43\% | 1.33\% | 1.24\% | 1.76\% |
| 5/31/1960 | 0.27\% | 1.36\% | 0.96\% | 1.68\% |
| 6/30/1960 | -0.01\% | 1.01\% | 0.80\% | 1.62\% |
| 7/29/1960 | 0.09\% | 1.02\% | 0.83\% | 1.50\% |
| 8/31/1960 | -0.49\% | 0.67\% | 0.47\% | 1.02\% |
| 9/30/1960 | -0.69\% | 0.51\% | 0.49\% | 0.92\% |
| 10/31/1960 | -0.23\% | 0.69\% | 0.97\% | 1.19\% |
| 11/30/1960 | 0.02\% | 0.76\% | 1.47\% | 1.39\% |


|  | 1 Year Government of Canada marketable | 2 Year Government of Canada marketable | 3 Year Government of Canada marketable | 4 Year Government of Canada marketable |
| :---: | :---: | :---: | :---: | :---: |
| 12/30/1960 | -0.14\% | 0.68\% | 1.49\% | 1.34\% |
| 1/31/1961 | -0.32\% | 0.59\% | 1.33\% | 1.10\% |
| 2/28/1961 | -0.34\% | 0.35\% | 1.09\% | 1.10\% |
| 3/31/1961 | -0.13\% | 0.34\% | 1.19\% | 1.18\% |
| 4/28/1961 | -0.08\% | 0.35\% | 1.25\% | 1.16\% |
| 5/31/1961 | -0.03\% | 0.24\% | 1.33\% | 0.93\% |
| 6/30/1961 | -0.07\% | -0.08\% | 0.94\% | 0.73\% |
| 7/31/1961 | -0.14\% | -0.05\% | 0.88\% | 0.69\% |
| 8/31/1961 | 0.17\% | -0.32\% | 0.84\% | 0.64\% |
| 9/29/1961 | 0.21\% | -0.48\% | 0.72\% | 0.70\% |
| 10/31/1961 | -0.14\% | -0.37\% | 0.55\% | 0.83\% |
| 11/30/1961 | -0.42\% | -0.40\% | 0.34\% | 1.05\% |
| 12/29/1961 | -0.38\% | -0.52\% | 0.30\% | 1.11\% |
| 1/31/1962 | -0.27\% | -0.59\% | 0.32\% | 1.06\% |
| 2/28/1962 | -0.14\% | -0.48\% | 0.21\% | 0.95\% |
| 3/30/1962 | -0.32\% | -0.45\% | 0.02\% | 0.87\% |
| 4/30/1962 | -0.43\% | -0.51\% | -0.08\% | 0.82\% |
| 5/31/1962 | -0.18\% | -0.21\% | 0.06\% | 1.15\% |
| 6/29/1962 | 0.35\% | 0.28\% | 0.27\% | 1.29\% |
| 7/31/1962 | 0.48\% | 0.34\% | 0.43\% | 1.36\% |
| 8/31/1962 | 0.42\% | 0.59\% | 0.10\% | 1.26\% |
| 9/28/1962 | 0.37\% | 0.58\% | -0.11\% | 1.09\% |
| 10/31/1962 | 0.18\% | 0.04\% | -0.19\% | 0.73\% |
| 11/30/1962 | 0.18\% | -0.24\% | -0.22\% | 0.52\% |
| 12/31/1962 | 0.17\% | -0.21\% | -0.35\% | 0.47\% |
| 1/31/1963 | 0.08\% | -0.19\% | -0.51\% | 0.40\% |
| 2/28/1963 | 0.17\% | 0.03\% | -0.31\% | 0.38\% |
| 3/29/1963 | 0.23\% | -0.09\% | -0.22\% | 0.25\% |
| 4/30/1963 | 0.21\% | -0.22\% | -0.30\% | 0.13\% |
| 5/31/1963 | -0.05\% | -0.23\% | -0.26\% | 0.01\% |
| 6/28/1963 | -0.34\% | 0.01\% | -0.06\% | -0.07\% |
| 7/31/1963 | -0.32\% | 0.16\% | 0.02\% | 0.11\% |
| 8/30/1963 | -0.12\% | 0.30\% | 0.47\% | -0.02\% |
| 9/30/1963 | -0.27\% | 0.10\% | 0.31\% | -0.38\% |
| 10/31/1963 | -0.02\% | 0.16\% | 0.02\% | -0.21\% |
| 11/29/1963 | 0.07\% | 0.25\% | -0.17\% | -0.15\% |
| 12/31/1963 | 0.08\% | 0.25\% | -0.13\% | -0.27\% |
| 1/31/1964 | 0.12\% | 0.20\% | -0.07\% | -0.39\% |
| 2/28/1964 | 0.06\% | 0.23\% | 0.09\% | -0.25\% |
| 3/31/1964 | 0.16\% | 0.39\% | 0.07\% | -0.06\% |
| 4/30/1964 | 0.24\% | 0.45\% | 0.02\% | -0.06\% |
| 5/29/1964 | 0.27\% | 0.22\% | 0.04\% | 0.01\% |
| 6/30/1964 | 0.25\% | -0.09\% | 0.26\% | 0.19\% |
| 7/31/1964 | 0.10\% | -0.22\% | 0.26\% | 0.12\% |
| 8/31/1964 | -0.05\% | -0.17\% | 0.25\% | 0.42\% |
| 9/30/1964 | 0.10\% | -0.17\% | 0.20\% | 0.41\% |
| 10/30/1964 | 0.07\% | 0.05\% | 0.23\% | 0.09\% |


|  | 1 Year Government of Canada marketable | 2 Year Government of Canada marketable | 3 Year Government of Canada marketable | 4 Year Government of Canada marketable |
| :---: | :---: | :---: | :---: | :---: |
| 11/30/1964 | -0.04\% | 0.03\% | 0.21\% | -0.21\% |
| 12/31/1964 | -0.15\% | -0.07\% | 0.10\% | -0.28\% |
| 1/29/1965 | -0.21\% | -0.09\% | -0.01\% | -0.28\% |
| 2/26/1965 | -0.14\% | -0.08\% | 0.09\% | -0.05\% |
| 3/31/1965 | -0.19\% | -0.03\% | 0.20\% | -0.12\% |
| 4/30/1965 | -0.19\% | 0.05\% | 0.26\% | -0.17\% |
| 5/31/1965 | -0.09\% | 0.18\% | 0.13\% | -0.05\% |
| 6/30/1965 | -0.05\% | 0.20\% | -0.14\% | 0.21\% |
| 7/30/1965 | 0.06\% | 0.16\% | -0.16\% | 0.32\% |
| 8/31/1965 | 0.12\% | 0.07\% | -0.05\% | 0.37\% |
| 9/30/1965 | 0.11\% | 0.21\% | -0.06\% | 0.31\% |
| 10/29/1965 | 0.21\% | 0.28\% | 0.26\% | 0.44\% |
| 11/30/1965 | 0.29\% | 0.25\% | 0.32\% | 0.50\% |
| 12/31/1965 | 0.37\% | 0.22\% | 0.30\% | 0.47\% |
| 1/31/1966 | 0.45\% | 0.24\% | 0.36\% | 0.44\% |
| 2/28/1966 | 0.58\% | 0.44\% | 0.50\% | 0.67\% |
| 3/31/1966 | 0.52\% | 0.33\% | 0.49\% | 0.72\% |
| 4/29/1966 | 0.55\% | 0.36\% | 0.60\% | 0.81\% |
| 5/31/1966 | 0.49\% | 0.40\% | 0.67\% | 0.62\% |
| 6/30/1966 | 0.50\% | 0.45\% | 0.70\% | 0.36\% |
| 7/29/1966 | 0.46\% | 0.52\% | 0.62\% | 0.30\% |
| 8/31/1966 | 0.59\% | 0.71\% | 0.66\% | 0.54\% |
| 9/30/1966 | 0.43\% | 0.54\% | 0.64\% | 0.37\% |
| 10/31/1966 | 0.34\% | 0.55\% | 0.62\% | 0.60\% |
| 11/30/1966 | 0.51\% | 0.80\% | 0.76\% | 0.83\% |
| 12/30/1966 | 0.36\% | 0.73\% | 0.58\% | 0.66\% |
| 1/31/1967 | 0.19\% | 0.64\% | 0.43\% | 0.55\% |
| 2/28/1967 | 0.03\% | 0.61\% | 0.47\% | 0.53\% |
| 3/31/1967 | -0.10\% | 0.42\% | 0.23\% | 0.39\% |
| 4/28/1967 | -0.04\% | 0.51\% | 0.32\% | 0.56\% |
| 5/31/1967 | 0.11\% | 0.60\% | 0.51\% | 0.78\% |
| 6/30/1967 | 0.21\% | 0.71\% | 0.66\% | 0.91\% |
| 7/31/1967 | 0.14\% | 0.60\% | 0.66\% | 0.76\% |
| 8/31/1967 | 0.05\% | 0.64\% | 0.76\% | 0.71\% |
| 9/29/1967 | 0.44\% | 0.87\% | 0.98\% | 1.08\% |
| 10/31/1967 | 0.65\% | 0.99\% | 1.20\% | 1.27\% |
| 11/30/1967 | 0.50\% | 1.01\% | 1.30\% | 1.26\% |
| 12/29/1967 | 0.78\% | 1.14\% | 1.51\% | 1.36\% |
| 1/31/1968 | 0.94\% | 1.13\% | 1.58\% | 1.37\% |
| 2/29/1968 | 1.08\% | 1.11\% | 1.69\% | 1.55\% |
| 3/29/1968 | 1.43\% | 1.33\% | 1.85\% | 1.66\% |
| 4/30/1968 | 1.06\% | 1.02\% | 1.57\% | 1.38\% |
| 5/31/1968 | 1.25\% | 1.36\% | 1.85\% | 1.76\% |
| 6/28/1968 | 0.75\% | 0.96\% | 1.46\% | 1.41\% |
| 7/31/1968 | 0.61\% | 0.75\% | 1.21\% | 1.27\% |
| 8/30/1968 | 0.44\% | 0.49\% | 1.08\% | 1.20\% |
| 9/30/1968 | 0.41\% | 0.85\% | 1.28\% | 1.39\% |


|  | 1 Year Government of Canada marketable | 2 Year Government of Canada marketable | 3 Year Government of Canada marketable | 4 Year Government of Canada marketable |
| :---: | :---: | :---: | :---: | :---: |
| 10/31/1968 | 0.47\% | 1.12\% | 1.46\% | 1.67\% |
| 11/29/1968 | 0.54\% | 1.04\% | 1.55\% | 1.84\% |
| 12/31/1968 | 0.76\% | 1.54\% | 1.90\% | 2.27\% |
| 1/31/1969 | 0.62\% | 1.56\% | 1.75\% | 2.20\% |
| 2/28/1969 | 0.48\% | 1.56\% | 1.59\% | 2.17\% |
| 3/31/1969 | 0.31\% | 1.74\% | 1.64\% | 2.16\% |
| 4/30/1969 | 0.67\% | 1.73\% | 1.69\% | 2.24\% |
| 5/30/1969 | 0.51\% | 1.76\% | 1.87\% | 2.36\% |
| 6/30/1969 | 0.88\% | 1.63\% | 1.84\% | 2.34\% |
| 7/31/1969 | 1.03\% | 1.64\% | 1.78\% | 2.24\% |
| 8/29/1969 | 1.10\% | 1.54\% | 1.59\% | 2.18\% |
| 9/30/1969 | 1.21\% | 1.62\% | 2.06\% | 2.49\% |
| 10/31/1969 | 0.99\% | 1.46\% | 2.11\% | 2.45\% |
| 11/28/1969 | 1.20\% | 1.74\% | 2.24\% | 2.75\% |
| 12/31/1969 | 1.03\% | 1.79\% | 2.57\% | 2.93\% |
| 1/30/1970 | 1.15\% | 1.77\% | 2.71\% | 2.90\% |
| 2/27/1970 | 0.93\% | 1.41\% | 2.49\% | 2.52\% |
| 3/31/1970 | 0.71\% | 1.02\% | 2.45\% | 2.35\% |
| 4/30/1970 | 0.75\% | 1.42\% | 2.48\% | 2.44\% |
| 5/29/1970 | 0.75\% | 1.26\% | 2.51\% | 2.62\% |
| 6/30/1970 | 0.59\% | 1.47\% | 2.22\% | 2.43\% |
| 7/31/1970 | 0.39\% | 1.42\% | 2.03\% | 2.17\% |
| 8/31/1970 | 0.47\% | 1.57\% | 2.01\% | 2.06\% |
| 9/30/1970 | 0.07\% | 1.28\% | 1.69\% | 2.13\% |
| 10/30/1970 | 0.12\% | 1.11\% | 1.58\% | 2.23\% |
| 11/30/1970 | -0.65\% | 0.55\% | 1.09\% | 1.59\% |
| 12/31/1970 | -1.34\% | -0.31\% | 0.45\% | 1.23\% |
| 1/29/1971 | -1.64\% | -0.49\% | 0.13\% | 1.07\% |
| 2/26/1971 | -1.28\% | -0.35\% | 0.13\% | 1.21\% |
| 3/31/1971 | -1.17\% | -0.46\% | -0.15\% | 1.28\% |
| 4/30/1971 | -1.07\% | -0.32\% | 0.35\% | 1.41\% |
| 5/31/1971 | -0.85\% | -0.10\% | 0.41\% | 1.66\% |
| 6/30/1971 | -0.79\% | -0.20\% | 0.68\% | 1.43\% |
| 7/30/1971 | -0.42\% | -0.03\% | 1.00\% | 1.61\% |
| 8/31/1971 | -0.85\% | -0.38\% | 0.72\% | 1.16\% |
| 9/30/1971 | -0.91\% | -0.84\% | 0.37\% | 0.78\% |
| 10/29/1971 | -1.23\% | -1.11\% | -0.12\% | 0.35\% |
| 11/30/1971 | -0.94\% | -1.59\% | -0.39\% | 0.15\% |
| 12/31/1971 | -0.43\% | -1.77\% | -0.74\% | 0.02\% |
| 1/31/1972 | 0.06\% | -1.58\% | -0.43\% | 0.19\% |
| 2/29/1972 | 0.05\% | -1.23\% | -0.30\% | 0.18\% |
| 3/31/1972 | 0.48\% | -0.69\% | 0.02\% | 0.33\% |
| 4/28/1972 | 0.30\% | -0.77\% | -0.02\% | 0.65\% |
| 5/31/1972 | -0.04\% | -0.89\% | -0.14\% | 0.37\% |
| 6/30/1972 | 0.15\% | -0.64\% | -0.05\% | 0.83\% |
| 7/31/1972 | 0.00\% | -0.42\% | -0.03\% | 1.00\% |
| 8/31/1972 | 0.29\% | -0.56\% | -0.09\% | 1.01\% |


|  | 1 Year Government of Canada marketable | 2 Year Government of Canada marketable | 3 Year Government of Canada marketable | 4 Year Government of Canada marketable |
| :---: | :---: | :---: | :---: | :---: |
| 9/29/1972 | 0.49\% | -0.42\% | -0.35\% | 0.86\% |
| 10/31/1972 | 0.55\% | -0.68\% | -0.56\% | 0.43\% |
| 11/30/1972 | 0.52\% | -0.42\% | -1.07\% | 0.13\% |
| 12/29/1972 | 0.56\% | 0.13\% | -1.21\% | -0.18\% |
| 1/31/1973 | 0.43\% | 0.49\% | -1.15\% | 0.00\% |
| 2/28/1973 | 0.31\% | 0.36\% | -0.92\% | 0.01\% |
| 3/30/1973 | 0.06\% | 0.54\% | -0.63\% | 0.08\% |
| 4/30/1973 | 0.12\% | 0.42\% | -0.65\% | 0.10\% |
| 5/31/1973 | 0.38\% | 0.34\% | -0.51\% | 0.24\% |
| 6/29/1973 | 0.29\% | 0.44\% | -0.35\% | 0.24\% |
| 7/31/1973 | 0.24\% | 0.24\% | -0.18\% | 0.21\% |
| 8/31/1973 | 0.38\% | 0.67\% | -0.18\% | 0.29\% |
| 9/28/1973 | 0.26\% | 0.75\% | -0.16\% | -0.09\% |
| 10/31/1973 | 0.34\% | 0.89\% | -0.34\% | -0.22\% |
| 11/30/1973 | 0.56\% | 1.08\% | 0.14\% | -0.51\% |
| 12/31/1973 | 0.58\% | 1.14\% | 0.71\% | -0.63\% |
| 1/31/1974 | 0.59\% | 1.02\% | 1.08\% | -0.56\% |
| 2/28/1974 | 0.53\% | 0.84\% | 0.89\% | -0.39\% |
| 3/29/1974 | 0.89\% | 0.95\% | 1.43\% | 0.26\% |
| 4/30/1974 | 1.42\% | 1.54\% | 1.84\% | 0.77\% |
| 5/31/1974 | 1.19\% | 1.57\% | 1.53\% | 0.68\% |
| 6/28/1974 | 1.72\% | 2.01\% | 2.16\% | 1.37\% |
| 7/31/1974 | 1.90\% | 2.14\% | 2.14\% | 1.72\% |
| 8/30/1974 | 2.02\% | 2.40\% | 2.69\% | 1.84\% |
| 9/30/1974 | 1.95\% | 2.21\% | 2.70\% | 1.79\% |
| 10/31/1974 | 1.60\% | 1.94\% | 2.49\% | 1.26\% |
| 11/29/1974 | 1.23\% | 1.79\% | 2.31\% | 1.37\% |
| 12/31/1974 | 1.07\% | 1.65\% | 2.21\% | 1.78\% |
| 1/31/1975 | 0.55\% | 1.14\% | 1.57\% | 1.63\% |
| 2/28/1975 | 0.43\% | 0.96\% | 1.27\% | 1.32\% |
| 3/31/1975 | 0.28\% | 1.17\% | 1.23\% | 1.71\% |
| 4/30/1975 | 0.23\% | 1.65\% | 1.77\% | 2.07\% |
| 5/30/1975 | -0.20\% | 0.99\% | 1.37\% | 1.33\% |
| 6/30/1975 | -0.58\% | 1.14\% | 1.43\% | 1.58\% |
| 7/31/1975 | -0.29\% | 1.61\% | 1.85\% | 1.85\% |
| 8/29/1975 | -0.45\% | 1.57\% | 1.95\% | 2.24\% |
| 9/30/1975 | 0.05\% | 2.00\% | 2.26\% | 2.75\% |
| 10/31/1975 | 0.13\% | 1.73\% | 2.07\% | 2.62\% |
| 11/28/1975 | 0.71\% | 1.94\% | 2.50\% | 3.02\% |
| 12/31/1975 | 0.72\% | 1.79\% | 2.37\% | 2.93\% |
| 1/30/1976 | 0.99\% | 1.54\% | 2.13\% | 2.56\% |
| 2/27/1976 | 1.10\% | 1.53\% | 2.06\% | 2.37\% |
| 3/31/1976 | 0.92\% | 1.20\% | 2.09\% | 2.15\% |
| 4/30/1976 | 0.30\% | 0.53\% | 1.95\% | 2.07\% |
| 5/31/1976 | 0.61\% | 0.41\% | 1.60\% | 1.98\% |
| 6/30/1976 | 0.47\% | -0.11\% | 1.61\% | 1.90\% |
| 7/30/1976 | 0.03\% | -0.26\% | 1.64\% | 1.88\% |


