Aon Risk Solutions
Global Risk Consulting
Actuarial and Analytics

Commonwealth of Massachusetts

Actuarial Estimate of Outstanding Liability

As of June 30, 2013

FINAL REPORT

Issue Date – September 30th, 2013

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Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

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I. Introduction

Purpose

Aon Global Risk Consulting ("AGRC") has conducted an actuarial review of the GAAP outstanding loss reserves of the Commonwealth of Massachusetts' ("Commonwealth") self-insured Workers Compensation program.

Scope

The specific scope of this study is to prepare an independent estimate of the required workers compensation reserves as of June 30, 2013, separately for seven clusters of agencies:

a) The Department of Mental Retardation ("DMR")
b) The Department of Mental Health ("DMH")
c) The Department of Corrections ("DOC")
d) UMass – Amherst
e) UMass – Medical School
f) All Other Colleges and Universities
g) All Other Departments

For the "All Other Colleges and Universities" cluster, we have provided estimates of each educational institution's obligations.

In addition, we have provided estimates of the outstanding liability contained within the "All Other Departments" cluster that is associated with agencies that during fiscal year 2010 ceased to be the liability of the Commonwealth and instead became the liability of the Massachusetts Department of Transportation (MassDOT).

We have provided a range of reserves that can be used to test the reasonableness of the carried reserves established by the Commonwealth. Estimates have been prepared on both a discounted and undiscounted basis, utilizing rates of discount equal to 4% and 6%.

Our estimates do not include any provision for allocated loss adjustment expenses (ALAE) that may be incurred in the processing and settlement of claims, other than rehabilitation/investigation payments included with medical losses as described in the Data section (Section V) of this report.

* * * * * *

Vahan A. Mahdasian ACAS, MAAA and Mujtaba Datoo ACAS, MAAA are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial report contained herein.

We performed this analysis using generally accepted actuarial principles and in accordance with all relevant Actuarial Standards of Practice.

Please contact us if you have any questions regarding this report.

Respectfully submitted,

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II. Conditions and Limitations

Inherent Uncertainty

Actuarial calculations produce estimates of inherently uncertain future contingent events. We believe that the estimates provided represent reasonable provisions based on the appropriate application of actuarial techniques to the available data. However, there is no guarantee that actual future payments will not differ from estimates included herein.

Extraordinary Future Emergence

Our projections make no provision for the extraordinary future emergence of losses or types of losses not sufficiently represented in the historical data or which are not yet quantifiable.

Data Reliance

In conducting this analysis, we relied upon the provided data without audit or independent verification; however, we reviewed it for reasonableness and consistency. Any inaccuracies in quantitative data or qualitative representations could have a significant effect on the results of our review and analysis.

Discounting

The uncertainty inherent in the discounted unpaid loss estimates is greater than that of the undiscounted unpaid loss estimates. This is because undiscounted liabilities normally contemplate an implicit risk margin for the uncertainty in the loss estimation process (e.g., under-estimating). Discounting takes away this implicit risk margin and would subject the unpaid loss estimates to additional risks such as yields on the investment portfolio and the timing risk. Future loss payments could occur more or less rapidly than expected due to random variation and the timing of claim payments. We made no adjustment to account for these risks. The interest rate used to discount the unpaid losses was provided by the Commonwealth of Massachusetts. We express no opinion and have not independently evaluated the appropriateness of the interest rate.

Use and Distribution

Use of this report is limited to the Commonwealth of Massachusetts for the specific purpose described in the Introduction section. Other uses are prohibited without an executed release with Aon.

Distribution by the Commonwealth of Massachusetts is unrestricted. We recognize that this report may be distributed to others and we request that Aon be notified of further distribution of this report. The report should only be distributed in its entirety including all supporting exhibits.

III. Executive Summary

Summary of Results

As stated in the "Introduction" and detailed in the "Program Description" section of this report, this analysis considers those liabilities within the "All Other Departments" cluster that are attributed to the agencies of the newly created MassDOT; excluding the former Massachusetts Turnpike Authority (MTA).

Consistent with the methodology and presentation in the prior report issued in 2012, the liability amounts in the summary tables below are provided both **Gross** (including) and **Net** (excluding) of those liabilities associated with the MassDOT (excluding MTA).

A summary table of the composition of the "All Other Departments" cluster with respect to the MassDOT (excluding MTA) and Non-MassDOT agencies is also provided.

Total Gross Reserves

Based on our review, which utilized loss and exposure data valued as of June 30, 2013, we estimate that the range of reasonable undiscounted **gross** (inclusive of MassDOT liability, excluding MTA) loss reserves for the Commonwealth's aggregate workers compensation program to be: **$322.4M to $408.9M.**

We also calculated reasonable ranges on a present value basis, using interest rates of 4% and 6% and the Commonwealth's historical payment patterns. We estimate the range of reasonable **gross** reserves to be as follows:

Discounted at 4%: **$241.5 to $309.9M** | Discounted at 6%: **$215.0M to $277.2M**

The following table shows **gross** reserves for each cluster identified in the Scope section:

Cluster	Cluster	Report Section	Undiscounted	Discounted at 4%	Discounted at 6%
DMR	1	2	$30.0 - 37.6M	$23.8 - 30.3M	$21.7 - 27.8M
DMH	2	3	$25.0 - 30.8M	$19.2 - 23.9M	$17.3 - 21.6M
DOC	3	4	$57.5 - 82.5M	$43.1 - 62.6M	$38.4 - 56.0M
UMass - Amherst	4	5	$7.1 - 10.5M	$5.5 - 8.4M	$5.0 - 7.6M
UMass - Medical	4	6	$3.7 - 5.5M	$3.1 - 4.6M	$2.9 - 4.2M
Other Colleges & Universities	4	7	$15.7 - 19.3M	$12.8 - 15.8M	$11.8 - 14.5M
All Other Dept's (incl. MassDOT, excl. MTA)	5	8	$183.4 - 222.5M	$133.9 - 164.3M	$118.0 - 145.5M
Total			$322.4 - 408.9M	$241.5 - 309.9M	$215.0 - 277.2M

Total Net Reserves

Based on our review, which utilized loss and exposure data valued as of June 30, 2013, we estimate that the range of reasonable undiscounted **net** (excluding MassDOT and MTA liability) loss reserves for the Commonwealth's aggregate workers compensation program to be: **$309.2M to $392.8M.**

We also calculated reasonable ranges on a present value basis, using interest rates of 4% and 6% and the Commonwealth's historical payment patterns. We estimate the range of reasonable **net** reserves to be as follows:

Discounted at 4%: **$231.9M to $298.0M** | Discounted at 6%: **$206.5M to $266.6M**

The following shows **net** reserves for each cluster identified in the Scope section:

Cluster	Cluster	Report Section	Undiscounted	Discounted at 4%	Discounted at 6%
DMR	1	2	$30.0 - 37.6M	$23.8 - 30.3M	$21.7 - 27.8M
DMH	2	3	$25.0 - 30.8M	$19.2 - 23.9M	$17.3 - 21.6M
DOC	3	4	$57.5 - 82.5M	$43.1 - 62.6M	$38.4 - 56.0M
UMass - Amherst	4	5	$7.1 - 10.5M	$5.5 - 8.4M	$5.0 - 7.6M
UMass - Medical	4	6	$3.7 - 5.5M	$3.1 - 4.6M	$2.9 - 4.2M
Other Colleges & Universities	4	7	$15.7 - 19.3M	$12.8 - 15.8M	$11.8 - 14.5M
All Other Dept's (excl. MassDOT & MTA)	5	8	$170.2 - 206.4M	$124.3 - 152.4M	$109.5 - 134.9M
Total			$309.2 - 392.8M	$231.9 - 298.0M	$206.5 - 266.6M

All Other Departments – Decomposition of Departmental Liability

The total gross reserve of the All Other Departments cluster contains both MassDOT (excluding MTA) and Non-MassDOT liabilities. As shown in the table below, approximately 7.2% of the gross reserve for All Other Departments is attributed to MassDOT (excluding MTA) agencies.