|  | 1 Year Government of Canada marketable | 2 Year Government of Canada marketable | 3 Year Government of Canada marketable | 4 Year Government of Canada marketable |
| :---: | :---: | :---: | :---: | :---: |
| 8/31/1976 | -0.15\% | -0.60\% | 1.42\% | 1.80\% |
| 9/30/1976 | -0.56\% | -0.51\% | 1.44\% | 1.70\% |
| 10/29/1976 | -0.24\% | -0.11\% | 1.49\% | 1.83\% |
| 11/30/1976 | -0.76\% | -0.05\% | 1.18\% | 1.74\% |
| 12/31/1976 | -1.02\% | -0.30\% | 0.77\% | 1.35\% |
| 1/31/1977 | -0.77\% | 0.22\% | 0.77\% | 1.36\% |
| 2/28/1977 | -0.65\% | 0.45\% | 0.88\% | 1.41\% |
| 3/31/1977 | -0.56\% | 0.36\% | 0.64\% | 1.53\% |
| 4/29/1977 | -0.49\% | -0.19\% | 0.04\% | 1.46\% |
| 5/31/1977 | -0.55\% | 0.06\% | -0.14\% | 1.05\% |
| 6/30/1977 | -0.63\% | -0.16\% | -0.74\% | 0.98\% |
| 7/29/1977 | -0.67\% | -0.64\% | -0.93\% | 0.97\% |
| 8/31/1977 | -0.67\% | -0.82\% | -1.27\% | 0.75\% |
| 9/30/1977 | -0.55\% | -1.11\% | -1.06\% | 0.89\% |
| 10/31/1977 | -0.39\% | -0.63\% | -0.50\% | 1.10\% |
| 11/30/1977 | -0.08\% | -0.84\% | -0.13\% | 1.10\% |
| 12/30/1977 | 0.30\% | -0.72\% | 0.00\% | 1.07\% |
| 1/31/1978 | 0.54\% | -0.23\% | 0.76\% | 1.31\% |
| 2/28/1978 | 0.53\% | -0.12\% | 0.98\% | 1.41\% |
| 3/31/1978 | 0.34\% | -0.22\% | 0.70\% | 0.98\% |
| 4/28/1978 | 0.37\% | -0.12\% | 0.18\% | 0.41\% |
| 5/31/1978 | 0.46\% | -0.09\% | 0.52\% | 0.32\% |
| 6/30/1978 | 0.51\% | -0.12\% | 0.35\% | -0.23\% |
| 7/31/1978 | 0.47\% | -0.20\% | -0.17\% | -0.46\% |
| 8/31/1978 | 0.59\% | -0.08\% | -0.23\% | -0.68\% |
| 9/29/1978 | 0.54\% | -0.01\% | -0.57\% | -0.52\% |
| 10/31/1978 | 0.78\% | 0.39\% | 0.15\% | 0.28\% |
| 11/30/1978 | 0.80\% | 0.72\% | -0.04\% | 0.67\% |
| 12/29/1978 | 0.91\% | 1.21\% | 0.19\% | 0.91\% |
| 1/31/1979 | 0.76\% | 1.30\% | 0.53\% | 1.52\% |
| 2/28/1979 | 0.82\% | 1.35\% | 0.70\% | 1.80\% |
| 3/30/1979 | 0.74\% | 1.08\% | 0.52\% | 1.44\% |
| 4/30/1979 | 0.44\% | 0.81\% | 0.32\% | 0.62\% |
| 5/31/1979 | 0.45\% | 0.91\% | 0.36\% | 0.97\% |
| 6/29/1979 | 0.50\% | 1.01\% | 0.38\% | 0.85\% |
| 7/31/1979 | 0.67\% | 1.14\% | 0.47\% | 0.50\% |
| 8/31/1979 | 0.99\% | 1.58\% | 0.91\% | 0.76\% |
| 9/28/1979 | 1.23\% | 1.77\% | 1.22\% | 0.66\% |
| 10/31/1979 | 1.68\% | 2.46\% | 2.07\% | 1.83\% |
| 11/30/1979 | 1.40\% | 2.20\% | 2.12\% | 1.36\% |
| 12/31/1979 | 1.64\% | 2.55\% | 2.85\% | 1.83\% |
| 1/31/1980 | 2.31\% | 3.07\% | 3.61\% | 2.84\% |
| 2/29/1980 | 2.94\% | 3.76\% | 4.29\% | 3.64\% |
| 3/31/1980 | 3.54\% | 4.28\% | 4.62\% | 4.06\% |
| 4/30/1980 | 2.35\% | 2.79\% | 3.16\% | 2.67\% |
| 5/30/1980 | 1.74\% | 2.19\% | 2.65\% | 2.10\% |
| 6/30/1980 | 1.56\% | 2.06\% | 2.57\% | 1.94\% |


|  | 1 Year Government of Canada marketable | 2 Year Government of Canada marketable | 3 Year Government of Canada marketable | 4 Year Government of Canada marketable |
| :---: | :---: | :---: | :---: | :---: |
| 7/31/1980 | 2.48\% | 3.15\% | 3.62\% | 2.95\% |
| 8/29/1980 | 2.25\% | 3.24\% | 3.83\% | 3.16\% |
| 9/30/1980 | 2.60\% | 3.83\% | 4.37\% | 3.82\% |
| 10/31/1980 | 2.06\% | 3.74\% | 4.52\% | 4.13\% |
| 11/28/1980 | 2.07\% | 3.47\% | 4.27\% | 4.19\% |
| 12/31/1980 | 1.35\% | 2.99\% | 3.90\% | 4.20\% |
| 1/30/1981 | 0.83\% | 3.14\% | 3.90\% | 4.44\% |
| 2/27/1981 | 0.47\% | 3.41\% | 4.23\% | 4.76\% |
| 3/31/1981 | 0.03\% | 3.57\% | 4.31\% | 4.65\% |
| 4/30/1981 | 3.06\% | 5.41\% | 5.85\% | 6.22\% |
| 5/29/1981 | 3.54\% | 5.28\% | 5.73\% | 6.19\% |
| 6/30/1981 | 3.74\% | 5.30\% | 5.80\% | 6.31\% |
| 7/31/1981 | 4.75\% | 7.23\% | 7.90\% | 8.37\% |
| 8/31/1981 | 4.37\% | 6.62\% | 7.61\% | 8.20\% |
| 9/30/1981 | 4.68\% | 7.28\% | 8.51\% | 9.05\% |
| 10/30/1981 | 3.44\% | 5.50\% | 7.18\% | 7.96\% |
| 11/30/1981 | 1.31\% | 3.38\% | 4.78\% | 5.58\% |
| 12/31/1981 | 2.60\% | 3.95\% | 5.59\% | 6.50\% |
| 1/29/1982 | 2.98\% | 3.81\% | 6.12\% | 6.88\% |
| 2/26/1982 | 1.63\% | 2.10\% | 5.04\% | 5.86\% |
| 3/31/1982 | 1.58\% | 1.61\% | 5.15\% | 5.89\% |
| 4/30/1982 | -0.32\% | 2.74\% | 5.09\% | 5.53\% |
| 5/31/1982 | -0.24\% | 3.30\% | 5.04\% | 5.49\% |
| 6/30/1982 | 1.00\% | 4.74\% | 6.30\% | 6.80\% |
| 7/30/1982 | -1.45\% | 3.30\% | 5.78\% | 6.45\% |
| 8/31/1982 | -2.81\% | 1.56\% | 3.81\% | 4.80\% |
| 9/30/1982 | -4.18\% | 0.50\% | 3.10\% | 4.33\% |
| 10/29/1982 | -4.03\% | -0.59\% | 1.47\% | 3.15\% |
| 11/30/1982 | -2.14\% | -0.83\% | 1.24\% | 2.64\% |
| 12/31/1982 | -3.58\% | -0.98\% | 0.37\% | 2.01\% |
| 1/31/1983 | -3.66\% | -0.68\% | 0.15\% | 2.46\% |
| 2/28/1983 | -3.21\% | -1.58\% | -1.11\% | 1.83\% |
| 3/31/1983 | -3.36\% | -1.78\% | -1.75\% | 1.79\% |
| 4/29/1983 | -3.57\% | -3.89\% | -0.83\% | 1.52\% |
| 5/31/1983 | -3.42\% | -3.66\% | -0.12\% | 1.62\% |
| 6/30/1983 | -4.47\% | -3.47\% | 0.27\% | 1.83\% |
| 7/29/1983 | -3.59\% | -5.04\% | -0.29\% | 2.19\% |
| 8/31/1983 | -1.62\% | -4.43\% | -0.06\% | 2.19\% |
| 9/30/1983 | -1.72\% | -5.90\% | -1.22\% | 1.38\% |
| 10/31/1983 | -0.90\% | -4.93\% | -1.49\% | 0.57\% |
| 11/30/1983 | -0.38\% | -2.52\% | -1.21\% | 0.86\% |
| 12/30/1983 | 0.33\% | -3.25\% | -0.65\% | 0.70\% |
| 1/31/1984 | -0.36\% | -4.02\% | -1.04\% | -0.21\% |
| 2/29/1984 | 0.60\% | -2.61\% | -0.98\% | -0.51\% |
| 3/30/1984 | 1.36\% | -2.00\% | -0.42\% | -0.39\% |
| 4/30/1984 | 2.13\% | -1.44\% | -1.76\% | 1.30\% |
| 5/31/1984 | 2.63\% | -0.79\% | -1.03\% | 2.51\% |


|  | 1 Year Government of Canada marketable | 2 Year Government of Canada marketable | 3 Year Government of Canada marketable | 4 Year Government of Canada marketable |
| :---: | :---: | :---: | :---: | :---: |
| 6/29/1984 | 2.25\% | -2.22\% | -1.22\% | 2.52\% |
| 7/31/1984 | 1.38\% | -2.21\% | -3.66\% | 1.09\% |
| 8/31/1984 | 0.55\% | -1.07\% | -3.88\% | 0.49\% |
| 9/28/1984 | 0.87\% | -0.85\% | -5.03\% | -0.35\% |
| 10/31/1984 | 0.45\% | -0.45\% | -4.48\% | -1.04\% |
| 11/30/1984 | 0.01\% | -0.37\% | -2.51\% | -1.20\% |
| 12/31/1984 | -0.36\% | -0.03\% | -3.61\% | -1.01\% |
| 1/31/1985 | -0.54\% | -0.90\% | -4.56\% | -1.58\% |
| 2/28/1985 | -0.10\% | 0.50\% | -2.71\% | -1.08\% |
| 3/29/1985 | -1.13\% | 0.23\% | -3.13\% | -1.55\% |
| 4/30/1985 | -1.81\% | 0.32\% | -3.25\% | -3.57\% |
| 5/31/1985 | -3.17\% | -0.54\% | -3.96\% | -4.20\% |
| 6/28/1985 | -2.93\% | -0.68\% | -5.15\% | -4.15\% |
| 7/31/1985 | -2.50\% | -1.12\% | -4.71\% | -6.16\% |
| 8/30/1985 | -2.10\% | -1.55\% | -3.17\% | -5.98\% |
| 9/30/1985 | -1.67\% | -0.80\% | -2.52\% | -6.70\% |
| 10/31/1985 | -1.46\% | -1.01\% | -1.91\% | -5.94\% |
| 11/29/1985 | -1.47\% | -1.46\% | -1.84\% | -3.98\% |
| 12/31/1985 | -1.60\% | -1.96\% | -1.63\% | -5.21\% |
| 1/31/1986 | -0.89\% | -1.43\% | -1.79\% | -5.45\% |
| 2/28/1986 | -2.34\% | -2.44\% | -1.84\% | -5.05\% |
| 3/31/1986 | -2.39\% | -3.52\% | -2.16\% | -5.52\% |
| 4/30/1986 | -2.18\% | -3.99\% | -1.86\% | -5.43\% |
| 5/30/1986 | -1.24\% | -4.41\% | -1.78\% | -5.20\% |
| 6/30/1986 | -1.46\% | -4.39\% | -2.14\% | -6.61\% |
| 7/31/1986 | -1.55\% | -4.05\% | -2.67\% | -6.26\% |
| 8/29/1986 | -1.63\% | -3.73\% | -3.18\% | -4.80\% |
| 9/30/1986 | -1.51\% | -3.18\% | -2.31\% | -4.03\% |
| 10/31/1986 | -1.19\% | -2.65\% | -2.20\% | -3.10\% |
| 11/28/1986 | -1.08\% | -2.55\% | -2.54\% | -2.92\% |
| 12/31/1986 | -0.83\% | -2.43\% | -2.79\% | -2.46\% |
| 1/30/1987 | -1.55\% | -2.44\% | -2.98\% | -3.34\% |
| 2/27/1987 | -0.86\% | -3.20\% | -3.30\% | -2.70\% |
| 3/31/1987 | -0.56\% | -2.95\% | -4.08\% | -2.72\% |
| 4/30/1987 | 0.50\% | -1.68\% | -3.49\% | -1.36\% |
| 5/29/1987 | 0.40\% | -0.84\% | -4.01\% | -1.38\% |
| 6/30/1987 | 0.36\% | -1.10\% | -4.03\% | -1.78\% |
| 7/31/1987 | 0.87\% | -0.68\% | -3.18\% | -1.80\% |
| 8/31/1987 | 1.28\% | -0.35\% | -2.45\% | -1.90\% |
| 9/30/1987 | 1.69\% | 0.18\% | -1.49\% | -0.62\% |
| 10/30/1987 | 0.68\% | -0.51\% | -1.97\% | -1.52\% |
| 11/30/1987 | 1.24\% | 0.16\% | -1.31\% | -1.30\% |
| 12/31/1987 | 1.11\% | 0.28\% | -1.32\% | -1.68\% |
| 1/29/1988 | 0.80\% | -0.75\% | -1.64\% | -2.18\% |
| 2/29/1988 | 0.51\% | -0.35\% | -2.69\% | -2.79\% |
| 3/31/1988 | 1.15\% | 0.59\% | -1.80\% | -2.93\% |
| 4/29/1988 | 0.54\% | 1.04\% | -1.14\% | -2.95\% |