The following shows the range of reasonable reserves at various discount rates for the cluster segments.

All Other Departments	Cluster	% of Cluster	Undiscounted	Discounted at 4%	Discounted at 6%
MassDOT Agencies (excl. MTA)	5	7.2%	$13.2 - 16.1M	$9.6 - 11.9M	$8.5 - 10.6M
Non-MassDOT Agencies	5	92.8%	$170.2 - 206.4M	$124.3 - 152.4M	$109.5 - 134.9M
Total			$183.4 - 222.5M	$133.9 - 164.3M	$118.0 - 145.5M

Fiscal Year 2013 Loss Rates

The cost of the workers compensation program as measured by the estimated FY2013 loss rates (losses per $100 payroll) varied significantly by cluster.

As shown in the table below, overall rates decreased by 2.7% when compared to the prior year

Cluster	Payroll (000)	Average Ult Loss	Average FY 13 Loss Rate	Prior Loss Rate	% Change
DMR	301,541	5,227,000	1.733	1.889	-8.2%
DMH	189,252	4,068,500	2.150	2.183	-1.5%
DOC	368,022	10,876,050	2.955	3.242	-8.8%
UMass - Amherst	495,398	2,273,000	0.459	0.415	10.7%
UMass - Medical	384,763	1,355,000	0.352	0.383	-8.2%
Other Colleges & Univs	1,284,741	4,712,000	0.367	0.335	9.4%
All Other Dept's (excl. MTA)	3,138,905	36,006,500	1.147	1.168	-1.8%
Total	6,162,621	64,518,050	1.047	1.076	-2.7%

All Other Departments – Fiscal Year 2013 Loss Rates

In the table below, we have estimated, the composition of the All Other Departments FY2013 loss rate as a function of both the MassDOT (excluding MTA) and Non-MassDOT departments experience and exposure:

All Other Dept's (excl. MTA)	Payroll (000)	Average Ult Loss	Average FY 13 Loss Rate	Prior Loss Rate	% Change
MassDOT (excl. MTA)	217,415	2,619,890	1.205	1.267	-4.9%
Non-MassDOT	2,921,490	33,386,610	1.143	1.160	-1.5%
Total	3,138,905	36,006,500	1.147	1.168	-1.8%

It is important to note that the loss rates estimated via the decomposition methodology are inherently volatile due to their derivation being reliant on a variety of assumptions and estimations which are themselves also volatile.

UMass Reserves

To facilitate the use of this report by the University of Massachusetts ("UMass"), we present an aggregate estimate of the liabilities for each UMass segment. These include UMass Amherst and UMass Medical School (shown separately in table above) as well as UMass Lowell, Boston, and Dartmouth (included as part of the "Other Colleges and & Universities" cluster above).

A reasonable range of reserves for the aggregate UMass program is estimated at **$14.9M to $21.1M**.

Discounted at 4%: **$12.0M to $17.1M** | Discounted at 6%: **$10.9M to $15.6M**

The following shows the range of reasonable reserves at various discount rates for each UMass segment.

Cluster	Undiscounted	Discounted at 4%	Discounted at 6%
UMass - Amherst	$7.1 - 10.5M	$5.5 - 8.4M	$5.0 - 7.6M
UMass - Medical	$3.7 - 5.5M	$3.1 - 4.6M	$2.9 - 4.2M
UMass - Dartmouth	$1.3 - 1.6M	$1.1 - 1.3M	$1.0 - 1.2M
University of Lowell	$1.5 - 1.9M	$1.3 - 1.5M	$1.2 - 1.4M
UMass - Boston	$1.3 - 1.5M	$1.0 - 1.3M	$0.9 - 1.2M
Total UMass	$14.9 - 21.1M	$12.0 - 17.1M	$10.9 - 15.6M

Other Colleges and Universities Reserve

We have allocated the aggregate reserve estimate for All Other Colleges and Universities to the individual institutions within the cluster. Estimates for each institution are shown on Summary Exhibit 7.

Short Term Reserve Percentages

We have determined the percentage of the reserve estimates that can be considered short-term, meaning the percentage of projected payments of the total reserves expected to be made over the next twelve month period. The calculation of these percentages is shown on Exhibit 1 Page 16 of Sections 1-8 in the Full Report.

IV. Program Description

The Commonwealth has provided workers compensation coverage to its employees on a self-insured basis since the early 1920's ("the Program"). The Program covers all workers, except those employed by the Commonwealth's various public authorities and the State Police.

The Commonwealth retains responsibility for all claims and does not purchase per claim or aggregate reinsurance.

Pursuant to legislation effective July 1, 1997, the Program is administered by the Commonwealth's Human Resources Division ("HRD"); prior to that date, certain workers compensation administration responsibilities had been under the supervision of the Public Employee Retirement Administration Commission ("PERAC"). HRD is responsible for making fair and timely payments of indemnity and medical benefits to injured employees, maintaining the claim and financial records of the Program and for negotiating appropriate settlements for all Program claims.

Effective November 1, 2009 a new entity, the Massachusetts Department of Transportation (MassDOT) was created. As part of the creation, various agencies ceased to be considered part of the Commonwealth and became part of the MassDOT. The agencies, previously part of the Commonwealth, that now comprise the MassDOT are the Old Mass Highway Department (MHD), Registry of Motor Vehicle (RMV), The Office of Transportation (TRP); The Mass Aeronautics Commission (MAC); Tobin Bridge (TOBIN) and a small operation of the Department of Conservation and Recreation (DCR).

Per discussions with the Commonwealth, it is our understanding that the MassDOT would assume the total historical liability of each of those departments; MHD, RMV, TRP, MAC, TOBIN and DCR.

V. Data

Loss

Claim payments for the 12 month period ending June 30, 2013 were provided by the Commonwealth. Payments were provided by department and agency and were split into four categories: compensation, medical, lump sum, and rehabilitation/investigations. For our review, we analyzed compensation (Indemnity) and lump sum payments separately. Medical and rehabilitation/ investigation payments were combined and analyzed as "Medical" losses.

Our estimates do not include any provision for allocated loss adjustment expenses (ALAE) that may be incurred in the processing and settlement of claims, other than rehabilitation/investigation payments included with medical losses noted above. Also, the estimates do not consider unallocated loss adjustment expenses (ULAE), such as fees of adjusters and settling agents, etc.

The 12 month incremental payments provided by the Commonwealth were added to the cumulative claim payments from the prior analysis (at June 30, 2012) to derive cumulative paid figures as of June 30, 2013 found in this report.

Exposure

Exposure information for FY2013, in the form of payroll was provided by the Commonwealth and fully consistent with the "object code" classification which was revised as part of the FY2010 study.

We relied on loss and exposure data provided by responsible officers or employees of the Commonwealth. We also relied on data found in the prior analysis and thereby also those sources described in it; utilizing last year's triangles and updating them with data provided by the HRD. We also relied on payroll data provided by the Office of the Comptroller. As mentioned previously, any inaccuracies in quantitative data or qualitative representations could have a significant effect on the results of our analysis.

Industry Data

Loss development factors were derived from the Commonwealth's own triangles and industry data provided by:

- The National Council on Compensation Insurance (NCCI)
- The Workers Compensation Rating and Inspection Bureau of Massachusetts (WCRIBMA)

Trend factors used to adjust for changes in historical wage and benefit levels are based on data from these sources as well.

VI. Actuarial Analysis

Overview

Performing an actuarial analysis involves developing a qualitative understanding of the risk and applying actuarial techniques and methods to available data. These methods attempt to project unpaid losses to ultimate settlement value. Each method requires certain underlying assumptions and varies in its responsiveness to loss data. As a result, not all methods are appropriate for use in all circumstances. For each unique situation, actuaries assess the strengths and weaknesses inherent in the results of each method in producing reasonable estimates of ultimate loss.

The following methods were employed in developing the recommendations contained in this report.

Methods/Models of Estimating Unpaid Loss Estimates

Paid Loss Development Method

This method is based on the assumption that losses from a group of claims are paid in a sufficiently consistent pattern such that past experience can be used to predict future development. The term loss development is used to describe changes that take place in the value of a group of claims over time. In order to reflect loss development arithmetically, incremental loss development factors are calculated by dividing losses at a given evaluation date by the immediately preceding evaluation date. A multiplicative process is then used to calculate a cumulative loss development factor that represents the development to ultimate for a given age of maturity.

This method can be applied using either cumulative paid losses or incurred losses (cumulative paid losses plus case reserves). For a given group of claims, cumulative losses are multiplied by the appropriate cumulative loss development factor to estimate ultimate losses. For the Commonwealth, we relied on the Paid Loss Development Method only, as the Commonwealth does not currently establish case reserves.

This method relies heavily on data as of the most recent evaluation date and assumes past patterns are predictive of future development. If the program has inadequate history to develop predictive loss development patterns, other sources of loss development information may be considered.

In addition to the cumulative loss development factors, we apply an additional factor to bring losses from their current paid status to a projected ultimate basis. This factor is called an “Additional Tail Consideration” factor.

The “Additional Tail Factor” consideration is based on our observation that for certain clusters, some of the older policy periods showed more open claims and higher development than other periods. We also evaluated the average age of the paid claimants for each cluster and year, and noticed that in certain years payments were being made to relatively young claimants. We judgmentally added a tail factor selection to account for these observations

Paid Bornhuetter-Ferguson (BF) Method

This method offers a blend of stability and responsiveness by estimating ultimate losses using a percentage of the expected loss results and current loss data. It calculates future loss development based on expected loss estimates and the cumulative loss development factors described in the Loss Development Method.

The B-F Method can be applied using either cumulative paid or incurred losses. Again, for the Commonwealth, we relied on the Paid B-F Method only as the Commonwealth does not currently establish case reserves.

In determining future loss development, the percent of expected losses remaining to be paid is based on the appropriate loss development factor. This percentage is multiplied by expected losses to determine expected future development. This estimate of future loss development is added to losses at the current evaluation date to project ultimate losses.

To determine the expected losses, we determine an initial expected pure premium (or an "a priori" loss rate) based upon (1) a review of the Commonwealth's historic pure premiums (losses divided by payroll) as well as (2) consideration of the selected rate the trend and benefit level adjustments removed ("de-trended"). By considering both metrics, we attempt to balance stability and responsiveness in the selection of the initial expected pure premium.

Lump Sum Methodology

Lump sum indemnity payments are analyzed separately from all other indemnity payments. We relied on two methods to develop lump sum payments to ultimate levels. The first is a standard paid loss development method, where current lump sum payments are multiplied by a cumulative lump sum development factor to arrive at the estimate of ultimate lump sum losses.

The second method uses ultimate indemnity losses excluding lump sums as a base for estimating remaining outstanding lump sum payments. Outstanding lump sums payments are estimated by multiplying base ultimates by cumulative incremental lump sums as a percent of ultimate losses excluding lump sums ratio. The outstanding lump sum payments are added to payments to date to arrive at the estimate of ultimate lump sum losses. An estimate of ultimate lump sums is selected based on a review of both methods.

7/1/81-82 and Prior Periods Methodology

In order to estimate liabilities relating to periods 7/1/81-82 and prior, we again relied on two methods. The first uses an average payment trend to estimate the reserves needed for prior periods. This estimate is added to payments to date to arrive at the estimate of ultimate loss. The average payment trend is derived from the Commonwealth's history of incremental payments and is credibility weighted with the total Commonwealth payment trend (derived from all Commonwealth data combined).

The second method multiplies average incremental payments over the last three fiscal years by a selected number of survival years in order to estimate the needed reserve. The needed reserve is added to payments to date to arrive at an estimate of the ultimate loss. An estimate of ultimate loss is selected based on a review of both methods

Selection of Ultimate Losses and Reasonable Reserve Estimates

Our estimates of ultimate losses by year were judgmentally selected based on the methods described above. Generally, we selected the lower and higher of the Paid Loss Development and Paid Bornhuetter-Ferguson methods as the "Low End" and "High End" selections by year. In certain cases, we judgmentally increased the high end of the range if we felt there was not enough "differential" in the two methodologies.

Similar to the prior analysis, we assume that any payment made during fiscal year 2013 implies an "open" claim and will remain open during fiscal year 2013. As a rule, if no payments were made for two years in a row, we project minimal reserves for that year, assuming the claims in that year are closed

Allocation Methodology for Massachusetts Colleges and Universities

The allocation of reserves to each college and university is based on a credibility weighting of expected loss experience based on exposure (payroll) and actual loss experience. The credibility weight is based on the formula P/ (P+K) where P is average payroll for the entity over the past five years and K is 20,000,000 for entities with a low coefficient of variation (CV) and 50,000,000 for entities with a high coefficient of variation (> 1.00).

The expected loss experience is the 5 year average payroll for each entity multiplied by the overall indemnity and medical loss rates for the entire Other Colleges and Universities group. The actual loss experience used in the allocation is a 5-year average ultimate loss for each entity. The ultimate loss for each entity is calculated by applying the paid loss development method to each entity's loss experience.

The outstanding losses estimated for Other Colleges and Universities is then allocated to each entity based on its percentage share of the ultimate credibility weighted losses.

Composition Analysis Methodology for Cluster 5 - All Other Departments

The decomposition of the All Other Departments cluster into the liability associated with MassDOT (excl. MTA) and Non-MassDOT agencies is based on a blended consideration of three different methods. Each method, estimates a percentage share of the total liability for each fiscal year that is associated with the agencies of the MassDOT (excl. MTA) agencies. Each of the three methods described below are applied to both the Medical and Indemnity analyses independently:

Method 1: The number of loss payments made to claimants of the MassDOT (excl. MTA) agencies during the fiscal year as a proportion of the total number of claim payments made during the fiscal year to the All Other Departments in Cluster 5

Method 2: The value of loss payments made to claimants of the MassDOT (excl. MTA) during the fiscal year as a proportion of the total value of claim payments made during the fiscal year to All Other Departments in Cluster 5.

Method 3: The payroll of the MassDOT (excl. MTA) agencies during each of the past fiscal years as a proportion of the total payroll paid to All Other Departments in Cluster 5 over the past fiscal years. Where this historical payroll split was not available, an assumption was made based upon available information.

Actuarial Assumptions

Incurred But Not Reported (IBNR)

Generally, losses will increase over time for the following reasons:

1. It is impossible to estimate precisely the ultimate losses and allocated loss adjustment expenses for claims when they are initially reported.

2. It takes a period of time for some claims to be discovered, reported, and recorded. Unreported claims are referred to as “pure” IBNR claims. Claims that are reported but not yet recorded are referred to as “pipeline” IBNR claims.

3. Closed claims are sometimes reopened.

These three conditions result in the need for IBNR reserves.

Loss Trend

Loss trend is the change in claim frequency and cost levels from one time period to the next. Factors that affect the frequency and severity of claims are constantly changing over time. Examples of causes of these changes include inflation, societal attitudes toward legal action, and changes in laws. Actuaries use trend factors to adjust historical loss experience to comparable cost levels. Using workers compensation as an example, three elements of cost are combined within this single factor:

Increases in defined benefits for Workers Compensation: Benefits are established by legislative authority and typically reviewed annually by state legislatures. Many times, benefits are expanded by legislatures through changes such as broadening the definition of injury, decreasing waiting periods, increasing benefit duration, or increasing maximum benefit limits.

Increases in medical costs: This causes inflationary trend in the medical component of workers compensation losses.

Increase in wage costs: Wage inflation, although relatively small in some economic sectors, has occurred over the past several years as well.