|  | 1 Year Government of Canada marketable | 2 Year Government of Canada marketable | 3 Year Government of Canada marketable | 4 Year Government of Canada marketable |
| :---: | :---: | :---: | :---: | :---: |
| 5/31/1988 | 0.46\% | 0.86\% | -0.38\% | -3.55\% |
| 6/30/1988 | 0.35\% | 0.71\% | -0.75\% | -3.68\% |
| 7/29/1988 | 0.19\% | 1.06\% | -0.49\% | -2.99\% |
| 8/31/1988 | 0.21\% | 1.49\% | -0.14\% | -2.24\% |
| 9/30/1988 | -0.68\% | 1.01\% | -0.50\% | -2.17\% |
| 10/31/1988 | -0.08\% | 0.60\% | -0.59\% | -2.05\% |
| 11/30/1988 | -0.18\% | 1.06\% | -0.02\% | -1.49\% |
| 12/30/1988 | 0.02\% | 1.13\% | 0.30\% | -1.30\% |
| 1/31/1989 | 0.44\% | 1.24\% | -0.31\% | -1.20\% |
| 2/28/1989 | 0.94\% | 1.45\% | 0.59\% | -1.75\% |
| 3/31/1989 | 0.36\% | 1.51\% | 0.95\% | -1.44\% |
| 4/28/1989 | -0.17\% | 0.37\% | 0.87\% | -1.31\% |
| 5/31/1989 | -0.53\% | -0.07\% | 0.33\% | -0.91\% |
| 6/30/1989 | -0.53\% | -0.18\% | 0.18\% | -1.28\% |
| 7/31/1989 | -0.80\% | -0.61\% | 0.26\% | -1.29\% |
| 8/31/1989 | -1.03\% | -0.82\% | 0.46\% | -1.17\% |
| 9/29/1989 | -0.55\% | -1.23\% | 0.46\% | -1.05\% |
| 10/31/1989 | -0.59\% | -0.67\% | 0.01\% | -1.18\% |
| 11/30/1989 | -0.52\% | -0.70\% | 0.54\% | -0.54\% |
| 12/29/1989 | -0.67\% | -0.65\% | 0.46\% | -0.37\% |
| 1/31/1990 | -0.14\% | 0.30\% | 1.10\% | -0.45\% |
| 2/28/1990 | 0.09\% | 1.03\% | 1.54\% | 0.68\% |
| 3/30/1990 | 0.42\% | 0.78\% | 1.93\% | 1.37\% |
| 4/30/1990 | 1.35\% | 1.18\% | 1.72\% | 2.22\% |
| 5/31/1990 | 1.01\% | 0.48\% | 0.94\% | 1.34\% |
| 6/29/1990 | 1.12\% | 0.59\% | 0.94\% | 1.30\% |
| 7/31/1990 | 1.16\% | 0.36\% | 0.55\% | 1.42\% |
| 8/31/1990 | 1.21\% | 0.18\% | 0.39\% | 1.67\% |
| 9/28/1990 | 1.63\% | 1.08\% | 0.40\% | 2.09\% |
| 10/31/1990 | 1.61\% | 1.02\% | 0.94\% | 1.62\% |
| 11/30/1990 | 0.90\% | 0.38\% | 0.20\% | 1.44\% |
| 12/31/1990 | 0.82\% | 0.15\% | 0.17\% | 1.28\% |
| 1/31/1991 | 0.18\% | 0.04\% | 0.48\% | 1.28\% |
| 2/28/1991 | -0.75\% | -0.66\% | 0.28\% | 0.79\% |
| 3/29/1991 | -1.03\% | -0.61\% | -0.25\% | 0.90\% |
| 4/30/1991 | -1.63\% | -0.28\% | -0.45\% | 0.09\% |
| 5/31/1991 | -0.95\% | 0.06\% | -0.47\% | -0.01\% |
| 6/28/1991 | -0.36\% | 0.76\% | 0.23\% | 0.58\% |
| 7/31/1991 | -0.61\% | 0.55\% | -0.25\% | -0.06\% |
| 8/30/1991 | -0.86\% | 0.35\% | -0.68\% | -0.47\% |
| 9/30/1991 | -1.95\% | -0.32\% | -0.87\% | -1.55\% |
| 10/31/1991 | -2.03\% | -0.42\% | -1.01\% | -1.09\% |
| 11/29/1991 | -1.52\% | -0.62\% | -1.14\% | -1.32\% |
| 12/31/1991 | -1.54\% | -0.72\% | -1.39\% | -1.37\% |
| 1/31/1992 | -1.30\% | -1.12\% | -1.26\% | -0.82\% |
| 2/28/1992 | -0.92\% | -1.67\% | -1.58\% | -0.64\% |
| 3/31/1992 | -0.60\% | -1.63\% | -1.21\% | -0.85\% |


|  | 1 Year <br> Government of <br> Canada <br> marketable | 2 Year <br> Government of <br> Canada <br> marketable | 3 Year <br> Government of <br> Canada <br> marketable | 4 Year <br> Government of <br> Canada <br> marketable |
| ---: | ---: | ---: | ---: | ---: |
| $4 / 30 / 1992$ | $-0.40 \%$ | $-2.03 \%$ | $-0.68 \%$ | $-0.85 \%$ |
| $5 / 29 / 1992$ | $-0.74 \%$ | $-1.69 \%$ | $-0.68 \%$ | $-1.21 \%$ |
| $6 / 30 / 1992$ | $-1.49 \%$ | $-1.85 \%$ | $-0.73 \%$ | $-1.26 \%$ |
| $7 / 31 / 1992$ | $-1.96 \%$ | $-2.57 \%$ | $-1.41 \%$ | $-2.21 \%$ |
| $8 / 31 / 1992$ | $-1.78 \%$ | $-2.64 \%$ | $-1.43 \%$ | $-2.46 \%$ |
| $9 / 30 / 1992$ | $-1.06 \%$ | $-3.01 \%$ | $-1.38 \%$ | $-1.93 \%$ |
| $10 / 30 / 1992$ | $-0.79 \%$ | $-2.82 \%$ | $-1.21 \%$ | $-1.80 \%$ |
| $11 / 30 / 1992$ | $-0.52 \%$ | $-2.04 \%$ | $-1.14 \%$ | $-1.66 \%$ |
| $12 / 31 / 1992$ | $-0.43 \%$ | $-1.97 \%$ | $-1.15 \%$ | $-1.82 \%$ |
| $1 / 29 / 1993$ | $-0.25 \%$ | $-1.55 \%$ | $-1.37 \%$ | $-1.51 \%$ |
| $2 / 26 / 1993$ | $-0.78 \%$ | $-1.70 \%$ | $-2.45 \%$ | $-2.36 \%$ |
| $3 / 31 / 1993$ | $-1.01 \%$ | $-1.61 \%$ | $-2.64 \%$ | $-2.22 \%$ |
| $4 / 30 / 1993$ | $-1.24 \%$ | $-1.64 \%$ | $-3.27 \%$ | $-1.92 \%$ |
| $5 / 31 / 1993$ | $-1.05 \%$ | $-1.79 \%$ | $-2.74 \%$ | $-1.73 \%$ |
| $6 / 30 / 1993$ | $-0.91 \%$ | $-2.40 \%$ | $-2.76 \%$ | $-1.64 \%$ |
| $7 / 30 / 1993$ | $-0.42 \%$ | $-2.38 \%$ | $-2.99 \%$ | $-1.83 \%$ |
| $8 / 31 / 1993$ | $-0.79 \%$ | $-2.57 \%$ | $-3.43 \%$ | $-2.22 \%$ |
| $9 / 30 / 1993$ | $-0.98 \%$ | $-2.04 \%$ | $-3.99 \%$ | $-2.36 \%$ |
| $10 / 29 / 1993$ | $-0.98 \%$ | $-1.77 \%$ | $-3.80 \%$ | $-2.19 \%$ |
| $11 / 30 / 1993$ | $-1.21 \%$ | $-1.73 \%$ | $-3.25 \%$ | $-2.35 \%$ |
| $12 / 31 / 1993$ | $-1.42 \%$ | $-1.85 \%$ | $-3.39 \%$ | $-2.57 \%$ |
| $1 / 31 / 1994$ | $-1.81 \%$ | $-2.06 \%$ | $-3.36 \%$ | $-3.18 \%$ |
| $2 / 28 / 1994$ | $-0.86 \%$ | $-1.64 \%$ | $-2.56 \%$ | $-3.31 \%$ |
| $3 / 31 / 1994$ | $-0.02 \%$ | $-1.03 \%$ | $-1.63 \%$ | $-2.66 \%$ |
| $4 / 29 / 1994$ | $-0.09 \%$ | $-1.33 \%$ | $-1.73 \%$ | $-3.36 \%$ |
| $5 / 31 / 1994$ | $0.43 \%$ | $-0.62 \%$ | $-1.36 \%$ | $-2.31 \%$ |
| $6 / 30 / 1994$ | $1.33 \%$ | $0.42 \%$ | $-1.07 \%$ | $-1.43 \%$ |
| $7 / 29 / 1994$ | $1.71 \%$ | $1.29 \%$ | $-0.67 \%$ | $-1.28 \%$ |
| $8 / 31 / 1994$ | $1.49 \%$ | $0.70 \%$ | $-1.08 \%$ | $-1.94 \%$ |
| $9 / 30 / 1994$ | $1.49 \%$ | $0.51 \%$ | $-0.55 \%$ | $-2.50 \%$ |
| $10 / 31 / 1994$ | $1.94 \%$ | $0.96 \%$ | $0.17 \%$ | $-1.86 \%$ |
| $11 / 30 / 1994$ | $1.79 \%$ | $0.58 \%$ | $0.06 \%$ | $-1.46 \%$ |
| $12 / 30 / 1994$ | $2.04 \%$ | $0.62 \%$ | $0.19 \%$ | $-1.35 \%$ |
| $1 / 31 / 1995$ | $2.55 \%$ | $0.74 \%$ | $0.49 \%$ | $-0.81 \%$ |
| $2 / 28 / 1995$ | $1.53 \%$ | $0.67 \%$ | $-0.11 \%$ | $-1.03 \%$ |
| $3 / 31 / 1995$ | $0.45 \%$ | $0.43 \%$ | $-1.18 \%$ |  |
| $4 / 28 / 1995$ | $0.26 \%$ | $-0.58 \%$ | $-1.47 \%$ |  |
| $5 / 31 / 1995$ | $-0.44 \%$ | $-0.01 \%$ | $-1.07 \%$ | $-1.80 \%$ |
| $6 / 30 / 1995$ | $-1.27 \%$ | $-1.06 \%$ | $-2.34 \%$ |  |
| $7 / 31 / 1995$ | $-1.00 \%$ | $0.06 \%$ | $-0.85 \%$ | $-1.67 \%$ |
| $8 / 31 / 1995$ | $-0.65 \%$ | $0.71 \%$ | $0.29 \%$ | $-1.73 \%$ |
| $9 / 29 / 1995$ | $-0.93 \%$ | $0.84 \%$ | $0.05 \%$ | $-1.48 \%$ |
| $10 / 31 / 1995$ | $0.56 \%$ | $-0.42 \%$ | $-1.01 \%$ |  |
| $11 / 30 / 1995$ | $-1.18 \%$ | $0.76 \%$ | $-0.22 \%$ | $-1.74 \%$ |
| $12 / 29 / 1995$ | $-1.80 \%$ | $-0.01 \%$ | $-1.22 \%$ | $-1.54 \%$ |
| $1 / 31 / 1996$ | $-2.06 \%$ | $0.31 \%$ | $-1.11 \%$ |  |
| $2 / 29 / 1996$ | $-1.02 \%$ | $0.49 \%$ | $-1.32 \%$ | $0.35 \%$ |


|  | 1 Year Government of Canada marketable | 2 Year Government of Canada marketable | 3 Year Government of Canada marketable | 4 Year <br> Government of <br> Canada <br> marketable |
| :---: | :---: | :---: | :---: | :---: |
| 3/29/1996 | -0.76\% | -0.31\% | -0.33\% | -1.34\% |
| 4/30/1996 | -0.37\% | -0.11\% | -0.20\% | -1.44\% |
| 5/31/1996 | -0.19\% | -0.63\% | -0.20\% | -1.25\% |
| 6/28/1996 | -0.04\% | -1.31\% | 0.02\% | -0.89\% |
| 7/31/1996 | -0.64\% | -1.64\% | 0.07\% | -0.35\% |
| 8/30/1996 | -0.64\% | -1.29\% | 0.20\% | -0.59\% |
| 9/30/1996 | -0.63\% | -1.56\% | -0.07\% | -1.05\% |
| 10/31/1996 | -1.30\% | -2.48\% | -0.54\% | -1.52\% |
| 11/29/1996 | -1.02\% | -2.82\% | -1.03\% | -2.24\% |
| 12/31/1996 | -0.66\% | -2.39\% | -0.35\% | -1.77\% |
| 1/31/1997 | -0.28\% | -2.34\% | 0.21\% | -1.60\% |
| 2/28/1997 | -1.06\% | -2.08\% | -0.55\% | -1.41\% |
| 3/31/1997 | -0.97\% | -1.73\% | -1.28\% | -1.30\% |
| 4/30/1997 | -1.10\% | -1.47\% | -1.21\% | -1.30\% |
| 5/30/1997 | -0.97\% | -1.16\% | -1.60\% | -1.17\% |
| 6/30/1997 | -1.49\% | -1.53\% | -2.80\% | -1.47\% |
| 7/31/1997 | -1.75\% | -2.39\% | -3.39\% | -1.68\% |
| 8/29/1997 | -1.22\% | -1.86\% | -2.51\% | -1.02\% |
| 9/30/1997 | -1.49\% | -2.12\% | -3.05\% | -1.56\% |
| 10/31/1997 | -1.01\% | -2.31\% | -3.49\% | -1.55\% |
| 11/28/1997 | -0.64\% | -1.66\% | -3.46\% | -1.67\% |
| 12/31/1997 | -0.97\% | -1.63\% | -3.36\% | -1.32\% |
| 1/30/1998 | -1.44\% | -1.72\% | -3.78\% | -1.23\% |
| 2/27/1998 | -1.14\% | -2.20\% | -3.22\% | -1.69\% |
| 3/31/1998 | -1.43\% | -2.40\% | -3.16\% | -2.71\% |
| 4/30/1998 | -1.33\% | -2.43\% | -2.80\% | -2.54\% |
| 5/29/1998 | -1.46\% | -2.43\% | -2.62\% | -3.06\% |
| 6/30/1998 | -1.04\% | -2.53\% | -2.57\% | -3.84\% |
| 7/31/1998 | -0.55\% | -2.30\% | -2.94\% | -3.94\% |
| 8/31/1998 | -0.60\% | -1.82\% | -2.46\% | -3.11\% |
| 9/30/1998 | -0.84\% | -2.33\% | -2.96\% | -3.89\% |
| 10/30/1998 | -0.53\% | -1.54\% | -2.84\% | -4.02\% |
| 11/30/1998 | -0.43\% | -1.07\% | -2.09\% | -3.89\% |
| 12/31/1998 | -0.72\% | -1.69\% | -2.35\% | -4.08\% |
| 1/29/1999 | -0.55\% | -1.99\% | -2.27\% | -4.33\% |
| 2/26/1999 | -0.27\% | -1.41\% | -2.47\% | -3.49\% |
| 3/31/1999 | -0.31\% | -1.74\% | -2.71\% | -3.47\% |
| 4/30/1999 | -0.30\% | -1.63\% | -2.73\% | -3.10\% |
| 5/31/1999 | 0.05\% | -1.41\% | -2.38\% | -2.57\% |
| 6/30/1999 | 0.18\% | -0.86\% | -2.35\% | -2.39\% |
| 7/30/1999 | 0.18\% | -0.37\% | -2.12\% | -2.76\% |
| 8/31/1999 | -0.09\% | -0.69\% | -1.91\% | -2.55\% |
| 9/30/1999 | 0.77\% | -0.07\% | -1.56\% | -2.19\% |
| 10/29/1999 | 1.11\% | 0.58\% | -0.43\% | -1.73\% |
| 11/30/1999 | 0.77\% | 0.34\% | -0.30\% | -1.32\% |
| 12/31/1999 | 1.17\% | 0.45\% | -0.52\% | -1.18\% |
| 1/31/2000 | 1.28\% | 0.73\% | -0.71\% | -0.99\% |