Specifically, for this analysis, trend factors were obtained from the 2012 rate filing published by the WCRIB of Massachusetts.

Exposure

Actuaries select an exposure base expected to vary directly with the incidence and/or severity of claims. The actuary must consider both the historical loss level and the corresponding exposures in evaluating claim liabilities and expected future costs.

As previously discussed, payroll exposure for FY1985 through FY2013 were provided by the Commonwealth. For the FY2013 non-MTA element of the MassDOT payroll in Cluster 5, it was necessary to estimate the MTA-only payroll based upon prior values as a FY2013 figure was not available. This figure was then subtracted from the total MassDOT payroll.

Time Value of Money

Due to the time lag between when claims are incurred, reported, and finally paid, a sound funding recommendation may consider the time value of money. Income will be earned on self-insurance fund assets until those assets are liquidated to pay losses. If this income is retained in the self-insurance fund, such investment income may be considered.

At the Commonwealth's direction, we used 4% and 6% rates to discount the estimated reserves. We have not formed any opinion regarding the reasonability of these rates. It is noted that discounting reserves introduces additional risk to the analysis since the timing of actual loss payments may differ from the estimated payment pattern, and since the realized investment yield may differ from that assumed.

Provision for Uncertainty

An actuarial projection may consider the degree of uncertainty inherent in its projection. An estimate stated at its ultimate value on a nominal basis may include an implicit provision for uncertainty due to the time value of money. If an estimate is stated at present value, it may be appropriate to include an explicit provision for uncertainty. Further, an explicit provision for uncertainty may be warranted when losses are subject to a high degree of variability.

For the Commonwealth, we have not explicitly used any provision for risk in our calculations. Instead, we have determined a "low" and "high" end range of reasonable reserves. It should be understood that the range does not represent all possible outcomes, but rather a range of reasonable estimates

VII. Arrangement of Exhibits

This report contains eight sections preceded by a set of summary exhibits. The summary exhibits include the following:

Summary Exhibit	Description
1	Summary of Reserve Estimates - Undiscounted
2	Summary of Reserve Estimates - Discounted at 4%
3	Summary of Reserve Estimates - Discounted at 6%
4	Summary of Change in Ultimate Loss
5	Summary of Estimates for 13-14 Fiscal Year
6	Summary of Reserve Estimates by Cluster
7	Summary of Reserve Estimates by College
8	Summary of Ultimate Losses by Cluster
9	Calculation of Implied Development Factors
10	MA Colleges and Universities Allocation

The eight sections and their exhibits are organized as follows:

Section	Exhibit	Cluster
1	1	All Clusters Combined - Indemnity
1	2	All Clusters Combined - Medical
2	1	DMR - Indemnity
2	2	DMR - Medical
3	1	DMH - Indemnity
3	2	DMH - Medical
4	1	DOC - Indemnity
4	2	DOC - Medical
5	1	UMass Amherst - Indemnity
5	2	UMass Amherst - Medical
6	1	UMass Medical School - Indemnity
6	2	UMass Medical School - Medical
7	1	Other College and Universities - Indemnity
7	2	Other College and Universities - Medical
8	1	All Other - Indemnity
8	2	All Other - Medical

Within Sections 1 through 8, the worksheets are organized as follows:

Page	Description
1	Summary of Ultimate Losses
2	Paid Loss Development Method
3	Paid Bornhuetter-Ferguson Method
4	Calculation of Initial Expected Loss Rates
5	Calculation of 1982 and Prior Reserves Page 1
6	Calculation of 1982 and Prior Reserves Page 2
7	Paid Loss Triangle
8	Comparison of Ultimate Losses
9-12	Calculation of Ultimate Lump Sum Payments
13-15	Discounting Exhibits
16	Calculation of FY 2014 Payments

For the purpose of the allocation of liability to MassDOT (excl. MTA) , within Section 8 only, there are two additional worksheet pages:

Page	Description
MassDOT - FY2012	MassDOT (excl. MTA) Reserve Allocation as of 06/30/12
MassDOT - FY2013	MassDOT (excl. MTA) Reserve Allocation as of 06/30/13

VIII. Description of Exhibits

Summary Exhibits

Summary Exhibit 1 shows the undiscounted low and high reserve estimates by cluster for indemnity and medical separately.

Summary Exhibit 2 shows the low and high reserve estimates by cluster for indemnity and medical separately, discounted at 4%.

Summary Exhibit 3 shows the low and high reserve estimates by cluster for indemnity and medical separately, discounted at 6%.

Summary Exhibit 4 shows the change in ultimate loss from the prior report by cluster and for indemnity and medical separately. Changes in the ultimate loss for the current fiscal year are excluded.

Summary Exhibit 5 shows the low and high ultimate loss estimate for the current fiscal year. The estimates are shown by cluster and for indemnity and medical separately. The midpoint of the range of estimates is used to calculate the loss rate for each cluster.

Summary Exhibit 6 contains an additional summary of reserve estimates by cluster, showing both the discounted and undiscounted ranges of reserves.

Summary Exhibit 7 contains a summary of reserve estimates by college. High and low reserve estimates are shown undiscounted as well as at 4% and 6% discount rates.

Summary Exhibit 8 shows the selection of ultimate losses by accident year for all clusters. A calculation of the outstanding losses and loss rates is also shown by accident year.

Page 1 shows results for all clusters combined.

Pages 2 – 8 show results for each of the clusters specified in the Scope section.

Summary Exhibit 9 shows the calculation of the implied loss development factors underlying the results of our analysis by accident year. The selected ultimate loss for all clusters is divided by the paid losses to date for all clusters to derive the indicated LDF by accident year.

Summary Exhibit 10 Page 1 shows the results of the methodology used to allocate ultimate losses to each of the college and universities contained in the Other Colleges and Universities group. This methodology is discussed in the Overview section of this report.

Summary Exhibit 10 Page 2 shows the estimated loss costs for indemnity and medical combined for each college and university. The loss costs are calculated by dividing the sum of the estimated ultimate indemnity and medical losses on Page 4 by the payroll figures on Page 3.

Summary Exhibit 10 Page 3 shows the historical payrolls for each college and university.

Summary Exhibit 10 Page 4 shows the estimated ultimate indemnity and medical losses for each college and university. The estimated ultimate losses are calculated by multiplying the cumulative paid indemnity and medical losses on Page 5 by the Age-to-Ultimate LDF's shown on Page 4.

Summary Exhibit 10 Page 5 shows the historical cumulative indemnity and medical payments for each college and university.

Summary Exhibit 10 Page 6 shows the current fiscal year indemnity and medical payments for each college and university.

Pages in Exhibits 1 and 2 of Sections 1 through 8

Page 1 shows the selected ultimate losses by accident year. A high and low selection is made for each accident year based on a review of the actuarial methods presented. Outstanding losses based on the low and high estimates are also calculated. The outstanding loss estimate equals the selected ultimate loss minus paid losses to date.

Page 2 shows the application of the Paid Loss Development Method to the applicable data. The number of paid counts in the last 12 months, average outstanding claim amounts, and the average age for claimants that had an indemnity payment within the last calendar year are also shown.

Page 3 shows the application of the Paid Bornhuetter-Ferguson Method to the applicable data. The ultimate loss cost resulting from the method is also shown.

Page 4 calculates the initial expected loss rate, which is used as the a priori loss rate in the B-F method. Expected ultimate losses from the Paid Loss Development Method are divided by payroll for each accident year. The resulting loss rates are trended to the current cost and wage level and adjusted for historical changes in benefit levels. A current loss cost is then selected.

Page 5 shows the application of the methodology used to estimate ultimate losses for periods 7/1/1981-82 and prior. This methodology is described in the Actuarial Analysis section of this report.

Page 6 shows the derivation of the selected trend using the applicable data for each section. The selected trend is used in the methodology for estimating the 7/1/1981-82 and prior reserves.

Page 7 shows the paid loss development triangle and selected LDF's underlying the paid loss development and paid B-F methods.

Page 8 shows the comparison of the selected ultimate losses to the selection from the prior actuarial reserve review. The changes in ultimates are shown on an absolute and percentage change basis.

Page 9 calculates the estimated ultimate lump sum payments. Two methodologies are reviewed and an estimate of the ultimate lump sum payments by accident year is made. The two methods are described in the Actuarial Analysis section of this report. A comparison to the prior ultimate lump sum selection is also shown.

Pages 10 through 12 show various lump sum development triangles underlying the lump sum methodology on Page 9. Incremental lump sum payments (in 12 month intervals) are accumulated to derive a cumulative lump sum payment triangle (Page 10). Page 11 shows the incremental lump sum payments as a percent of ultimate indemnity loss excluding lump sum payments. Page 12 shows the selection of the LDF's for the cumulative lump sum payment triangle.

Page 13 calculates the discount factors based on the selected payout patterns from Page 7. Discount factors are calculated assuming 4% and 6% interest rates.

Pages 14 and 15 show the application of the discount factors from Page 13 to the outstanding losses from Page 1. Page 14 shows the discounted outstanding losses at 4%; Page 15 shows them at 6%.

Page 16 estimates the percentage of reserve estimates which can be considered short-term; i.e., projected payments associated with the reserves which will be made over the next calendar period

Additional MassDOT Pages in Exhibits 1 and 2 of Section 8 ONLY

Page MassDOT FY2012 shows the results of the methodology used to allocate outstanding reserve liability to the MassDOT (excl. MTA) and Non-MassDOT agencies. This methodology is discussed in the Overview section of this report. This page utilizes the results of the previous actuarial analysis performed in 2012 and based on loss data valued as of 6/30/12.

Page MassDOT FY2013 shows the results of the methodology used to allocate outstanding reserve liability to the MassDOT (excl. MTA) and Non-MassDOT agencies. This methodology is discussed in the Overview section of this report. This page utilizes the results of the current actuarial analysis, based on data valued as of 6/30/13.

IX. Exhibits

Commonwealth of Massachusetts
Workers Compensation
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Commonwealth of Massachusetts
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Summary of Reserve Estimates - Undiscounted

Cluster	Cluster #	Report Section	Loss Reserve Estimate Low End	Loss Reserve Estimate High End
Department of Mental Retardation	1	Section 2		
Indemnity			27,297,393	33,154,624
Medical			2,662,711	4,490,531
Total			29,960,104	37,645,154
Department of Mental Health	2	Section 3		
Indemnity			21,528,021	26,781,037
Medical			3,501,925	4,068,378
Total			25,029,946	30,849,415
Department of Corrections	3	Section 4		
Indemnity			46,129,953	65,694,092
Medical			11,353,468	16,805,675
Total			57,483,422	82,499,767
UMass - Amherst	4	Section 5		
Indemnity			5,616,719	8,847,053
Medical			1,488,035	1,697,746
Total			7,104,754	10,544,799
UMass - Medical School	4	Section 6		
Indemnity			2,935,999	4,174,473
Medical			786,379	1,345,364
Total			3,722,378	5,519,836
Other Colleges & Universities	4	Section 7		
Indemnity			13,133,915	16,329,767
Medical			2,606,194	3,018,941
Total			15,740,109	19,348,708
All Others	5-17 & 95	Section 8		
Indemnity			159,449,119	189,638,560
Medical			23,954,119	32,858,526
Total			183,403,238	222,497,086
Grand Total		Section 1		
Indemnity			276,091,119	344,619,604
Medical			46,352,833	64,285,162
Total			322,443,952	408,904,766

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Summary of Reserve Estimates - Discounted at 4%

Cluster	Cluster #	Report Section	Loss Reserve Estimate Low End	Loss Reserve Estimate High End
Department of Mental Retardation	1	Section 2		
Indemnity			21,552,229	26,531,421
Medical			2,218,203	3,736,995
Total			23,770,431	30,268,415
Department of Mental Health	2	Section 3		
Indemnity			16,442,081	20,731,922
Medical			2,760,159	3,206,189
Total			19,202,240	23,938,110
Department of Corrections	3	Section 4		
Indemnity			34,473,102	49,593,431
Medical			8,632,080	12,961,085
Total			43,105,182	62,554,516
UMass - Amherst	4	Section 5		
Indemnity			4,309,015	6,959,929
Medical			1,239,112	1,410,862
Total			5,548,127	8,370,791
UMass - Medical School	4	Section 6		
Indemnity			2,410,727	3,436,111
Medical			681,577	1,150,823
Total			3,092,304	4,586,934
Other Colleges & Universities	4	Section 7		
Indemnity			10,644,259	13,281,793
Medical			2,192,305	2,548,385
Total			12,836,565	15,830,178
All Others	5-17 & 95	Section 8		
Indemnity			115,519,064	139,206,008
Medical			18,399,559	25,116,409
Total			133,918,623	164,322,417
Grand Total		Section 1		
Indemnity			205,350,477	259,740,614
Medical			36,122,996	50,130,747
Total			241,473,472	309,871,361

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Summary of Reserve Estimates - Discounted at 6%

Cluster	Cluster #	Report Section	Loss Reserve Estimate Low End	Loss Reserve Estimate High End
Department of Mental Retardation	1	Section 2		
Indemnity			19,633,401	24,287,047
Medical			2,061,472	3,474,953
Total			21,694,873	27,762,000
Department of Mental Health	2	Section 3		
Indemnity			14,758,516	18,706,609
Medical			2,507,395	2,912,461
Total			17,265,911	21,619,070
Department of Corrections	3	Section 4		
Indemnity			30,661,928	44,307,199
Medical			7,730,889	11,693,222
Total			38,392,817	56,000,420
UMass - Amherst	4	Section 5		
Indemnity			3,865,349	6,300,313
Medical			1,149,890	1,308,133
Total			5,015,239	7,608,446
UMass - Medical School	4	Section 6		
Indemnity			2,224,641	3,167,830
Medical			641,026	1,076,007
Total			2,865,667	4,243,837
Other Colleges & Universities	4	Section 7		
Indemnity			9,724,507	12,148,203
Medical			2,038,756	2,373,772
Total			11,763,262	14,521,975
All Others	5-17 & 95	Section 8		
Indemnity			101,500,778	122,931,217
Medical			16,543,433	22,541,504
Total			118,044,211	145,472,722
Grand Total		Section 1		
Indemnity			182,369,120	231,848,418
Medical			32,672,860	45,380,052
Total			215,041,980	277,228,470

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Summary of Change in Ultimate Loss (excluding current Fiscal Year)

Cluster	Cluster #	Report Section	Current Ult Loss Estimate less Previous Ult Loss Estimate	
			Low End	High End
Department of Mental Retardation	1	Section 2		
Indemnity			1,554,767	1,589,153
Medical			(461,568)	(527,328)
Total			1,093,198	1,061,825
Department of Mental Health	2	Section 3		
Indemnity			(501,382)	(643,832)
Medical			(232,772)	(246,677)
Total			(734,155)	(890,509)
Department of Corrections	3	Section 4		
Indemnity			(5,090,456)	(8,028,500)
Medical			(1,261,009)	(2,261,881)
Total			(6,351,465)	(10,290,381)
UMass - Amherst	4	Section 5		
Indemnity			(664,727)	(800,207)
Medical			(116,350)	(156,284)
Total			(781,076)	(956,491)
UMass - Medical School	4	Section 6		
Indemnity			(442,000)	(445,331)
Medical			(101,000)	(120,200)
Total			(543,000)	(565,531)
Other Colleges & Universities	4	Section 7		
Indemnity			1,349,454	1,376,909
Medical			107,304	29,448
Total			1,456,758	1,406,357
All Others	5-17 & 95	Section 8		
Indemnity			(411,805)	(4,630,139)
Medical			502,901	(971,816)
Total			91,096	(5,601,955)
Grand Total		Section 1		
Indemnity			(4,206,149)	(11,581,947)
Medical			(1,562,494)	(4,254,737)
Total			(5,768,643)	(15,836,684)