|  | 1 Year Government of Canada marketable | 2 Year Government of Canada marketable | 3 Year Government of Canada marketable | 4 Year Government of Canada marketable |
| :---: | :---: | :---: | :---: | :---: |
| 2/29/2000 | 0.61\% | 0.34\% | -0.80\% | -1.86\% |
| 3/31/2000 | 0.73\% | 0.42\% | -1.01\% | -1.98\% |
| 4/28/2000 | 0.69\% | 0.39\% | -0.94\% | -2.04\% |
| 5/31/2000 | 0.40\% | 0.45\% | -1.01\% | -1.98\% |
| 6/30/2000 | 0.27\% | 0.45\% | -0.59\% | -2.08\% |
| 7/31/2000 | 0.09\% | 0.27\% | -0.28\% | -2.03\% |
| 8/31/2000 | 0.10\% | 0.01\% | -0.59\% | -1.81\% |
| 9/29/2000 | -0.09\% | 0.68\% | -0.16\% | -1.65\% |
| 10/31/2000 | -0.59\% | 0.52\% | -0.01\% | -1.02\% |
| 11/30/2000 | -0.49\% | 0.28\% | -0.15\% | -0.79\% |
| 12/29/2000 | -0.66\% | 0.51\% | -0.21\% | -1.18\% |
| 1/31/2001 | -0.65\% | 0.63\% | 0.08\% | -1.36\% |
| 2/28/2001 | -0.35\% | 0.26\% | -0.01\% | -1.15\% |
| 3/30/2001 | -0.22\% | 0.51\% | 0.20\% | -1.23\% |
| 4/30/2001 | -0.09\% | 0.60\% | 0.30\% | -1.03\% |
| 5/31/2001 | 0.14\% | 0.54\% | 0.59\% | -0.87\% |
| 6/29/2001 | 0.07\% | 0.34\% | 0.52\% | -0.52\% |
| 7/31/2001 | 0.18\% | 0.27\% | 0.45\% | -0.10\% |
| 8/31/2001 | -0.07\% | 0.03\% | -0.06\% | -0.66\% |
| 9/28/2001 | 0.03\% | -0.06\% | 0.71\% | -0.13\% |
| 10/31/2001 | -0.47\% | -1.06\% | 0.05\% | -0.48\% |
| 11/30/2001 | 0.03\% | -0.46\% | 0.31\% | -0.12\% |
| 12/31/2001 | 0.16\% | -0.50\% | 0.67\% | -0.05\% |
| 1/31/2002 | 0.01\% | -0.64\% | 0.64\% | 0.09\% |
| 2/28/2002 | 0.05\% | -0.30\% | 0.31\% | 0.04\% |
| 3/29/2002 | 0.26\% | 0.04\% | 0.77\% | 0.46\% |
| 4/30/2002 | -0.05\% | -0.14\% | 0.55\% | 0.25\% |
| 5/31/2002 | -0.32\% | -0.18\% | 0.22\% | 0.27\% |
| 6/28/2002 | -0.24\% | -0.17\% | 0.10\% | 0.28\% |
| 7/31/2002 | -0.31\% | -0.13\% | -0.04\% | 0.14\% |
| 8/30/2002 | -0.17\% | -0.24\% | -0.14\% | -0.23\% |
| 9/30/2002 | -0.48\% | -0.45\% | -0.54\% | 0.23\% |
| 10/31/2002 | 0.29\% | -0.18\% | -0.77\% | 0.34\% |
| 11/29/2002 | -0.11\% | -0.08\% | -0.57\% | 0.20\% |
| 12/31/2002 | -0.38\% | -0.22\% | -0.88\% | 0.29\% |
| 1/31/2003 | -0.27\% | -0.26\% | -0.91\% | 0.37\% |
| 2/28/2003 | -0.29\% | -0.24\% | -0.59\% | 0.02\% |
| 3/31/2003 | -0.48\% | -0.22\% | -0.44\% | 0.29\% |
| 4/30/2003 | -0.55\% | -0.60\% | -0.69\% | 0.00\% |
| 5/30/2003 | -0.75\% | -1.07\% | -0.93\% | -0.53\% |
| 6/30/2003 | -0.75\% | -0.99\% | -0.92\% | -0.65\% |
| 7/31/2003 | -0.35\% | -0.66\% | -0.48\% | -0.39\% |
| 8/29/2003 | -0.15\% | -0.32\% | -0.39\% | -0.29\% |
| 9/30/2003 | -0.19\% | -0.67\% | -0.64\% | -0.73\% |
| 10/31/2003 | -0.28\% | 0.01\% | -0.46\% | -1.05\% |
| 11/28/2003 | -0.31\% | -0.42\% | -0.39\% | -0.88\% |
| 12/31/2003 | -0.23\% | -0.61\% | -0.45\% | -1.11\% |


|  | 1 Year Government of Canada marketable | 2 Year Government of Canada marketable | 3 Year Government of Canada marketable | 4 Year Government of Canada marketable |
| :---: | :---: | :---: | :---: | :---: |
| 1/30/2004 | -0.30\% | -0.57\% | -0.56\% | -1.21\% |
| 2/27/2004 | -0.41\% | -0.70\% | -0.65\% | -1.00\% |
| 3/31/2004 | -0.58\% | -1.06\% | -0.80\% | -1.02\% |
| 4/30/2004 | -0.11\% | -0.66\% | -0.71\% | -0.80\% |
| 5/31/2004 | 0.22\% | -0.53\% | -0.85\% | -0.71\% |
| 6/30/2004 | 0.32\% | -0.43\% | -0.67\% | -0.60\% |
| 7/30/2004 | -0.06\% | -0.41\% | -0.72\% | -0.54\% |
| 8/31/2004 | -0.26\% | -0.41\% | -0.58\% | -0.65\% |
| 9/30/2004 | -0.17\% | -0.36\% | -0.84\% | -0.81\% |
| 10/29/2004 | -0.37\% | -0.65\% | -0.36\% | -0.83\% |
| 11/30/2004 | -0.37\% | -0.68\% | -0.79\% | -0.76\% |
| 12/31/2004 | -0.28\% | -0.51\% | -0.89\% | -0.73\% |
| 1/31/2005 | -0.46\% | -0.76\% | -1.03\% | -1.02\% |
| 2/28/2005 | -0.27\% | -0.68\% | -0.97\% | -0.92\% |
| 3/31/2005 | -0.19\% | -0.77\% | -1.25\% | -0.99\% |
| 4/29/2005 | -0.68\% | -0.79\% | -1.34\% | -1.39\% |
| 5/31/2005 | -0.82\% | -0.60\% | -1.35\% | -1.67\% |
| 6/30/2005 | -1.03\% | -0.71\% | -1.46\% | -1.70\% |
| 7/29/2005 | -0.98\% | -1.04\% | -1.39\% | -1.70\% |
| 8/31/2005 | -1.03\% | -1.29\% | -1.44\% | -1.61\% |
| 9/30/2005 | -0.81\% | -0.98\% | -1.17\% | -1.65\% |
| 10/31/2005 | -0.58\% | -0.95\% | -1.23\% | -0.94\% |
| 11/30/2005 | -0.67\% | -1.04\% | -1.35\% | -1.46\% |
| 12/30/2005 | -0.82\% | -1.10\% | -1.33\% | -1.71\% |
| 1/31/2006 | -0.47\% | -0.93\% | -1.23\% | -1.50\% |
| 2/28/2006 | -0.54\% | -0.81\% | -1.22\% | -1.51\% |
| 3/31/2006 | -0.49\% | -0.68\% | -1.26\% | -1.74\% |
| 4/28/2006 | 0.04\% | -0.64\% | -0.75\% | -1.30\% |
| 5/31/2006 | 0.10\% | -0.72\% | -0.50\% | -1.25\% |
| 6/30/2006 | 0.42\% | -0.61\% | -0.29\% | -1.04\% |
| 7/31/2006 | 0.15\% | -0.83\% | -0.89\% | -1.24\% |
| 8/31/2006 | 0.11\% | -0.92\% | -1.18\% | -1.33\% |
| 9/29/2006 | -0.13\% | -0.94\% | -1.11\% | -1.30\% |
| 10/31/2006 | -0.13\% | -0.71\% | -1.08\% | -1.36\% |
| 11/30/2006 | -0.17\% | -0.84\% | -1.21\% | -1.52\% |
| 12/29/2006 | 0.07\% | -0.75\% | -1.03\% | -1.26\% |
| 1/31/2007 | 0.01\% | -0.46\% | -0.92\% | -1.22\% |
| 2/28/2007 | -0.07\% | -0.61\% | -0.88\% | -1.29\% |
| 3/30/2007 | -0.05\% | -0.54\% | -0.73\% | -1.31\% |
| 4/30/2007 | -0.38\% | -0.34\% | -1.02\% | -1.13\% |
| 5/31/2007 | -0.08\% | 0.02\% | -0.80\% | -0.58\% |
| 6/29/2007 | -0.10\% | 0.32\% | -0.71\% | -0.39\% |
| 7/31/2007 | 0.06\% | 0.21\% | -0.77\% | -0.83\% |
| 8/31/2007 | 0.22\% | 0.33\% | -0.70\% | -0.96\% |
| 9/28/2007 | 0.42\% | 0.29\% | -0.52\% | -0.69\% |
| 10/31/2007 | 0.14\% | 0.01\% | -0.57\% | -0.94\% |
| 11/30/2007 | 0.19\% | 0.02\% | -0.65\% | -1.02\% |


|  | 1 Year Government of Canada marketable | 2 Year Government of Canada marketable | 3 Year Government of Canada marketable | 4 Year Government of Canada marketable |
| :---: | :---: | :---: | :---: | :---: |
| 12/31/2007 | 0.07\% | 0.14\% | -0.68\% | -0.96\% |
| 1/31/2008 | -0.06\% | -0.05\% | -0.52\% | -0.98\% |
| 2/29/2008 | 0.04\% | -0.03\% | -0.57\% | -0.84\% |
| 3/31/2008 | -0.30\% | -0.35\% | -0.84\% | -1.03\% |
| 4/30/2008 | -0.19\% | -0.57\% | -0.53\% | -1.21\% |
| 5/30/2008 | -0.36\% | -0.44\% | -0.34\% | -1.16\% |
| 6/30/2008 | -0.52\% | -0.62\% | -0.20\% | -1.23\% |
| 7/31/2008 | -0.34\% | -0.28\% | -0.13\% | -1.11\% |
| 8/29/2008 | -0.42\% | -0.20\% | -0.09\% | -1.12\% |
| 9/30/2008 | -0.36\% | 0.06\% | -0.07\% | -0.88\% |
| 10/31/2008 | -0.08\% | 0.06\% | -0.07\% | -0.65\% |
| 11/28/2008 | -0.22\% | -0.03\% | -0.20\% | -0.87\% |
| 12/31/2008 | -0.73\% | -0.66\% | -0.59\% | -1.41\% |
| 1/30/2009 | -0.43\% | -0.49\% | -0.48\% | -0.95\% |
| 2/27/2009 | -0.44\% | -0.40\% | -0.47\% | -1.01\% |
| 3/31/2009 | -0.28\% | -0.58\% | -0.63\% | -1.12\% |
| 4/30/2009 | -0.30\% | -0.49\% | -0.87\% | -0.83\% |
| 5/29/2009 | 0.04\% | -0.32\% | -0.40\% | -0.30\% |
| 6/30/2009 | -0.11\% | -0.63\% | -0.73\% | -0.31\% |
| 7/31/2009 | -0.08\% | -0.42\% | -0.36\% | -0.21\% |
| 8/31/2009 | -0.06\% | -0.48\% | -0.26\% | -0.15\% |
| 9/30/2009 | -0.27\% | -0.63\% | -0.21\% | -0.34\% |
| 10/30/2009 | -0.33\% | -0.41\% | -0.27\% | -0.40\% |
| 11/30/2009 | -0.16\% | -0.38\% | -0.19\% | -0.36\% |
| 12/31/2009 | 0.63\% | -0.10\% | -0.03\% | 0.04\% |
| 1/29/2010 | 0.18\% | -0.25\% | -0.31\% | -0.30\% |
| 2/26/2010 | 0.28\% | -0.16\% | -0.12\% | -0.19\% |
| 3/31/2010 | 0.36\% | 0.08\% | -0.22\% | -0.27\% |
| 4/30/2010 | 0.27\% | -0.03\% | -0.22\% | -0.60\% |
| 5/31/2010 | -0.53\% | -0.49\% | -0.85\% | -0.93\% |
| 6/30/2010 | -0.37\% | -0.48\% | -1.00\% | -1.10\% |
| 7/30/2010 | -0.39\% | -0.47\% | -0.81\% | -0.75\% |
| 8/31/2010 | -0.57\% | -0.63\% | -1.05\% | -0.83\% |
| 9/30/2010 | -0.62\% | -0.89\% | -1.25\% | -0.83\% |
| 10/29/2010 | -0.60\% | -0.93\% | -1.01\% | -0.87\% |
| 11/30/2010 | -0.24\% | -0.40\% | -0.62\% | -0.43\% |
| 12/31/2010 | -0.57\% | 0.06\% | -0.67\% | -0.60\% |
| 1/31/2011 | -0.21\% | -0.03\% | -0.46\% | -0.52\% |
| 2/28/2011 | -0.29\% | -0.01\% | -0.45\% | -0.41\% |
| 3/31/2011 | -0.33\% | 0.03\% | -0.25\% | -0.55\% |
| 4/29/2011 | -0.32\% | -0.05\% | -0.35\% | -0.54\% |
| 5/31/2011 | -0.17\% | -0.70\% | -0.66\% | -1.02\% |
| 6/30/2011 | -0.12\% | -0.49\% | -0.60\% | -1.12\% |
| 7/29/2011 | -0.43\% | -0.82\% | -0.90\% | -1.24\% |
| 8/31/2011 | -0.39\% | -0.96\% | -1.02\% | -1.44\% |
| 9/30/2011 | -0.51\% | -1.13\% | -1.40\% | -1.76\% |
| 10/31/2011 | -0.47\% | -1.07\% | -1.40\% | -1.48\% |


|  | T Year <br> Government of <br> Canada <br> marketable | 2 Year <br> Government of <br> Canada <br> marketable | 3 Year <br> Government of <br> Canada <br> marketable | 4 Year <br> Government of <br> Canada <br> marketable |
| ---: | ---: | ---: | ---: | ---: |
| $11 / 30 / 2011$ | $-0.99 \%$ | $-1.23 \%$ | $-1.39 \%$ | $-1.61 \%$ |
| $12 / 30 / 2011$ | $-1.09 \%$ | $-1.66 \%$ | $-1.03 \%$ | $-1.76 \%$ |
| $1 / 31 / 2012$ | $-1.16 \%$ | $-1.37 \%$ | $-1.19 \%$ | $-1.62 \%$ |
| $2 / 29 / 2012$ | $-1.21 \%$ | $-1.50 \%$ | $-1.22 \%$ | $-1.66 \%$ |
| $3 / 30 / 2012$ | $-1.10 \%$ | $-1.43 \%$ | $-1.07 \%$ | $-1.35 \%$ |
| $4 / 30 / 2012$ | $-1.12 \%$ | $-1.44 \%$ | $-1.17 \%$ | $-1.47 \%$ |
| $5 / 31 / 2012$ | $-1.21 \%$ | $-1.38 \%$ | $-1.91 \%$ | $-1.87 \%$ |
| $6 / 29 / 2012$ | $-1.23 \%$ | $-1.35 \%$ | $-1.72 \%$ | $-1.83 \%$ |
| $7 / 31 / 2012$ | $-1.14 \%$ | $-1.57 \%$ | $-1.96 \%$ | $-2.04 \%$ |
| $8 / 31 / 2012$ | $-0.72 \%$ | $-1.11 \%$ | $-1.68 \%$ | $-1.74 \%$ |
| $9 / 28 / 2012$ | $-0.50 \%$ | $-1.01 \%$ | $-1.63 \%$ | $-1.90 \%$ |
| $10 / 31 / 2012$ | $-0.64 \%$ | $-1.11 \%$ | $-1.71 \%$ | $-2.04 \%$ |
| $11 / 30 / 2012$ | $-0.41 \%$ | $-1.40 \%$ | $-1.64 \%$ | $-1.80 \%$ |
| $12 / 31 / 2012$ | $-0.15 \%$ | $-1.24 \%$ | $-1.81 \%$ | $-1.18 \%$ |
| $1 / 31 / 2013$ | $-0.08 \%$ | $-1.24 \%$ | $-1.45 \%$ | $-1.27 \%$ |
| $2 / 28 / 2013$ | $-0.09 \%$ | $-1.30 \%$ | $-1.59 \%$ | $-1.31 \%$ |
| $3 / 31 / 2013$ | $-0.22 \%$ | $-1.32 \%$ | $-1.65 \%$ | $-1.29 \%$ |
| $4 / 30 / 2013$ | $-0.36 \%$ | $-1.48 \%$ | $-1.80 \%$ | $-1.53 \%$ |
| $5 / 31 / 2013$ | $0.28 \%$ | $-0.93 \%$ | $-1.10 \%$ | $-1.63 \%$ |
| $6 / 28 / 2013$ | $0.66 \%$ | $-0.57 \%$ | $-0.69 \%$ | $-1.06 \%$ |
| $7 / 31 / 2013$ | $0.74 \%$ | $-0.40 \%$ | $-0.83 \%$ | $-1.22 \%$ |
| $8 / 30 / 2013$ | $0.72 \%$ | $0.00 \%$ | $-0.39 \%$ | $-0.96 \%$ |
| $9 / 30 / 2013$ | $0.76 \%$ | $0.26 \%$ | $-0.25 \%$ | $-0.87 \%$ |
| $10 / 31 / 2013$ | $0.60 \%$ | $-0.04 \%$ | $-0.51 \%$ | $-1.11 \%$ |
| $11 / 29 / 2013$ | $0.81 \%$ | $0.40 \%$ | $-0.59 \%$ | $-0.83 \%$ |
| $12 / 31 / 2013$ | $0.82 \%$ | $0.67 \%$ | $-0.42 \%$ | $-0.99 \%$ |
| $1 / 31 / 2014$ | $0.33 \%$ | $0.25 \%$ | $-0.91 \%$ | $-1.12 \%$ |
| $2 / 28 / 2014$ | $0.41 \%$ | $0.32 \%$ | $-0.89 \%$ | $-1.18 \%$ |
| $3 / 31 / 2014$ | $0.48 \%$ | $0.26 \%$ | $-0.84 \%$ | $-1.17 \%$ |
| $4 / 30 / 2014$ | $0.57 \%$ | $0.21 \%$ | $-0.91 \%$ | $-1.23 \%$ |
|  |  |  |  |  |