Commonwealth of Massachusetts
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Summary of Estimates for 2012-13 Fiscal Year

Cluster	Cluster #	Report Section	Ultimate Loss Estimate Low End	Ultimate Loss Estimate High End	Average	Payroll (000)	Loss Rate
Department of Mental Retardation	1	Section 2					
Indemnity			3,869,000	4,090,000			
Medical			1,029,000	1,466,000			
Total			4,898,000	5,556,000	5,227,000	301,541	1.733
Department of Mental Health	2	Section 3					
Indemnity			3,008,000	3,201,000			
Medical			927,000	1,001,000			
Total			3,935,000	4,202,000	4,068,500	189,252	2.150
Department of Corrections	3	Section 4					
Indemnity			6,598,000	10,272,000			
Medical			1,856,000	3,026,100			
Total			8,454,000	13,298,100	10,876,050	368,022	2.955
UMass - Amherst	4	Section 5					
Indemnity			1,389,000	1,929,000			
Medical			603,000	625,000			
Total			1,992,000	2,554,000	2,273,000	495,398	0.459
UMass - Medical School	4	Section 6					
Indemnity			885,000	992,000			
Medical			371,000	462,000			
Total			1,256,000	1,454,000	1,355,000	384,763	0.352
Other Colleges & Universities	4	Section 7					
Indemnity			3,434,000	3,633,000			
Medical			1,068,000	1,289,000			
Total			4,502,000	4,922,000	4,712,000	1,284,741	0.367
All Others	5-17 & 95	Section 8					
Indemnity			27,007,000	28,521,000			
Medical			7,400,000	9,085,000			
Total			34,407,000	37,606,000	36,006,500	3,138,905	1.147
Grand Total		Section 1					
Indemnity			46,190,000	52,638,000			
Medical			13,254,000	16,954,100			
Total			59,444,000	69,592,100	64,518,050	6,162,621	1.047

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Summary of Reserve Estimates by Cluster

Cluster	Cluster / Report Section	Undiscounted Low End	Undiscounted High End	Discounted at 4% Low End	Discounted at 4% High End	Discounted at 6% Low End	Discounted at 6% High End
DMR	1 / 2	29,960,104	37,645,154	23,770,431	30,268,415	21,694,873	27,762,000
DMH	2 / 3	25,029,946	30,849,415	19,202,240	23,938,110	17,265,911	21,619,070
DOC	3 / 4	57,483,422	82,499,767	43,105,182	62,554,516	38,392,817	56,000,420
UMass - Amherst	4 / 5	7,104,754	10,544,799	5,548,127	8,370,791	5,015,239	7,608,446
UMass - Medical	4 / 6	3,722,378	5,519,836	3,092,304	4,586,934	2,865,667	4,243,837
Other Colleges & Universities	4 / 7	15,740,109	19,348,708	12,836,565	15,830,178	11,763,262	14,521,975
All Other Dept's (incl. MassDOT, excl. MTA)	5 / 8	183,403,238	222,497,086	133,918,623	164,322,417	118,044,211	145,472,722
Total		322,443,952	408,904,766	241,473,472	309,871,361	215,041,980	277,228,470

All Other Departments	Cluster / Report Section	Undiscounted Low End	Undiscounted High End	Discounted at 4% Low End	Discounted at 4% High End	Discounted at 6% Low End	Discounted at 6% High End
MassDOT Agencies (excl. MTA)	5 / 8	13,183,340	16,137,063	9,634,837	11,923,640	8,495,797	10,557,957
Non-MassDOT Agencies	5 / 8	170,219,898	206,360,023	124,283,786	152,398,776	109,548,413	134,914,764

Commonwealth of Massachusetts
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Reserve Analysis at June 30, 2013

Summary of Reserve Estimates by College

	Undiscounted		Discounted at 4%		Discounted at 6%	
Cluster	Low End	High End	Low End	High End	Low End	High End
Berkshire Community College	172,293	211,793	140,511	173,279	128,762	158,959
Bridgewater State College	1,092,009	1,342,365	890,569	1,098,258	816,106	1,007,498
Bristol Community College	363,825	447,236	296,711	365,907	271,902	335,668
Bunker Hill Community College	433,480	532,860	353,517	435,960	323,958	399,933
Cape Cod Community College	253,297	311,368	206,572	254,746	189,300	233,694
Fitchburg State College	744,531	915,224	607,189	748,792	556,420	686,912
Framingham State College	507,423	623,756	413,820	510,327	379,219	468,154
Greenfield Community College	121,600	149,478	99,169	122,296	90,877	112,189
Holyoke Community College	321,498	395,205	262,192	323,338	240,269	296,617
Mass Bay Community College	157,332	193,402	128,309	158,232	117,581	145,156
Mass College of Art	471,055	579,050	384,161	473,751	352,040	434,600
Mass Maritime Academy	682,698	839,214	556,762	686,604	510,210	629,864
Massachusetts College of Liberal Arts	264,188	324,756	215,454	265,700	197,439	243,743
Massasoit Community College	657,030	807,661	535,829	660,789	491,027	606,182
Middlesex Community College	363,249	446,528	296,241	365,328	271,472	335,137
Mt Wachusett Community College	398,434	489,780	324,936	400,714	297,767	367,599
North Essex Community College	235,220	289,147	191,830	236,566	175,790	217,016
North Shore Community College	341,936	420,329	278,860	343,893	255,544	315,474
Quinsigamond Community College	438,519	539,055	357,627	441,029	327,725	404,582
Roxbury Community College	241,248	296,556	196,745	242,628	180,295	222,577
Salem State College	975,859	1,199,585	795,844	981,443	729,301	900,336
Springfield Tech Community College	1,028,998	1,264,907	839,181	1,034,886	769,015	949,363
UMass (Boston)	1,253,490	1,540,867	1,022,261	1,260,663	936,787	1,156,482
UMass (Dartmouth)	1,312,865	1,613,854	1,070,683	1,320,377	981,161	1,211,262
University of Lowell	1,539,688	1,892,679	1,255,665	1,548,499	1,150,675	1,420,531
Westfield State College	856,052	1,052,312	698,138	860,951	639,765	789,802
Worcester State College	512,290	629,739	417,789	515,222	382,857	472,644
Total	15,740,109	19,348,708	12,836,565	15,830,178	11,763,262	14,521,975

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Total Indemnity (Including Lump Sums) + Medical

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Pd Loss Including Lump Sum	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		99,346,096			116,855,222	127,168,558	17,509,126	27,822,462		
6/30/82-83		17,951,311	19,304,307		18,885,074	19,860,823	933,763	1,909,511		
6/30/83-84		25,813,638	28,535,861		28,022,273	29,396,227	2,208,635	3,582,589		
6/30/84-85	1,823,085	38,754,498	42,903,091	39,962,466	40,239,124	42,365,314	1,484,626	3,610,816	2.207	2.324
6/30/85-86	1,952,445	51,743,311	57,666,490	53,722,180	54,500,197	56,116,202	2,756,886	4,372,890	2.791	2.874
6/30/86-87	2,220,820	57,437,027	62,529,235	60,070,673	59,414,562	61,887,028	1,977,536	4,450,001	2.675	2.787
6/30/87-88	2,885,583	82,901,411	91,338,269	87,584,831	88,006,866	90,473,994	5,105,455	7,572,583	3.050	3.135
6/30/88-89	3,098,180	81,860,342	88,486,400	86,803,782	87,229,804	89,392,024	5,369,462	7,531,682	2.816	2.885
6/30/89-90	3,079,763	78,902,219	85,133,337	84,649,930	83,668,261	85,407,346	4,766,042	6,505,127	2.717	2.773
6/30/90-91	2,914,364	65,477,543	75,040,558	71,225,594	69,939,725	74,367,696	4,462,182	8,890,153	2.400	2.552
6/30/91-92	2,880,434	44,128,376	48,740,978	48,029,364	47,777,823	49,086,333	3,649,448	4,957,957	1.659	1.704
6/30/92-93	2,887,238	30,240,922	34,272,998	33,416,250	33,045,124	34,639,630	2,804,202	4,398,708	1.145	1.200
6/30/93-94	3,056,850	32,680,548	36,880,842	36,331,284	35,996,000	37,097,000	3,315,452	4,416,452	1.178	1.214
6/30/94-95	3,158,808	29,898,090	33,849,103	33,667,606	33,591,423	34,362,476	3,693,332	4,464,386	1.063	1.088
6/30/95-96	3,301,791	28,374,742	32,553,167	32,481,202	32,167,029	32,957,516	3,792,287	4,582,774	0.974	0.998
6/30/96-97	3,902,868	28,860,810	33,425,909	33,379,934	33,289,684	34,014,912	4,428,875	5,154,102	0.853	0.872
6/30/97-98	3,776,138	31,425,506	36,528,249	36,456,540	36,374,642	37,063,906	4,949,135	5,638,400	0.963	0.982
6/30/98-99	4,017,530	29,396,399	34,889,262	34,849,797	34,844,000	35,546,000	5,447,601	6,149,601	0.867	0.885
6/30/99-00	4,221,786	33,215,564	40,322,183	40,205,666	40,201,000	41,016,000	6,985,436	7,800,436	0.952	0.972
6/30/00-01	4,310,725	38,879,135	47,677,301	47,477,558	46,801,563	48,356,000	7,922,428	9,476,865	1.086	1.122
6/30/01-02	4,438,755	34,332,143	43,076,916	42,981,134	42,973,000	43,812,000	8,640,857	9,479,857	0.968	0.987
6/30/02-03	4,423,888	33,761,209	43,151,774	43,071,685	42,400,782	43,886,000	8,639,573	10,124,791	0.958	0.992
6/30/03-04	4,482,207	33,702,710	43,579,684	43,535,123	42,880,694	44,394,400	9,177,983	10,691,690	0.957	0.990
6/30/04-05	4,639,517	35,199,405	46,812,456	45,861,433	45,002,000	47,103,200	9,802,595	11,903,795	0.970	1.015
6/30/05-06	4,938,165	30,738,273	42,086,752	43,317,822	41,465,000	43,615,900	10,726,727	12,877,627	0.840	0.883
6/30/06-07	5,183,126	28,465,514	40,587,061	42,912,571	39,700,000	43,384,100	11,234,486	14,918,586	0.766	0.837
6/30/07-08	5,508,425	30,735,387	46,793,458	49,011,411	45,712,000	49,207,200	14,976,613	18,471,813	0.830	0.893
6/30/08-09	5,447,676	29,358,749	48,043,538	49,885,475	47,649,000	50,935,050	18,290,251	21,576,301	0.875	0.935
6/30/09-10	5,525,579	26,593,962	48,687,616	51,306,569	48,357,000	53,103,950	21,763,038	26,509,988	0.875	0.961
6/30/10-11	5,712,303	26,307,686	57,266,458	57,999,911	55,501,000	61,141,750	29,193,314	34,834,064	0.972	1.070
6/30/11-12	5,880,714	19,325,688	56,626,280	59,153,196	55,299,000	62,943,050	35,973,312	43,617,362	0.940	1.070
6/30/12-13	6,162,621	8,980,703	59,852,917	65,548,827	59,444,000	69,592,100	50,463,297	60,611,397	0.965	1.129
Total	115,831,383	1,264,788,918	1,506,642,448	1,454,899,816	1,587,232,870	1,673,693,684	322,443,952	408,904,766		
Tot 6/30/84-13	115,831,383	1,121,677,872	1,458,802,281	1,454,899,816	1,423,470,301	1,497,268,076	301,792,429	375,590,204	1.229	1.293

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) - (9) = Sum of Summary Exhibit 8, Pages 2-8

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Retardation - Cluster 1
Total Indemnity (Including Lump Sums) + Medical

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Pd Loss Including Lump Sum	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		21,515,229			26,510,466	28,781,955	4,995,237	7,266,725		
6/30/82-83		4,924,567	5,411,307		5,283,141	5,547,976	358,575	623,409		
6/30/83-84		9,433,111	11,141,883		10,948,883	11,379,189	1,515,772	1,946,078		
6/30/84-85	181,560	7,574,627	7,766,302	7,771,953	7,650,555	7,726,194	75,928	151,567	4.214	4.255
6/30/85-86	195,247	11,874,262	12,293,617	12,287,688	12,201,000	12,305,000	326,739	430,739	6.249	6.302
6/30/86-87	224,370	15,376,859	16,011,696	16,023,361	15,665,316	15,819,280	288,457	442,421	6.982	7.051
6/30/87-88	262,864	21,689,895	24,524,451	22,720,409	22,717,000	23,624,000	1,027,105	1,934,105	8.642	8.987
6/30/88-89	283,884	23,761,396	25,046,302	25,044,909	25,044,000	25,048,000	1,282,604	1,286,604	8.822	8.823
6/30/89-90	285,078	18,652,055	19,736,903	19,868,295	18,838,608	19,025,426	186,552	373,370	6.608	6.674
6/30/90-91	267,732	13,761,288	14,667,096	14,660,458	13,934,000	14,042,000	172,712	280,712	5.204	5.245
6/30/91-92	261,442	9,903,252	10,627,447	10,617,945	10,618,000	10,628,000	714,748	724,748	4.061	4.065
6/30/92-93	259,992	5,944,602	6,394,768	6,388,072	6,031,000	6,074,000	86,398	129,398	2.320	2.336
6/30/93-94	257,062	4,764,163	5,145,404	5,140,004	4,870,000	4,906,000	105,837	141,837	1.894	1.908
6/30/94-95	255,854	3,009,043	3,251,423	3,251,744	3,251,000	3,252,000	241,957	242,957	1.271	1.271
6/30/95-96	255,539	4,009,037	4,366,180	4,360,744	4,361,000	4,366,000	351,963	356,963	1.707	1.709
6/30/96-97	270,071	3,349,599	3,651,607	3,651,245	3,651,000	3,652,000	301,401	302,401	1.352	1.352
6/30/97-98	245,367	3,333,829	3,688,387	3,683,485	3,684,000	3,704,000	350,171	370,171	1.501	1.510
6/30/98-99	251,453	2,979,048	3,306,935	3,306,679	3,307,000	3,320,000	327,952	340,952	1.315	1.320
6/30/99-00	255,641	3,071,420	3,456,491	3,453,502	3,453,000	3,472,000	381,580	400,580	1.351	1.358
6/30/00-01	263,918	4,468,567	5,085,635	5,065,548	5,065,000	5,113,000	596,433	644,433	1.919	1.937
6/30/01-02	267,598	3,070,476	3,521,627	3,521,732	3,522,000	3,539,000	451,524	468,524	1.316	1.323
6/30/02-03	274,465	3,772,766	4,411,252	4,399,355	4,399,000	4,429,000	626,234	656,234	1.603	1.614
6/30/03-04	272,384	3,843,509	4,558,201	4,542,825	4,543,000	4,577,000	699,491	733,491	1.668	1.680
6/30/04-05	273,647	3,664,797	4,374,597	4,296,122	4,246,000	4,375,000	581,203	710,203	1.552	1.599
6/30/05-06	285,139	3,620,768	4,560,823	4,511,016	4,460,000	4,561,000	839,232	940,232	1.564	1.600
6/30/06-07	298,516	3,638,855	4,644,498	4,619,713	4,562,000	4,645,000	923,145	1,006,145	1.528	1.556
6/30/07-08	314,231	2,288,507	3,173,734	3,546,322	3,124,000	3,546,000	835,493	1,257,493	0.994	1.128
6/30/08-09	302,998	3,006,108	4,257,082	4,410,494	4,125,000	4,480,000	1,118,892	1,473,892	1.361	1.479
6/30/09-10	297,252	3,686,390	5,595,429	5,365,362	5,237,000	5,666,000	1,550,610	1,979,610	1.762	1.906
6/30/10-11	292,432	2,647,412	4,701,714	4,733,226	4,575,000	4,798,000	1,927,588	2,150,588	1.564	1.641
6/30/11-12	295,908	2,405,166	5,713,153	5,372,908	5,292,000	5,794,000	2,886,834	3,388,834	1.788	1.958
6/30/12-13	301,541	1,066,263	5,232,921	5,265,227	4,898,000	5,556,000	3,831,737	4,489,737	1.624	1.843
Total	7,753,185	230,106,865	240,318,866	221,880,342	260,066,969	267,752,019	29,960,104	37,645,154		
Tot 6/30/84-13	7,753,185	194,233,958	223,765,676	221,880,342	217,324,479	222,042,900	23,090,521	27,808,941	2.803	2.864