| 1 Year Difference | Laplaee! | Logistic ${ }^{\text {d }}$ | LogLogistic ${ }^{\text {3 }}$ | Normal | Weibull ${ }^{\text {d }}$ | ExValue | ExtValueMin: | Triang: | Uniform | Expon |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rankings By FitStatistic[10 Valid Fits] |  |  |  |  |  |  |  |  |  |  |
| SAkaike(AAC) | \#11 | \#2 3 | \#3 3 | \#4 | \#5 ${ }^{\text {3 }}$ | \#6 | \#7 | \#8: | \#9 ${ }^{\text {S }}$ | \#10 |
| Bayesian (BC) | \#1 | \#2 | \#3 | \#4 | \#5 | \#6 | \#7 | \#8: | \#9 | \#10 |
| :Chi-Sp Statistic | \#2 | \#1 | \#3 | \#4) | \#5 | \#6 | \#7 | \#8: | \#9 | \#10 |
| UK-SStaisic | \#3: | - \#2 | - \#1 | - ${ }^{\text {4 }}$ | \#5 | \#6 | \#7 | \#8: | - \#9 | \#10 |
| :A-D Statisic | \#1 | \#2; | \#3: | \#4 | \#5 | \#6 | \#7: | \#8: | \#9) | \#10 |
| Information Criteria |  |  |  |  |  |  |  |  |  |  |
| SAkaike (AIC) | -4389.2365: | -4372.024 | -4370.0199 | -4285.4423 | -4218.1533! | -4053.039 | -4026.9036 | -3915.3025: | -3272.0846 | $-2898.3633$ |
| :Bayesian (BIC) | -4380.1864: | -4362.974 | -4356.4537 | -4276.3923 | -4204.5871 | -4043.989 \{ | -4017.8535 | -3901.7362 | -3263.0345 | -2889.3133 |
| Chi-Squared Test |  |  |  |  |  |  |  |  |  |  |
| :Chi-Sq Staistic | 28.7151! | 28.6424 | 28.9331! | 67.3052 | 119.1948: | 239.907 | 274.936! | 491.1424: | 1375.4448 | 2070.1395 |
| Anderson-Darling Test |  |  |  |  |  |  |  |  |  |  |
| :A-D Staisic | 0.8532 ! | 1.4641 ${ }^{\text {3 }}$ | 1.4647 ! | 7.8297 | 15.3205 ? | 32.568\} | 34.9683! | 63.6848: | 128.5163; | 193.0618 |
| Kolmogorov-SmirnovTest |  |  |  |  |  |  |  |  |  |  |
| :K-SStatisic | 0.0391 ! | 0.0348 ; | 0.0347 ? | $0.0724\}$ | 0.0986 ! | 0.137 \} | 0.1387 ! | 0.2033: | 0.3015 S | 0.4319 |
|  |  |  |  |  |  |  |  |  |  |  |
| 2 Year Difference | Laplace! | LogLogisicic | Logistic, | Normal | Weibull | ExValue | ExiValueMin! | Triang! | Uniform | Expon |
| Rankings By FitStatistic [10 Valid Fits] |  |  |  |  |  |  |  |  |  |  |
| :Akaike (AIC) | \#1 | \#2 | \#3 | \#4 | \#5 | \#6 | \#7 | \#8: | \#9 | \#10 |
| Bayesian(BIC) | \#1 | \#3 | \#2 | \#4 | \#5 | \#6 | \#7 | \#8: | \#9 | \#10 |
| Chi-Sg Staisic | \#3! | \#1 | \#2 | \#4 | \#5 | \#6 | \#7 | \#8. | \#9 | \#10 |
| K-SStaisic | \#1: | $\# 3$ | \#2 | \#4 | \#5 | \#6 | \#7 | \#8: | \#9 | \#10 |
| :A-D Statistic | \#1 | \#3: | \#2; | \#4 | \#5 | \#6 | \#7: | \#8: | \#9, | \#10 |
| Information Criteria |  |  |  |  |  |  |  |  |  |  |
| SAkaike (AIC) | -3849.1541 | -3832.9322 | $-3832.853$ | $-3750.1678$ | -3679.1032 | $-36122334$ | -3422.5917 | -3369733 | -2731.7691 | -2479.0511 |
| :Bayesian (BIC) | -3840.1396: | -3819.4193 | -3823.8385 | -3741.1532 | -3665.5904 | -3603.2189 \{ | -3413.5772 | -3356.2201: | -2722.7546 | -2470.0366 |
| Chi-Squared Test |  |  |  |  |  |  |  |  |  |  |
| !Chi-Sq Staisic | 50.6272! | 42.787? | 44.71013 | 93.3047 | 148.4083! | 205.8047 $\}$ | 339.8284! | 530.4349 | 1379.5473! | 1856.3964 |
| Anderson-Darling Test |  |  |  |  |  |  |  |  |  |  |
| !A-D Staisic | 0.8002 ! | 1.858 | 1.7701 \} | 7.8135 | 15.8494! | 23.6511 | 41.4533! | 68.5285! | 134.8307 ${ }^{\text {\% }}$ | 182.4702 |
| Kolmogorov-SmirnovTest |  |  |  |  |  |  |  |  |  |  |
| K-SStaisic | $0.033!$ | 0.0472 ? | 0.0464 \} | 0.0819 $\}$ | 0.1019 ! | $0.1295\}$ | 0.1501 ! | 0.2468; | 0.3576 \} | 0.415 |
|  |  |  |  |  |  |  |  |  |  |  |
| 3 Year Difference | LogLogistic! | Logistic! | Normal ${ }^{\text {a }}$ | Extvalue | Weibull | Triang | ExtValueMin! | Uniform! | Expon |  |
| Rankings By FitStaistic[9 Valid Fits] |  |  |  |  |  |  |  |  |  |  |
| SAkaike (AIC) | \#1 1 | \#2 | \#3 | \#4 | \#5 | \#6 | \#7 | \#8: | \#9 |  |
| Bayesian (BIC) | \#1 | $\# 2$ | \#3 | \#4 | \#5 | \#6 | \#71 | \#8: | \#9 |  |
| CChi-Sq Staisic | \#2 | \#1 | \#3 | \#5 | \#4 | \#7) | \#6 | \#9: | \#8 |  |
| K-S Staisic | \#1 | \#2 | \#3 | \#5 | \#4 | \#7 | \#6 | \#9: | \#8 |  |
| :A-D Statisic | \#1 | \#2; | \#3 | \#5 | \#4: | \#7 | \#6: | \#9: | \#8 |  |
| Information Criteria |  |  |  |  |  |  |  |  |  |  |
| \Akaike(AIC) | -3516.0131: | -3502.4177 | -3430.0523 | $-3410.5132$ | -3408.1756 | -3198.3205 | -3094.526 | -2635.6292 | -26234392 |  |
| :Bayesian (BIC) | -3502.5546: | -3493.4393 | -3421.0739 | -3401.5348 | -3394.7171 | -3184.8621 | -3085.5476! | -2626.6508: | -2614.4608 |  |
| Chi-Squared Test |  |  |  |  |  |  |  |  |  |  |
| !Chi-Sq Statistic | 63.4849: | 56.1054 \} | 99.1777 3 | 147.0693 | 135.9247 ! | 379.3735 | 352.7169 ! | 1138.1837 | 1120.1114 |  |
| Anderson-Darling Test |  |  |  |  |  |  |  |  |  |  |
| :A-D Staisic | 2.3462 ! | 2.8214 ${ }^{\text {? }}$ | 8.9827 ${ }^{\text {3 }}$ | 13.9985 | 12.7925: | 66.6685 \} | 42.2408! | 147.1148: | 137.2991 |  |
| Kolmogorov-SmirnovTest |  |  |  |  |  |  |  |  |  |  |
| ! K-SStatisic | 0.0454 ! | 0.0487 ? | 0.0897 \} | $0.1103\}$ | 0.1035 ! | $0.2546\}$ | 0.1545 | 0.3897 ! | 0.3637 |  |
| 4 Year Difference | LogLogistic: | Logistic3 | Normal ${ }^{\text {a }}$ | Weibull | ExValue: | Triang $\}$ | ExtValueMin! | Uniform! | Expon |  |
| Rankings By FitStatisic [9 Valid Fits] |  |  |  |  |  |  |  |  |  |  |
| EAkaike (AIC) | \#1 | \#23 | \#3 3 | \#4 | \#5 | ${ }_{\text {\#6 }}^{\text {\#6 }}$ | \#7! | \#8: | \# \#9, |  |
| Bayesian (BIC) | \#1 | \#2 | \#3 | \#4 | \#5 | \#6 | \#7: | \#8: | \#9 |  |
| :Chi-Sq Statisic | \#1 | \#2 | \#3 | \#4 | \#5 | \#7) | \#6: | \#8: | \#9 |  |
| K-S-Statisic | \#1. | \#2 | \#3 | \#4 | \#5 | \#7 | \#6 | \#8: | \#9. |  |
| :A-D Statisic | \#1! | \#23 | \#3 | \#4 | \#5 | \#7) | \#6: | \#8: | \#9 |  |
| Information Criteria |  |  |  |  |  |  |  |  |  |  |
| SAkaike (AIC). | -3249.8158 | -3243.8722 | -3189.3113 | -3145.8749 | -3105.0243 | -2951.8969 | -2906.0896 | -2402.2036: | -2234.3725 |  |
| :Bayesian (BIC) | -3236.4127: | -3234.9306 | -3180.3697 | $-3132.4718$ | -3096.0827 | -2938.4938 | -2897.148 | -2393.262: | -2225.4309 |  |
| Chi-Squared Test |  |  |  |  |  |  |  |  |  |  |
| !Chi-Sq Statistic | 62.2638: | 72.3098 | 100.6074 | $135.7301\}$ | 156.2822 | 352.8313 | $315.3313!$ | 1025.7607! | 1260.0399 |  |
| Anderson-Darling Test |  |  |  |  |  |  |  |  |  |  |
| :A-D Staisic | 2.0833 | 2.5664 3 | 5.9593 3 | 10.5755 | 14.7767 | 46.7966 | 33.1417 | 118.9975! | 149.1785 |  |
| Kolmogorov-Smirnov Test |  |  |  |  |  |  |  |  |  |  |
| !K-SStatisic | 0.0495 | 0.0543 ? | 0.0738 3 | 0.1049 \} | 0.1135 ! | 0.2078\} | 0.1563! | 0.3504 ! | 0.4 |  |

## PUB (MPI) 1-116

For the selected 4 year, 1-in-40 probability Combined Scenario (Equity Returns, Interest Rates and Claims Incurred), please provide the assumed cumulative S\&P/TSX Total Returns by year, the assumed interest rate declines (before limitation) by year, and the assumed cumulative simulated total ultimate losses by year (comparable to the tables shown on RSR. 2 Page30, Page 83 and Page 42, respectively).

## RESPONSE:

The table below shows the cumulative figures for each of the items requested.

## Combined Scenario 4 Year, 1-in-40

|  | Fiscal Year |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Component | $\mathbf{2 0 1 5 / 1 6}$ | $\mathbf{2 0 1 6 / 1 7}$ | $\mathbf{2 0 1 7 / 1 8}$ | $\mathbf{2 0 1 8 / 1 9}$ |
| S\&P/TSX Total Return | $4.52 \%$ | $9.25 \%$ | $14.19 \%$ | $19.35 \%$ |
| Interest Rate Decline | $-0.38 \%$ | $-0.77 \%$ | $-1.15 \%$ | $-1.54 \%$ |
| Ultimate Losses (\$000) | $\$ 702,345$ | $\$ 1,399,419$ | $\$ 1,421,358$ | $\$ 1,467,620$ |

## PUB (MPI) 1-117

Please provide the supporting analysis of "Correlation between Equity Returns and Interest Rate Movement" [RSR. 2 Page 49].

## RESPONSE:

Please see PUB (MPI) 1-114 attachment (a).

## PUB (MPI) 1-118

Please provide a restated Exhibit 5a, 5b, 5c, 5h, 5i and 5 j separating the vehicle premiums from the RSR Rebuilding Fees, and separating out amounts relating to the premium deficiency reserves [RSR. 2 Exhibit 5].

## RESPONSE:

Please see attachment. Premium deficiency reserves can be found in Volume II Rate Stabilization Reserve, section RSR. 2 Exhibit 5f and Exhibit 5m.

## Exhibit 5a

## Combined Scenario bef ore Management Action

 Statement of Operations| (C\$ 000s, except where noted) | For the Years Ended February, |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2012A | 2013A | 2014A | 2015P | 2016P | 2017P | 2018P | 2019P |
| BASIC |  |  |  |  |  |  |  |  |
| Motor Vehicles | 760,039 | 722,774 | 756,642 | 795,233 | 850,888 | 888,938 | 928,575 | 969,890 |
| RSR Rebuilding Fees | - | - | - | - | 8,509 | 8,889 | 9,286 | 9,699 |
| Drivers | 26,593 | 32,692 | 41,520 | 46,992 | 51,284 | 55,427 | 59,418 | 62,982 |
| Reinsurance Ceded | $(6,679)$ | $(9,422)$ | $(13,422)$ | $(13,661)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Written | 779,953 | 746,044 | 784,740 | 828,564 | 896,747 | 939,042 | 982,782 | 1,027,783 |
| Net Premiums Earned |  |  |  |  |  |  |  |  |
| Motor Vehicles | 748,948 | 739,654 | 741,077 | 769,872 | 824,730 | 871,052 | 909,943 | 950,470 |
| RSR Rebuilding Fees | - | - | - | - | 4,510 | 8,713 | 9,102 | 9,507 |
| Drivers | 24,037 | 29,299 | 37,015 | 44,330 | 49,138 | 53,355 | 57,422 | 61,201 |
| Reinsurance Ceded | $(11,308)$ | $(12,202)$ | $(13,422)$ | $(13,722)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Earned | 761,677 | 756,751 | 764,670 | 800,480 | 864,444 | 918,908 | 961,971 | 1,006,390 |
| Service Fees \& Other Revenues | 18,736 | 18,452 | 20,384 | 19,799 | 21,079 | 22,815 | 24,671 | 26,786 |
| Total Earned Revenues | 780,413 | 775,203 | 785,053 | 820,279 | 885,523 | 941,723 | 986,641 | 1,033,176 |
| Net Claims Incurred | 612,037 | 661,288 | 747,435 | 614,643 | 814,455 | 831,362 | 873,361 | 892,537 |
| Claims Expense | 109,760 | 108,587 | 114,552 | 116,249 | 120,481 | 126,623 | 128,438 | 140,001 |
| Road Safety/Loss Prevention | 12,982 | 13,032 | 12,816 | 11,350 | 10,514 | 10,620 | 10,709 | 10,800 |
| Total Claims Costs | 734,779 | 782,907 | 874,803 | 742,242 | 945,450 | 968,605 | 1,012,508 | 1,043,337 |
| Expenses |  |  |  |  |  |  |  |  |
| Operating | 57,465 | 63,758 | 67,982 | 73,568 | 74,791 | 79,423 | 81,707 | 88,287 |
| Commissions | 41,034 | 37,545 | 32,058 | 33,496 | 34,173 | 35,970 | 37,450 | 38,991 |
| Premium Taxes | 22,766 | 23,069 | 23,343 | 24,426 | 26,351 | 27,994 | 29,294 | 30,635 |
| Regulatory/Appeal | 3,423 | 3,392 | 3,765 | 3,261 | 3,314 | 3,381 | 3,448 | 3,518 |
| Total Expenses | 124,688 | 127,764 | 127,148 | 134,751 | 138,630 | 146,767 | 151,899 | 161,431 |
| Underwriting Income (Loss) | $(79,054)$ | $(135,467)$ | $(216,898)$ | $(56,715)$ | $(198,557)$ | $(173,650)$ | (177,765) | (171,592) |
| Investment Income | 101,243 | 72,363 | 147,735 | 28,759 | 109,356 | 107,453 | 108,475 | 103,309 |
| Net Income (Loss) from Operations | 22,189 | $(63,104)$ | $(69,163)$ | $(27,956)$ | $(89,201)$ | $(66,197)$ | $(69,290)$ | $(68,283)$ |
| Allocated from Property | 89 | - | - | - | - | - | - | - |
| Transfer from Immobilizer Incentive Fund | - | - | - | - | - | - | - | - |
| Net Income (Loss) | 22,278 | $(63,104)$ | $(69,163)$ | $(27,956)$ | $(89,201)$ | $(66,197)$ | $(69,290)$ | $(68,283)$ |

## Exhibit 5b

## Combined Scenario bef ore Management Action Statement of Retained Earnings

| (C\$ 000s, except where noted) | For the Years Ended February, |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2012A | 2013A | 2014A | 2015P | 2016P | 2017P | 2018P | 2019P |
| RATE STABILIZATION RESERVE (RSR) |  |  |  |  |  |  |  |  |
| Basic Insurance Rate Stabilization Reserve |  |  |  |  |  |  |  |  |
| Beginning Balance | 155,700 | 149,800 | 99,876 | 71,920 | $(17,281)$ | $(83,478)$ | $(152,768)$ | $(221,051)$ |
| Net Income (Loss) from annual operations | - | - | - | - | - | - | - | - |
| Transfer from Basic Retained Earnings | - | $(49,924)$ | $(27,956)$ | $(89,201)$ | $(66,197)$ | $(69,290)$ | $(68,283)$ | $(72,176)$ |
| Transfer to Basic Retained Earnings | $(5,900)$ | - | - | - | - | - | - | - |
| Ending Balance | 149,800 | 99,876 | 71,920 | $(17,281)$ | $(83,478)$ | $(152,768)$ | $(221,051)$ | $(293,227)$ |
| Minimum RSR based on PUB rules | 77,900 | 77,900 | 82,300 | 89,000 | 93,200 | 97,600 | 102,100 | 106,400 |
| Maximum RSR based on PUB rules | 149,800 | 155,700 | 164,300 | 177,700 | 186,100 | 194,700 | 203,600 | 212,100 |
| MPI RSR Target | 200,000 | 200,000 | 172,000 | 172,000 | 172,000 | 172,000 | 172,000 | 172,000 |
| Retained Earnings |  |  |  |  |  |  |  |  |
| Beginning Balance | 57,983 | 19,239 | - | - | - | - | - | - |
| Net Income (Loss) from annual operations | 13,339 | $(49,924)$ | $(27,956)$ | $(89,201)$ | $(66,197)$ | $(69,290)$ | $(68,283)$ | $(72,176)$ |
| Retained Earnings Prior to Transfers | 71,322 | $(30,685)$ | $(27,956)$ | $(89,201)$ | $(66,197)$ | $(69,290)$ | $(68,283)$ | $(72,176)$ |
| Transfer to Rate Stabilization Reserve | - | 49,924 | 27,956 | 89,201 | 66,197 | 69,290 | 68,283 | 72,176 |
| Transfer from Rate Stabilization Reserve | 5,900 | - | - | - | - | - | - | - |
| Transfer from Immobilizer Incentive Fund | - | - | - | - | - | - | - | - |
| Transfer (to) from IT Optimization Fund | - | - | - | - | - | - | - | - |
| Premium Rebate | - | - | - | - | - | - | - | - |
| Transition to IFRS Mar 1/10 | - | - | - | - | - | - | - | - |
| Balance of Fund | 19,239 | - | - | - | - | - | - | - |
| IT Optimization Fund |  |  |  |  |  |  |  |  |
| Beginning Balance | - | 65,000 | - | - | - | - | - | - |
| Transfer to Basic Retained Earnings | - | - | - | - | - | - | - | - |
| Balance of Fund | - | - | - | - | $\cdot$ | - | - | - |
| Total Basic Retained Earnings | \$ 169,039 | \$ 99,876 | \$ 71,920 | \$ (17,281) | \$ $(83,478)$ | \$ (152,768) | \$ $(221,051)$ | \$ $(293,227)$ |

## Exhibit 5c

## Combined Scenario before Management Action Balance Sheet

| (C\$ 000s, except where noted) | For the Years Ended February, |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2012A | 2013A | 2014A | 2015P | 2016P | 2017P | 2018P | 2019P |
| BASIC |  |  |  |  |  |  |  |  |
| Assets |  |  |  |  |  |  |  |  |
| Cash and investments | 1,308,214 | 1,298,217 | 1,424,341 | 1,319,679 | 1,308,155 | 1,363,540 | 1,418,057 | 1,479,683 |
| Equity investments | 424,986 | 473,796 | 600,483 | 620,566 | 686,566 | 715,069 | 744,789 | 793,497 |
| Investment property | 161,186 | 175,142 | 32,226 | 31,222 | 30,937 | 30,685 | 30,434 | 30,272 |
| Due from other insurance companies | 1,956 | 945 | 1,755 | - | - | - | - | - |
| Accounts receivable | 222,487 | 232,595 | 235,616 | 249,289 | 266,732 | 277,983 | 289,586 | 301,525 |
| Prepaid expenses | 699 | 716 | 731 | 568 | 568 | 568 | 568 | 568 |
| Deferred policy acquisition costs | 22,958 | 3,884 | - | - | - | - | - | - |
| Reinsurers' share of unearned premiums | 2,779 | - | - | - | - | - | - | - |
| Reinsurers' share of unearned claims | 23,782 | 26,130 | 17,625 | - | - | - | - | - |
| Property and equipment | 85,275 | 87,709 | 80,108 | 85,033 | 85,517 | 83,746 | 82,549 | 80,948 |
| Deferred development costs | 33,736 | 40,884 | 54,685 | 70,701 | 81,714 | 86,063 | 90,579 | 77,606 |
|  | 2,288,058 | 2,340,018 | 2,447,570 | 2,377,059 | 2,460,189 | 2,557,653 | 2,656,563 | 2,764,099 |
| Liabilities |  |  |  |  |  |  |  |  |
| Due to other insurance companies | 4,718 | 1,114 | 1,213 | 1,596 | 1,596 | 1,596 | 1,596 | 1,596 |
| Accounts payable and accrued liabilites | 32,891 | 31,827 | 35,769 | 35,673 | 38,169 | 39,780 | 41,440 | 43,148 |
| Financing lease obligation | 3,137 | 3,091 | 2,841 | 3,079 | 3,020 | 2,956 | 2,887 | 2,814 |
| Unearned premiums and fees | 393,285 | 382,507 | 402,982 | 438,580 | 474,105 | 497,716 | 522,278 | 547,717 |
| Provision for employee current benefits | 14,568 | 14,896 | 15,389 | 16,544 | 17,653 | 18,782 | 19,931 | 21,103 |
| Provision for employee future benefits | 207,912 | 230,117 | 235,172 | 249,058 | 262,114 | 276,474 | 291,389 | 306,958 |
| Provision for unpaid claims | 1,368,857 | 1,450,626 | 1,584,042 | 1,489,706 | 1,615,303 | 1,742,469 | 1,871,076 | 2,004,426 |
|  | 2,025,368 | 2,114,178 | 2,277,408 | 2,234,238 | 2,411,961 | 2,579,773 | 2,750,597 | 2,927,762 |
| Equity |  |  |  |  |  |  |  |  |
| Retained earnings |  |  |  |  |  |  |  |  |
| Basic Insurance Retained Earnings |  |  |  |  |  |  |  |  |
| Rate Stabilization Reserve | 155,700 | 149,800 | 99,876 | 71,920 | $(17,281)$ | $(83,478)$ | $(152,768)$ | $(221,051)$ |
| Retained Earnings | 57,983 | 19,239 | - | - | - | - | - | - |
| Information Technology Optimization Fund | - | - | - | - | - | - | - | - |
|  | 213,683 | 169,039 | 99,876 | 71,920 | $(17,281)$ | $(83,478)$ | $(152,768)$ | $(221,051)$ |
| Accumulated Other Comprehensive Income | 49,007 | 56,800 | 70,284 | 70,902 | 65,509 | 61,358 | 58,734 | 57,388 |
| Total Equity | 262,690 | 225,839 | 170,160 | 142,822 | 48,228 | $(22,119)$ | $(94,034)$ | $(163,664)$ |
|  | 2,288,058 | 2,340,017 | 2,447,568 | 2,377,059 | 2,460,189 | 2,557,653 | 2,656,563 | 2,764,099 |

## Exhibit 5h

## Combined Scenario after Management Action

## Statement of Operations

| (C\$ 000s, except where noted) | For the Years Ended February, |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2012A | 2013A | 2014A | 2015P | 2016P | $\underline{2017 P}$ | $\underline{2018 \mathrm{P}}$ | $\underline{2019 P}$ |
| BASIC |  |  |  |  |  |  |  |  |
| Motor Vehicles | 760,039 | 722,774 | 756,642 | 795,233 | 850,888 | 889,503 | 948,477 | 992,089 |
| RSR Rebuilding Fees | - | - | - | - | 8,509 | 53,370 | 75,878 | 99,209 |
| Drivers | 26,593 | 32,692 | 41,520 | 46,992 | 51,284 | 55,427 | 59,418 | 62,982 |
| Reinsurance Ceded | $(6,679)$ | $(9,422)$ | $(13,422)$ | $(13,661)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Written | 779,953 | 746,044 | 784,740 | 828,564 | 896,747 | 984,087 | 1,069,276 | 1,139,492 |
| Net Premiums Earned |  |  |  |  |  |  |  |  |
| Motor Vehicles | 748,948 | 739,654 | 741,077 | 769,872 | 824,730 | 851,325 | 911,682 | 962,589 |
| RSR Rebuilding Fees |  |  | - |  | 4,510 | 52,314 | 74,377 | 97,246 |
| Drivers | 24,037 | 29,299 | 37,015 | 44,330 | 49,138 | 53,355 | 57,422 | 61,201 |
| Reinsurance Ceded | $(11,308)$ | $(12,202)$ | $(13,422)$ | $(13,722)$ | $(13,934)$ | $(14,213)$ | $(14,497)$ | $(14,787)$ |
| Total Net Premiums Earned | 761,677 | 756,751 | 764,670 | 800,480 | 864,444 | 942,782 | 1,028,984 | 1,106,249 |
| Service Fees \& Other Revenues | 18,736 | 18,452 | 20,384 | 19,799 | 21,079 | 22,815 | 24,966 | 27,356 |
| Total Earned Revenues | 780,413 | 775,203 | 785,053 | 820,279 | 885,523 | 965,596 | 1,053,950 | 1,133,605 |
| Net Claims Incurred | 612,037 | 661,288 | 747,435 | 614,643 | 812,686 | 826,663 | 875,939 | 904,406 |
| Claims Expense | 109,760 | 108,587 | 114,552 | 116,249 | 120,481 | 126,622 | 128,435 | 139,999 |
| Road Safety/Loss Prevention | 12,982 | 13,032 | 12,816 | 11,350 | 10,514 | 10,620 | 10,709 | 10,800 |
| Total Claims Costs | 734,779 | 782,907 | 874,803 | 742,242 | 943,681 | 963,905 | 1,015,083 | 1,055,205 |
| Expenses |  |  |  |  |  |  |  |  |
| Operating | 57,465 | 63,758 | 67,982 | 73,568 | 74,791 | 79,423 | 81,707 | 88,287 |
| Commissions | 41,034 | 37,545 | 32,058 | 33,496 | 34,173 | 36,593 | 39,498 | 42,172 |
| Premium Taxes | 22,766 | 23,069 | 23,343 | 24,426 | 26,351 | 28,710 | 31,304 | 33,631 |
| Regulatory/Appeal | 3,423 | 3,392 | 3,765 | 3,261 | 3,314 | 3,381 | 3,448 | 3,518 |
| Total Expenses | 124,688 | 127,764 | 127,148 | 134,751 | 138,630 | 148,107 | 155,957 | 167,608 |
| Underwriting Income (Loss) | $(79,054)$ | $(135,467)$ | $(216,898)$ | $(56,715)$ | $(196,788)$ | $(146,415)$ | $(117,090)$ | $(89,208)$ |
| Investment Income | 101,243 | 72,363 | 147,735 | 28,759 | 109,375 | 107,962 | 111,380 | 108,371 |
| Net Income (Loss) from Operations | 22,189 | $(63,104)$ | $(69,163)$ | $(27,956)$ | $(87,413)$ | $(38,453)$ | (5,710) | 19,163 |
| Allocated from Property | 89 |  | - | - | - |  | - | - |
| Transfer from Immobilizer Incentive Fund | - | - | - | - | - | - | - | - |
| Net Income (Loss) | 22,278 | (63,104) | $(69,163)$ | $(27,956)$ | $(87,413)$ | $(38,453)$ | (5,710) | 19,163 |

## Exhibit 5i

## Combined Scenario after Management Action <br> Statement of Retained Earnings

| (C\$ 000s, except where noted) | For the Years Ended February, |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2012A | 2013A | 2014A | 2015P | 2016P | 2017P | 2018P | 2019P |  |
| RATE STABILIZATION RESERVE (RSR) |  |  |  |  |  |  |  |  |  |
| Basic Insurance Rate Stabilization Reserve |  |  |  |  |  |  |  |  |  |
| Beginning Balance |  | 155,700 | 149,800 | 99,876 | 71,920 | $(15,493)$ | $(53,946)$ | $(59,657)$ |  | $(40,494)$ |
| Net Income (Loss) from annual operations |  | - | - | - |  |  | - |  |  |
| Transfer from Basic Retained Eamings | - | $(49,924)$ | $(27,956)$ | $(87,413)$ | $(38,453)$ | $(5,710)$ | 19,163 |  | 7,824 |
| Transfer to Basic Retained Earnings | $(5,900)$ | - | - | - | - | - | - |  | - |
| Ending Balance | 149,800 | 99,876 | 71,920 | $(15,493)$ | $(53,946)$ | $(59,657)$ | $(40,494)$ |  | (32,670) |
| Minimum RSR based on PUB rules | 77,900 | 77,900 | 82,300 | 89,000 | 97,600 | 106,000 | 112,900 |  | 117,700 |
| Maximum RSR based on PUB rules | 149,800 | 155,700 | 164,300 | 177,700 | 194,800 | 211,500 | 225,300 |  | 234,700 |
| MPI RSR Target | 200,000 | 200,000 | 172,000 | 172,000 | 172,000 | 172,000 | 172,000 |  | 172,000 |
| Retained Earnings |  |  |  |  |  |  |  |  |  |
| Beginning Balance | 57,983 | 19,239 | - | - | - | - | - |  | - |
| Net Income (Loss) from annual operations | 13,339 | $(49,924)$ | $(27,956)$ | $(87,413)$ | $(38,453)$ | $(5,710)$ | 19,163 |  | 7,824 |
| Retained Earmings Prior to Transfers | 71,322 | $(30,685)$ | $(27,956)$ | $(87,413)$ | $(38,453)$ | $(5,710)$ | 19,163 |  | 7,824 |
| Transfer to Rate Stabilization Reserve | - | 49,924 | 27,956 | 87,413 | 38,453 | 5,710 | $(19,163)$ |  | $(7,824)$ |
| Transfer from Rate Stabilization Reserve | 5,900 | - | - | - | - | - | - |  | - |
| Transfer from Immobilizer Incentive Fund | - | - | - | - | - | - | - |  | - |
| Transfer (to) from IT Optimization Fund | - | - | - | - | - | - | - |  | - |
| Premium Rebate | - | - | - | - | - | - | - |  | - |
| Transition to IFRS Mar 1/10 | - | - | - | - | - | - | - |  | - |
| Balance of Fund | 19,239 | $\cdot$ | $\cdot$ | $\cdot$ | - | $\cdot$ | - |  | $\cdot$ |
| IT Optimization Fund |  |  |  |  |  |  |  |  |  |
| Beginning Balance | - | 65,000 | - | - | - | - | - |  | - |
| Transfer to Basic Retained Earnings | - | - | - | - | - | - | - |  | - |
| Balance of Fund | - | - | - | - | - | - | - |  | $\cdot$ |
| Total Basic Retained Earnings | \$ 169,039 | \$ 99,876 | \$ 71,920 | \$ (15,493) | \$ $(53,946)$ | \$ (59,657) | \$ (40,494) | \$ | $(32,670)$ |

## Exhibit 5j <br> Combined Scenario after Management Action Balance Sheet

| (C\$ 000s, except where noted) | For the Years Ended February, |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2012A | 2013A | 2014A | 2015P | 2016P | 2017P | 2018P | $\underline{2019 P}$ |
| BASIC |  |  |  |  |  |  |  |  |
| Assets |  |  |  |  |  |  |  |  |
| Cash and investments | 1,308,214 | 1,298,217 | 1,424,341 | 1,319,679 | 1,309,962 | 1,401,843 | 1,506,765 | 1,633,789 |
| Equity investments | 424,986 | 473,796 | 600,483 | 620,566 | 686,692 | 719,106 | 776,419 | 864,684 |
| Investment property | 161,186 | 175,142 | 32,226 | 31,222 | 30,943 | 30,858 | 30,856 | 30,955 |
| Due from other insurance companies | 1,956 | 945 | 1,755 |  |  |  |  |  |
| Accounts receivable | 222,487 | 232,595 | 235,616 | 249,289 | 266,732 | 288,736 | 310,234 | 328,192 |
| Prepaid expenses | 699 | 716 | 731 | 568 | 568 | 568 | 568 | 568 |
| Deferred policy acquisition costs | 22,958 | 3,884 |  |  |  |  |  | - |
| Reinsurers' share of unearned premiums | 2,779 |  | - |  |  |  |  |  |
| Reinsurers' share of unearned claims | 23,782 | 26,130 | 17,625 |  |  | - |  | - |
| Property and equipment | 85,275 | 87,709 | 80,108 | 85,033 | 85,517 | 83,746 | 82,549 | 80,948 |
| Deferred development costs | 33,736 | 40,884 | 54,685 | 70,701 | 81,714 | 86,063 | 90,579 | 77,606 |
|  | 2,288,058 | 2,340,018 | 2,447,570 | 2,377,059 | 2,462,127 | 2,610,920 | 2,797,969 | 3,016,741 |
| Liabilities |  |  |  |  |  |  |  |  |
| Due to other insurance companies | 4,718 | 1,114 | 1,213 | 1,596 | 1,596 | 1,596 | 1,596 | 1,596 |
| Accounts payable and accrued liabilites | 32,891 | 31,827 | 35,769 | 35,673 | 38,169 | 41,318 | 44,395 | 46,964 |
| Financing lease obligation | 3,137 | 3,091 | 2,841 | 3,079 | 3,020 | 2,956 | 2,887 | 2,814 |
| Unearned premiums and fees | 393,285 | 382,507 | 402,982 | 438,580 | 474,105 | 518,887 | 562,930 | 600,221 |
| Provision for employee current benefits | 14,568 | 14,896 | 15,389 | 16,544 | 17,653 | 18,782 | 19,931 | 21,103 |
| Provision for employee future benefits | 207,912 | 230,117 | 235,172 | 249,058 | 262,114 | 276,474 | 291,389 | 306,958 |
| Provision for unpaid claims | 1,368,857 | 1,450,626 | 1,584,042 | 1,489,706 | 1,615,453 | 1,743,495 | 1,875,763 | 2,019,906 |
|  | 2,025,368 | 2,114,178 | 2,277,408 | 2,234,238 | 2,412,111 | 2,603,508 | 2,798,891 | 2,999,562 |
| Equity |  |  |  |  |  |  |  |  |
| Retained earnings |  |  |  |  |  |  |  |  |
| Basic Insurance Retained Earnings |  |  |  |  |  |  |  |  |
| Rate Stabilization Reserve | 155,700 | 149,800 | 99,876 | 71,920 | $(15,493)$ | $(53,946)$ | $(59,657)$ | $(40,494)$ |
| Retained Eamings | 57,983 | 19,239 | - | - |  | - | - | - |
| Information Technology Optimization Fund | - | - | - | - | - | - | - | - |
|  | 213,683 | 169,039 | 99,876 | 71,920 | $(15,493)$ | $(53,946)$ | $(59,657)$ | $(40,494)$ |
| Accumulated Other Comprehensive Income | 49,007 | 56,800 | 70,284 | 70,902 | 65,509 | 61,358 | 58,734 | 57,674 |
| Total Equity | 262,690 | 225,839 | 170,160 | 142,822 | 50,016 | 7,412 | (922) | 17,180 |
|  | 2,288,058 | 2,340,017 | 2,447,568 | 2,377,059 | 2,462,127 | 2,610,920 | 2,797,969 | 3,016,741 |

## PUB (MPI) 1-119

Please document the derivation of the resulting MCT ratio if the RSR balance is restated to the suggested RSR upper target as at 28 February 2013 and 28 February 2014, and discuss the results [RSR.3].

## RESPONSE:

Please see attached restated MCT documents for 28 February 2013 and 28 February 2014 reflecting $\$ 323$ million RSR upper target. Please note that although the MCT percentage in both scenarios is over 100\%, this would not likely be an accurate reflection of what would occur as there has been no subsequent adjustment of Balance Sheet Assets or Unearned Premiums/Unpaid Claims/Premium Deficiencies. In order to increase the RSR to $\$ 323$ million, it is anticipated that there would be an effect on those items.

| Manitoba Public Insurance CONSOLIDATED <br> MINIMUM CAPITAL TEST (\$'000) |  | BASIC |
| :---: | :---: | :---: |
|  |  | 2012/13 Year <br> (01) |
| Capital Available Total Equity less Accumulated Other Comprehensive Income | 02 | 323,000 |
| Add: <br> Subordinated Indebtedness and Redeemable Preferred Shares | 03 |  |
| Accumulated Other Comprehensive Income (Loss) on: Available for Sale Equity Securities | 04 | 82,686 |
|  | 06 | 1,685 |
| Foreign Currency (Net of Hedging Activities) | 08 |  |
| Share of Other Comprehensive Income of non-qualifying Subsidiaries, Associates \& Joint Ventures |  |  |
| Revaluation Losses in Excess of Gains on Own Use Properties | 32 |  |
| (Specify) | 30 |  |
| Less: <br> Accumulated net after-tax fair value gains (losses) arising from changes in the company's own credit risk | 12 |  |
| Ünrealized Fair Value Gains (Losses) from Own Üse <br> Properties at Conversion | 15 |  |
| Shadow Accounting Impact | 16 |  |
| Assets with a Capital Requirement of $100 \%$ | 17 | 22,768 |
|  | 13 |  |
| IFRS Conversion Phase in | 18 |  |
| Total Capital Available | 19 | 384,603 |
| Minimum Capital Required <br> Balance Sheet Assets | 20 | 147,535 |
| Unearned Premiums/Unpaid Claims/Premium Deficiencies | 22 | 174,358 |
| Catastrophes | 24 | 0 |
| Reinsurance Ceded to Unregistered Insurers | 26 | 800 |
| Interest Rate Risk | 38 | 0 |
| Foreign Exchange Risk (for future use only) | 40 |  |
| Structured Settlements, Letters of Credit, Derivatives and <br> Other Exposures | 28 | , |
| (Specify) | 34 |  |
| Minimum Capital Required | 29 | 322,693 |
| Excess Capital Available over M̃inimum Capital Required <br> (line 19 minus line 29) | 89 | 61,910 |
| Line 19 as a \% of line 29 | 90 | 119.19\% |
| Minimum Gross Capital Level | 96 | 43,821 |

Manitoba Public Insurance

## Manitoba Public Insurance CONSOLIDATED

## minimum capital test

(\$'000) BASIC


Manitoba
Public Insurance

## PUB (MPI) 1-120

Please provide supporting documentation for the amounts shown for the "Assets with a Capital Requirement of 100\%" [Row 17] for the Basic MCT ratios as at 28 February 2013 and 28 February 2014 [RSR.3].

## RESPONSE:

Please refer to the attachment.
30.70 .17

## Manitoba Public Insurance Worksheet - Assets with a Capital Requirement of $100 \%$ MCT Guideline - Chapter 2-Appendix 2A

| Assets |  | 2012/13 |
| :---: | :---: | :---: |
| Receivables and recoverables from unregistered insurers |  |  |
| Interest in non-qualifying subsidiaries | 02 |  |
| Interest in associates | 03 |  |
| Interest in joint ventures > 10\% ownership | 04 |  |
| Loans considered capital to non-qualifying subsidiaries | 05 |  |
| Loans considered capital to associates | 06 |  |
| Loans considered capital to joint ventures > 10\% ownership | 07 |  |
| DPAE other than premium tax es ( $0 \%$ capital factor) and commissions ( $35 \%$ capital factor) | 08 | $(20,905)$ |
| Deferred tax assets other than those arising from discounting <br> of claims reserves for tax purposes, or from unrealized capital gains, that are recoverable from income tax es paid in the three immediately preceding fiscal years (0\% capital factor) |  |  |
| Goodwill and other intangible assets | 10 | 36,801 |
| Other assets > $1 \%$ of total assets (other assets $<=1 \%, 35 \%$ capital factor) | 11 |  |
| Self-insured retentions, included in other recoverables on unpaid claims, |  |  |
| Other assets (as deemed required by OSFI) | 13 |  |
|  | 14 |  |
| TOTAL | 15 | 22,768 |

## Manitoba Public Insurance Worksheet - Assets with a Capital Requirement of 100\% MCT Guideline - Chapter 2-Appendix 2A

| Assets |  | 2013/14 |
| :---: | :---: | :---: |
| Receivables and recoverables from unregistered insurers not covered by non-owned deposits or letters of credi | 01 | 5,730 |
| Interest in non-qualifying subsidiaries | 02 |  |
| Interest in associates | 03 |  |
| Interest in joint ventures > 10\% ownership | 04 |  |
| - | 05 |  |
| Loans considered capital to associates | 06 |  |
| Loans considered capital to joint ventures > $10 \%$ ownership | 07 |  |
| DPAE other than premium taxes ( $0 \%$ capital factor) and $\qquad$ commissions ( $35 \%$ capital factor) | 08 | (25,384) |
| Deferred tax assets other than those arising from discounting <br> of claims reserves for tax purposes, or from unrealized capital gains, that are recoverable from income taxes paid in the three immediately preceding fiscal years (0\% capital factor) | 09 |  |
| - Goodwill and other intangible assets............................................................. | 10 | 54,685 |
|  | 11. |  |
| Self-insured retentions, included in other recoverables on unpaid claims, where OSFI requires collateral and no collateral has been received | 12 |  |
| Net defined benefit pension plan surplus asset, net of any associated deferrec tax liability, and net of any amount of available refunds of defined benefit pension plan surplus assets | 16. |  |
| Other assets (as deemed required by OSFl' | 13 |  |
|  | 14 |  |
| TOTAL | 15 | 35,031 |

## PUB (MPI) 1-121

Given the presence of significant balances shown as "Assets with a Capital Requirement of 100\%" for the Basic MCT ratios as at 28 February 2013 and 28 February 2014 [RSR.3], why do the DCAT forecasted MCT ratios not reflect forecasted "Assets with a Capital Requirement of 100\%" [for example RSR. 2 Exhibit $1 \mathrm{~d}]$ ?

## RESPONSE:

The Corporation is not regulated by the Office of the Superintendent of Financial Institutions (OSFI) and it is not required to formally file the MCT with OSFI for regulatory purposes. As such, the MCT is prepared as an indication of capital requirements.

The difference of the "Assets with a Capital Requirement of $100 \%$ " is as a result of an interpretation of the guidelines. There are certain aspects of the MCT that are subject to interpretation where OSFI would provide final guidance on the interpretation; however, as the Corporation does not have a relationship with OSFI, the Corporation completes the interpretation. For example, intangible assets that contain significant amounts related to the development of major information systems. For financial reporting purposes, the Corporation classifies these intangible assets as Deferred Development Costs on the Statement of Financial Position. How these assets should be classified in the MCT is somewhat uncertain and hinges on the definition of computer software that is referenced in the MCT Guideline.
Historically, the Corporation has classified Deferred Development Costs as assets with a capital requirement of $100 \%$ on the MCT. A less conservative approach was taken with the DCAT modeled MCT results, by applying a $35 \%$ capital requirement.

## PUB (MPI) 1-122

In general, how does the Corporation propose to address future changes to the MCT for purposes of having an RSR upper target based on the MCT?

## RESPONSE:

The Corporation will continue to update the MCT calculation based on the latest MCT Guideline. The Corporation does not anticipate that future updated versions of the MCT test would invalidate its use as an upper capital target for the Basic program. However, if significant changes to the MCT do occur, then these changes, along with their potential impact to the Corporation's recommended capital target, can be discussed at future rate hearings.

## PUB (MPI) 1-123

In making its current recommendation for a $100 \%$ MCT RSR upper target, what consideration has the Corporation given to the current draft proposed changes to the MCT taking effect 1 January 2015?

## RESPONSE:

The Corporation does not anticipate that future versions of the MCT test will invalidate its selection as an upper capital target. Also, the Corporation has not proposed the MCT as the minimum capital target. The MCT is proposed as an upper capital target to provide the Board with an objective and comparable measure of the Corporation's capital position and to provide a range above the proposed DCATbased minimum capital target.

## PUB (MPI) 1-124

Does the Corporation anticipate making any changes in 2015 to its proposed RSR upper target in response to the current draft proposed changes to the MCT taking effect 1 January 2015?

## RESPONSE:

No. See PUB (MPI) 1-122 and PUB (MPI) 1-123.

## PUB (MPI) 1-125

Please provide an illustration of the expected impact of the 2015 draft proposed changes to the MCT by restating the Basic MCT ratios as at 28 February 2013 and 28 February 2014 to reflect OSFl's current 2015 Draft MCT Guideline.

## RESPONSE:

Please refer to PUB (MPI) 1-122 and PUB (MPI) 1-123.

As noted in previous responses, the Corporation does not anticipate that future updated versions of the MCT test would invalidate its use of MCT as an upper capital target for the Basic program. Given the 2015 Draft MCT guidelines are only draft at this point in time and there is no prevailing set guidance on their application, any analysis would not be complete and potentially not illustrative of the potential impact. In addition, any changes to the MCT guideline would not impact on the reasonableness of the financial projections or actuarial modeling used to determine rates effective March 1, 2015. Any significant changes to the MCT and their potential impact to the Corporation's recommended capital target can be discussed at future rate hearings.

## PUB (MPI) 1-126

## Reference: Al. 11 p. 15

Financial Model Guide
a) Please indicate when MCT functionality will be incorporated into the financial model.
b) Please describe any other functionality currently being developed for inclusion the model.

## RESPONSE:

a) MCT functionality has been incorporated into the financial model, this occurred subsequent to the DCAT Technical Conference and the production of the Financial Model Guide.
b) The Corporation is not currently developing any additional functionality for the financial model.

## PUB (MPI) 1-127

Reference: Al.11, Financial Forecast Model Test Report, p. 14

Please discuss the source of the difference of $\$ 1.547$ million in section 2.1.2(e).

## RESPONSE:

The purpose of the model test in section 2.1.2 was to evaluate the calculation of unrealized gains/losses on marketable bonds and demonstrate the link between the results of these calculations and the financial statements produced by the model. The expected results of testing (-\$36.042 million) show unrealized gains/losses on marketable bonds prior to any impact from portfolio rebalancing. The results calculated by the model (-\$37.589 million) include the impact of rebalancing, which gives rise to the difference of $\$ 1.547$ million. The rebalancing or reallocation process within the model is described in Volume III AI. 11 Financial Model Guide, pages 37 and 38. The specific testing of asset mix rebalancing is discussed in part 8 of Appendix A, Volume III AI. 11 Financial Forecast Model Test Report.

## PUB (MPI) 1-128 Reference: Financial Forecast <br> Model Test Report

a) Please provide a full description of the limitations with the financial model and implications of these limitations on the use of the model. [Al. 11 p. 4]
b) Please provide a full listing of any model changes that have been made since the 2014 DCA T technical conference and the reason for the changes. Provide any supporting documentation.

## RESPONSE:

a) The referenced section describes the testing of inputs and the use of extreme values in connection with model limitations. The purpose of such testing is to assess whether or not the model parameters are consistent with the expected range of inputs. In other words, is the model limited in context of the range of input values. This testing is largely dealt with within sensitivity testing (see section 3.1). The results of some extreme value tests are not shown because the values are well outside the expected input range. The results of these tests confirm that the model does not manifest range input limits when used within expected tolerances.
b) Two changes were made to the financial model after the 2014 DCAT Technical Conference.

The Minimum Capital Test (MCT) was added to support capital adequacy analysis and assessment. This is a separate tab within the excel workbook and produces MCT results only, having no effect on any other parts of the financial model.

For the DCAT report only, an extra tab was added to the model for the purposes of calculating premium deficiency (PD) and deferred policy acquisition expenses (DPAC). This tab was not part of the model versions used in the 2015 GRA, as these calculations are not part of the rate determination process.

## PUB (MPI) 1-129

## Reference: Al. 11 Financial Forecast Model Test Report, p.30/.pdf p. 31 Impact of changes in U.S. Equity Portfolio

Please describe the relationship within the model between large changes in the market value of the U.S. equity portfolio and the fixed income asset values.

## RESPONSE:

To illustrate, a $-15 \%$ return on U.S. equities in 2015/16 will decrease the market value of the asset class significantly, indirectly impacting the weighting of the fixed income portfolio (marketable bonds, MUSH, cash) as of Q4 2015/16. Changes in the weighting of the fixed income portfolio slightly impacts the claims discount rate calculation performed at the end of Q4 2015/16. Therefore, small changes in the claims discount rate impacts basic net income (i.e. $4.53 \%$ vs. $4.52 \%$ ), which explains why the impact to investment income doesn't exactly match the impact to Basic net income.

## PUB (MPI) 1-130 <br> Reference: Al. 11 pp. 6, 11 <br> Sensitivity Testing

a) Please provide an interpretive description of the results of the sensitivity testing conducted and explain the criteria used to assess the difference from base case and reach the conclusion that the results were acceptable.
b) For the Sensitivity Testing performed please provide a comparison between the expected pattern of outcomes with the differences from base.

## RESPONSE:

a) In each of the sensitivity tables, there is a description of the test and descriptive labelling for each column. The results are shown within the table. For nonstraightforward sensitivity tables, comments about the results of the sensitivity tables can be found in the comments column. For straightforward sensitivity tables (i.e. page 24 4.2.1 Sensitivity to Canadian Dividends), there is no requirement for a comment.

As stated on page 11 lines 10 to 15 , "... model output for multiple input changes is evaluated in the context of an expected pattern or outcome. Hence these are not pass fail tests in the strict sense as there are not set criteria to judge by. They are a gauge of model performance with acceptable or reasonable as the determining measure."
b) The comparison between the expected pattern of outcomes and the model results is already performed in the calculation tests. The sensitivity tests take into account the dynamic relationship between different variables within the model. Therefore, the expected pattern of outcomes in the sensitivity tests are provided by the model as shown in the sensitivity tables.

## PUB (MPI) 1-131 Reference: Peer Review

Please file the peer review for the 2014 DCAT Report.

## RESPONSE:

The DCAT Report has been provided to Joe Cheng at J.S. Cheng \& Partners. The Corporation has requested that Mr. Cheng complete his peer review prior to the 2015 rate hearings.

## PUB (MPI) 1-132 Reference: RSR.2, p. 29

a) Please confirm whether the equity decline scenario is limited to the return on the Canadian portion of the equity portfolio.
b) Please indicate how the equity decline returns are forecast to impact returns on other investment categories?

## RESPONSE:

a) The equity decline scenario included both the Canadian and U.S. equity portfolios.
b) Equity decline returns do not impact the returns of other investment categories.

## PUB (MPI) 1-133 Reference: DCAT p. 30 Dividend Yield

a) Please explain how the dividend yield would be expected to remain constant if the market value of a security has declined. Is it assumed that dividend paying stocks will cut their dividend from current levels due to a decline in the market value of their shares? Please provide an illustrative example of how the dividend yield is determined.
b) Please indicate the level of dividend income assuming no decline on dividends for the existing portfolio.

## RESPONSE:

a) The constant dividend yield is a simplifying assumption as the dividend yield is forecasted for the total equity portfolio rather than on a security by security basis. The forecast for the dividend yield of Canadian and U.S. equities is obtained from the Bloomberg Professional Service.
b) Dividend income assuming no decline in dividends for the existing portfolio can be seen in the Base Case, which is shown on page 5, Volume II, Investment Income.

## PUB (MPI) 1-134 Reference: Impairments p. 31

Please explain the basis for the $80 \%$ of book value threshold for impairment of equity investments.

## RESPONSE:

The Corporation incorporates International Accounting Standard Guidance for Impairment IAS Section \#39 in its internal Impaired Securities Selection Criteria (Criteria). The Criteria are used as an initial screen to generate a list of companies that warrant further analysis to assess if there has been a loss in value that is "other than temporary". Based upon the analysis conducted securities that are determined to be impaired are written down.

One of the Criteria is that the market price of the security must be less than $80 \%$ of the securities book value. The threshold was researched (when the process was implemented in 2003 and more recently) and it was noted that other Canadian P\&C Companies used the $80 \%$ threshold in their impairment process.

In addition, a $20 \%$ decline in major equity markets over two consecutive quarters is considered a bear market and is a well accepted investment metric indicating a material loss of value.

## PUB (MPI) 1-135 Reference: DCAT Exhibit 2n

Please explain what factors are behind the unrealized losses on marketable bonds in concert with the equity declines in 2015/16 and 2016/17.

## RESPONSE:

The base interest rate forecast was used in the equity decline scenario. There were unrealized losses in the marketable bonds in 2015/16 and 2016/17 because the forecasted base GoC 10 year bond rate increased during those two years.

## PUB (MPI) 1-136 Reference: DCAT p. 31

MPI states that the highlighted cells reflect where the base forecast equity assumptions were used. MPI states that it identified these cells because the historical data indicates that equity returns are not independent from year-to-year (especially after large declines), and therefore, these results may not be plausible beyond the return period tested.
a) Please explain what historical returns have indicated after large declines and why the financial model is based on normal base scenarios rather than historical recovery in determining financial adequacy.
b) Please explain why the highlighted cells are considered not plausible.
c) Please provide the returns on both the Canadian and U.S. equity markets during the last five years subsequent to the 2008 financial correction.

## RESPONSE:

a) The reason that the Corporation models 1, 2, 3, and 4 year cumulative equity returns based on historical data is to specifically address the issue of recoveries in equity values after a significant decline. As shown in the Scenario Justification tables on pages 29 and 30 of the DCAT Report (RSR.2), the DCAT modeling clearly accounts for the fact that the annualized returns at various probability levels are less severe as the number of years increases (e.g., the 1-in-100 1-year return is $-32.5 \%$, but the 1 -in- 100 cumulative 2 year return is lower at $-29.5 \%$ ).

The reason all of the different probability and forecast year (i.e., 1, 2, 3, 4 year) combinations are shown is because the Chief Actuary must determine the most significant plausible impacts to the Corporation's financial position at any point during the Corporation's forecast period. For example, the Total Equity table on page 32 of the DCAT shows that a 1 year equity decline at the $1-\mathrm{in}-40$ probability level has the potential to reduce the Basic Total Equity balance to $-\$ 2$ million as
at the end of the 2015/16 year. This 1 year result is plausible at the $1-\mathrm{in}-40$ level (as supported by the historical equity return data). The Chief Actuary realizes that a recovery is likely in such a scenario (which is why the 2,3 , and 4 year cumulative equity decline scenarios are also calculated), but this potential recovery does not change the fact that there is a plausible risk to $2015 / 16$ results from a 1-year equity decline event that must be calculated/understood/provided to the reader in the DCAT report. The document clearly states that the 1 year scenario is used only for this purpose and that the reader should not extrapolate the results to the highlighted cells since these results are not supported based on the historical equity return data.
b) See part (a).
c) Please find in the table below the annual equity returns for Canadian and U.S equity markets from 2009 to 2013.

|  | Canadian Equity | U.S. Equity |
| :--- | :--- | :--- |
| 2009 | $35.1 \%$ | $26.5 \%$ |
| 2010 | $17.6 \%$ | $15.1 \%$ |
| 2011 | $-8.7 \%$ | $2.1 \%$ |
| 2012 | $7.2 \%$ | $16.0 \%$ |
| 2013 | $13.0 \%$ | $32.4 \%$ |

Manitoba Public Insurance

## PUB (MPI) 1-137 Reference: DCAT High Loss Ratio

Please explain why reinsurance and reinstatement premiums would not increase after a high loss event.

## RESPONSE:

After a large hail event it is reasonable to assume that reinstatement premiums and possibly reinsurance premiums would increase. Due to the long term nature of catastrophic reinsurance forecasting (i.e. very few major hail events over long periods of time) it is not necessarily true that reinsurance premiums would immediately increase after a major hail storm.

The functionality to forecast reinsurance premium adjustments is not yet built directly into the Corporation's financial model. The Corporation could attempt to manually approximate the reinstatement and future reinsurance premiums for each adverse scenario related to claims costs, but this would not be expected to have a significant impact on the results (especially considering that interest rates and equity assets are considered to be the most significant risk factors in the DCAT report). For example, a $10 \%$ increase in catastrophe reinsurance premiums equates to approximately $\$ 1.1$ million per year.

## PUB (MPI) 1-138 Reference: DCAT p. 43 Interest Rate Decline Scenario

a) Please indicate how long the interest rate yield of $1.68 \%$ remained in effect for the Government of Canada 10 year bonds.
b) For the periods in question in (a) please indicate the annualized return on the Canadian and U.S. equity markets.

## RESPONSE:

a) The interest rate yield of $1.68 \%$ remained in place for a single day and corresponds to the closing yield on May 1, 2013.
b) As reported in Part (a), given that the rate corresponds to a single date, an annualized return for the Canadian and U.S. equity market is not meaningful.

## PUB (MPI) 1-139 Reference: DCAT p. 50 <br> Combined Scenario

a) Please explain what factors have led MPI to conclude that the financial model is not providing plausible results in the shaded cells. Please indicate what the historical experience has indicated.
b) Please indicate all historical four year periods since 1956 when there was a decline in interest rates in concert with reductions in equity returns as modeled by MPI.

## RESPONSE:

a) See PUB (MPI) 1-136. As described in the Scenario Justification and Assumptions sections for Decline in Equity Markets (page 29), Interest Rate Decline (page 42), and the Combined Scenario (page 48) the Corporation has created separate models for one, two, three, and four year cumulative equity returns and interest rates to specifically address the issue of correlation between loss years and correlation between variables. As discussed in PUB (MPI) 1-136, the actuary must calculate the most adverse plausible events that could occur over any time period in the Corporation's forecast period. The one year scenarios provide information on the most adverse one year events only, which is why the highlighted cells are 'not applicable'. The two year scenarios provide information on the most adverse two year events based on historical two year cumulative return/interest rate information (i.e. recognizing the observed correlation, recovery, etc. in the data). The same reasoning follows for the three year and four year scenarios.
b) The following table shows the starting and ending of all four year periods where there was a decline in interest rates in concert with reductions in equity returns.

| Beginning of the period | Ending of the period |
| :---: | :---: |
| $3 / 31 / 2000$ | $3 / 31 / 2004$ |
| $4 / 30 / 2000$ | $4 / 30 / 2004$ |
| $5 / 31 / 2000$ | $5 / 31 / 2004$ |
| $6 / 30 / 2000$ | $6 / 30 / 2004$ |
| $7 / 31 / 2000$ | $7 / 30 / 2004$ |
| $8 / 31 / 2000$ | $8 / 31 / 2004$ |
| $9 / 30 / 2000$ | $9 / 30 / 2004$ |
| $10 / 31 / 2000$ | $10 / 29 / 2004$ |
| $2 / 28 / 2005$ | $2 / 27 / 2009$ |
| $9 / 30 / 2007$ | $9 / 30 / 2011$ |
| $10 / 31 / 2007$ | $10 / 31 / 2011$ |
| $12 / 31 / 2007$ | $12 / 30 / 2011$ |
| $4 / 30 / 2008$ | $4 / 30 / 2012$ |
| $5 / 31 / 2008$ | $5 / 31 / 2012$ |
| $6 / 30 / 2008$ | $6 / 29 / 2012$ |
| $7 / 31 / 2008$ | $7 / 31 / 2012$ |
| $8 / 31 / 2008$ | $8 / 31 / 2012$ |

## PUB (MPI) 1-140 Reference: DCAT Exhibits 4g, 5g

a) Please explain the differentiating factors which underpin the $\$ 51$ million reduction in marketable bonds unrealized gains and $\$ 8$ million reduction in marketable bonds realized gains between the interest rate decline scenario and the combined scenario.
b) Please indicate the interplay between inflation under the interest rate decline scenario and the returns assumed for infrastructure and real estate which are based in part on inflation.

## RESPONSE:

a) The reduction can be explained by the difference in assumed interest rates. The interest rate decline scenario (Exhibit 4G) assumed a Government of Canada 10 year rate of $2.12 \%$ at the Q4 2015/16. The combined scenario (Exhibit 5G) assumed the Government of Canada 10 year bond rate to be $2.75 \%$ at the end of Q4 2015/16 (this rate can be found at the top of page 50).
b) The forecasted returns for infrastructure and real estate use are based on our forecast for inflation plus a fixed spread of $5 \%$ and $4 \%$, respectively.

## PUB (MPI) 1-141 Reference: DCAT p. 40 Interest Rate Adverse Scenario

a) Please provide the supporting econometric or financial analysis that supports the plausibility of a decline in interest rates over the next five years from current levels to historical lows.
b) Please discuss and indicate how management action such as cash flow matching the actuarial liabilities would impact the results of the interest rate decline and combined adverse scenarios.

## RESPONSE:

a) As described on pages 40-44 of the DCAT report (RSR.2), the Corporation has relied on historical interest rate movements as the basis for determining the probability of future interest rate movements. This methodology was seen as an improvement over last year's DCAT interest rate scenario in which the judgment of the Chief Actuary was used as the basis for the interest rate risk scenario. Further, it is the Chief Actuary's opinion that modeling DCAT scenarios based on historical interest rate movements is a preferred approach over reliance on bank forecasts or other third party proprietary forecasting tools (e.g. economic scenario generators), which, as shown in the table on page 41 of the DCAT report, have not produced reliable forecasts in recent years. The Corporation's interest rate forecasting model is tied directly to historical experience and is fully transparent for review by the Board.
b) The Chief Actuary modeled the potential impacts from interest rate movements based on management's direction that the current investment policy statement should be assumed to remain in-force over the outlook period. If cash flow matching of the actuarial liabilities was implemented in future years, this change should result in a reduction to the projected net impacts to assets and claims liabilities caused by changes in interest rates. Or put another way, cash flow matching should reduce the financial risk of Basic not realizing the projected
interest rates used as the basis for projecting break-even net income. However, cash flow matching would also largely eliminate the projected net benefit received by the Corporation over the rating period as a result of rising interest rates and the duration mismatch.

## PUB (MPI) 1-142 Reference: DCAT p. 32, 2013 <br> DCAT p. 26

Please provide the decline in equity market scenario, investment income and cumulative difference from base forecast investment income table in similar format to that provide in the 2013 DCAT and compare with last year explaining any differences in results.

## RESPONSE:

There are a number of changes that would result in the difference from base forecast to be different than the table shown in the 2013 DCAT. The most significant change is the new financial model that was developed and used for the 2014 DCAT for the scenarios shown below. In addition, there are now 12 additional points of data used in modeling equity declines from 1956 to present and as such the selected distributions have changed slightly. Lastly, for the 1-in-100 1 year + base scenario, no impairment occurred in the 2014 DCAT. In the 2013 DCAT, there was an assumed write-down of $\$ 18.6 \mathrm{M}$ that resulted in a much lower investment income for that scenario.

## Decline in Equity Markets Scenario

Investment Income (in millions)

| Probability | Return <br> Period | $\mathbf{2 0 1 5 / \mathbf { 1 6 }}$ | $\mathbf{2 0 1 6 / 1 7}$ | $\mathbf{2 0 1 7 / \mathbf { 1 8 }}$ | $\mathbf{2 0 1 8 / 1 9}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 -in-100 | 1 year + base | $\$ 22$ | $\$ 45$ | $\$ 55$ | $\$ 93$ |
| 1 -in-40 | 1 year + base | $\$ 27$ | $\$ 50$ | $\$ 59$ | $\$ 97$ |
| 1 -in-20 | 1 year + base | $\$ 31$ | $\$ 54$ | $\$ 63$ | $\$ 100$ |
| 1 -in-100 | 2 year + base | $\$ 34$ | $\$ 44$ | $\$ 52$ | $\$ 91$ |
| 1 -in-40 | 2 year + base | $\$ 37$ | $\$ 48$ | $\$ 57$ | $\$ 94$ |
| 1 -in-20 | 2 year + base | $\$ 39$ | $\$ 52$ | $\$ 61$ | $\$ 97$ |
| 1 -in-100 | 3 year + base | $\$ 39$ | $\$ 53$ | $\$ 52$ | $\$ 88$ |
| 1 -in-40 | 3 year + base | $\$ 41$ | $\$ 56$ | $\$ 57$ | $\$ 92$ |
| 1 -in-20 | 3 year + base | $\$ 43$ | $\$ 60$ | $\$ 61$ | $\$ 96$ |
| 1 -in-100 | 4 year | $\$ 43$ | $\$ 60$ | $\$ 62$ | $\$ 91$ |
| 1 -in-40 | 4 year | $\$ 45$ | $\$ 62$ | $\$ 65$ | $\$ 94$ |
| 1 -in-20 | 4 year | $\$ 45$ | $\$ 64$ | $\$ 67$ | $\$ 97$ |
|  |  | $\$ 50$ | $\$ 74$ | $\$ 92$ | $\$ 130$ |

Cumulative Difference from Base Forecast Investment Income (in millions)

| Probability | Return <br> Period | $\mathbf{2 0 1 5 / 1 6}$ | $\mathbf{2 0 1 6 / 1 7}$ | $\mathbf{2 0 1 7 / 1 8}$ | $\mathbf{2 0 1 8 / 1 9}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 -in-100 | 1 year + base | $(\$ 28)$ | $(\$ 57)$ | $(\$ 94)$ | $(\$ 131)$ |
| 1 -in-40 | 1 year + base | $(\$ 23)$ | $(\$ 47)$ | $(\$ 80)$ | $(\$ 113)$ |
| 1 -in-20 | 1 year + base | $(\$ 19)$ | $(\$ 39)$ | $(\$ 68)$ | $(\$ 98)$ |
| $1-$ in-100 | 2 year + base | $(\$ 16)$ | $(\$ 46)$ | $(\$ 86)$ | $(\$ 125)$ |
| 1 -in-40 | 2 year + base | $(\$ 13)$ | $(\$ 39)$ | $(\$ 74)$ | $(\$ 110)$ |
| 1 -in-20 | 2 year + base | $(\$ 11)$ | $(\$ 32)$ | $(\$ 64)$ | $(\$ 97)$ |
| $1-$ in-100 | 3 year + base | $(\$ 11)$ | $(\$ 32)$ | $(\$ 72)$ | $(\$ 114)$ |
| $1-$ in-40 | 3 year + base | $(\$ 9)$ | $(\$ 26)$ | $(\$ 61)$ | $(\$ 99)$ |
| $1-$ in-20 | 3 year + base | $(\$ 7)$ | $(\$ 21)$ | $(\$ 52)$ | $(\$ 85)$ |
| $1-$ in-100 | 4 year | $(\$ 6)$ | $(\$ 20)$ | $(\$ 50)$ | $(\$ 89)$ |
| $1-$ in-40 | 4 year | $(\$ 5)$ | $(\$ 17)$ | $(\$ 45)$ | $(\$ 81)$ |
| $1-$ in-20 | 4 year | $(\$ 4)$ | $(\$ 14)$ | $(\$ 40)$ | $(\$ 73)$ |

## PUB (MPI) 1-143

Reference: Al. 12 Appendix 4
p.8/Gartner Report p. 6

MPI indicates that if one-time investments were excluded its scoring would be similar to the Peer group for IT spending as a percentage of revenue.
a) Please indicate to what extent the Peer group ( $\$ 30.1$ million in Change the Business) includes or excludes large "one time" investments to assess the reasonableness of the assertion made on comparability.
b) Please provide MPI's IT spending as a percentage of revenue since 2000 including and excluding one-time investments.

## RESPONSE:

a) and b)

Please refer to PUB (MPI) 1-3.

## PUB (MPI) 1-144

## Reference: Al. 12 Appendix 4

a) Please provide a description of cost containment and the basis for MPI's improved scoring on this metric.
b) Please discuss the implications on cost containment of no change in Business Process Management and how MPI intends to improve this metric.

## RESPONSE:

a) and b)

Please refer to PUB (MPI) 1-3.

## PUB (MPI) 1-145

## Reference: Al. 12 Appendix 4

pp. 8 \& 13
a) Gartner recommends that MPI should invest in strong Governance over thirdparty service providers and MPI's current maturity score for Business Process Management is below Peer group scores and has not improved from last year.
b) Please provide a full explanation of what type of Governance Management is required over Third Party Service Providers and the changes MPI proposes to its current practices in this area.

## RESPONSE:

a) and b)

Please refer to PUB (MPI) 1-3.


[^0]:    * Infrastructure performance does not match API's February 2014 report because API's market values do not include re-appraised market values which were received in April and API's performance calculation is a time weighted return while MPI's performance calculation is an internal rate of return (IRR).
    ** Infrastructure Co-Investment reached financial close in April 2013 and as a result it does not yet have a full 12 months of history

[^1]:    Note: The 2013/14 Implementation Expense of $\$ 2,851$ provided in E.4.1 Appendix 7 of the 2015 rate application has been restated in this table to $\$ 2,658$.