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) - (9) = Sum of Section 2, Exhibit 1, Page 1 + Section 2, Exhibit 2, Page 1

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Total Indemnity (Including Lump Sums) + Medical

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Pd Loss Including Lump Sum	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		20,194,958			23,843,056	25,241,854	3,648,097	5,046,895		
6/30/82-83		2,699,624	2,781,576		2,715,527	2,849,022	15,904	149,398		
6/30/83-84		2,864,047	3,082,948		3,011,183	3,156,836	147,137	292,789		
6/30/84-85	142,561	4,613,624	5,192,120	4,775,370	4,775,000	5,193,000	161,376	579,376	3.349	3.643
6/30/85-86	153,298	4,891,866	5,158,919	5,146,664	5,146,000	5,159,000	254,134	267,134	3.357	3.365
6/30/86-87	176,136	6,911,248	7,333,591	7,342,877	7,054,000	7,178,000	142,752	266,752	4.005	4.075
6/30/87-88	206,319	13,190,451	14,611,283	14,007,962	14,365,835	14,611,000	1,175,384	1,420,549	6.963	7.082
6/30/88-89	222,806	14,107,510	15,703,939	15,091,347	15,458,941	15,704,000	1,351,430	1,596,490	6.938	7.048
6/30/89-90	223,751	13,407,766	15,017,623	14,449,437	14,421,000	15,009,000	1,013,234	1,601,234	6.445	6.708
6/30/90-91	210,162	9,517,613	10,656,220	10,345,249	9,816,000	9,971,000	298,387	453,387	4.671	4.744
6/30/91-92	205,241	5,520,540	5,995,921	5,991,966	5,674,000	5,771,000	153,460	250,460	2.765	2.812
6/30/92-93	176,705	4,598,540	5,022,353	5,016,251	5,016,000	5,023,000	417,460	424,460	2.839	2.843
6/30/93-94	173,075	3,041,833	3,373,642	3,369,713	3,369,000	3,373,000	327,167	331,167	1.947	1.949
6/30/94-95	178,317	3,654,497	4,215,179	4,089,308	4,090,000	4,215,000	435,503	560,503	2.294	2.364
6/30/95-96	175,996	2,722,573	3,024,195	3,023,441	2,808,000	2,848,000	85,427	125,427	1.595	1.618
6/30/96-97	190,083	2,096,483	2,331,553	2,338,654	2,332,000	2,338,000	235,517	241,517	1.227	1.230
6/30/97-98	177,278	3,418,294	3,858,027	3,849,935	3,849,000	3,858,000	430,706	439,706	2.171	2.176
6/30/98-99	189,080	2,329,661	2,627,106	2,633,476	2,627,000	2,633,000	297,339	303,339	1.389	1.393
6/30/99-00	194,494	2,912,093	3,320,264	3,322,405	3,320,000	3,322,000	407,907	409,907	1.707	1.708
6/30/00-01	201,568	4,042,597	4,672,766	4,658,585	4,575,700	4,673,000	533,103	630,403	2.270	2.318
6/30/01-02	203,105	3,222,468	3,768,156	3,765,137	3,764,000	3,769,000	541,532	546,532	1.853	1.856
6/30/02-03	202,515	2,587,438	3,047,521	3,059,417	3,048,000	3,059,000	460,562	471,562	1.505	1.511
6/30/03-04	189,588	4,489,580	5,467,265	5,433,746	5,433,000	5,468,000	943,420	978,420	2.866	2.884
6/30/04-05	186,990	3,603,244	4,437,977	4,295,915	4,296,000	4,438,000	692,756	834,756	2.297	2.373
6/30/05-06	193,254	2,637,370	3,304,473	3,423,567	3,301,000	3,427,000	663,630	789,630	1.708	1.773
6/30/06-07	203,359	2,719,958	3,610,765	3,653,674	3,611,000	3,654,000	891,042	934,042	1.776	1.797
6/30/07-08	212,083	2,187,069	2,996,917	3,289,417	2,997,000	3,290,000	809,931	1,102,931	1.413	1.551
6/30/08-09	204,679	2,359,316	3,388,942	3,575,898	3,388,000	3,576,000	1,028,684	1,216,684	1.655	1.747
6/30/09-10	184,688	1,646,115	2,581,968	2,939,605	2,720,000	2,939,000	1,073,885	1,292,885	1.473	1.591
6/30/10-11	169,689	2,127,074	3,787,192	3,616,852	3,617,000	3,924,000	1,489,926	1,796,926	2.132	2.312
6/30/11-12	177,399	1,655,778	3,642,147	3,560,502	3,509,000	3,833,000	1,853,222	2,177,222	1.978	2.161
6/30/12-13	189,252	885,068	3,976,035	4,008,863	3,935,000	4,202,000	3,049,932	3,316,932	2.079	2.220
Total	5,513,472	156,856,296	161,988,583	154,075,236	181,886,242	187,705,711	25,029,946	30,849,415		
Tot 6/30/84-13	5,513,472	131,097,667	156,124,059	154,075,236	152,316,476	156,458,000	21,218,808	25,360,333	2.763	2.838

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) - (9) = Sum of Section 3, Exhibit 1, Page 1 + Section 3, Exhibit 2, Page 1

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Total Indemnity (Including Lump Sums) + Medical

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Pd Loss Including Lump Sum	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		4,460,600			5,820,136	7,382,879	1,359,536	2,922,279		
6/30/82-83		2,912,565	3,250,640		3,169,006	3,253,737	256,441	341,172		
6/30/83-84		2,135,674	2,202,496		2,142,876	2,217,893	7,202	82,219		
6/30/84-85	115,258	4,336,200	5,634,229	4,446,668	4,808,091	5,044,000	471,891	707,800	4.172	4.376
6/30/85-86	123,937	6,962,379	9,748,260	7,178,563	8,067,066	8,466,000	1,104,687	1,503,621	6.509	6.831
6/30/86-87	142,396	4,532,161	4,715,969	4,724,941	4,716,000	4,725,000	183,839	192,839	3.312	3.318
6/30/87-88	166,792	7,243,711	7,839,191	7,583,234	7,580,000	7,843,000	336,289	599,289	4.545	4.702
6/30/88-89	180,117	8,408,254	9,502,260	8,768,475	8,768,000	9,502,000	359,746	1,093,746	4.868	5.275
6/30/89-90	180,883	11,011,449	11,614,233	11,605,938	11,606,000	11,614,000	594,551	602,551	6.416	6.421
6/30/90-91	169,902	12,070,585	16,557,750	13,081,925	13,081,000	16,557,000	1,010,415	4,486,415	7.699	9.745
6/30/91-92	165,926	6,177,973	6,652,004	6,651,513	6,651,000	6,653,000	473,027	475,027	4.008	4.010
6/30/92-93	174,198	4,484,717	4,854,800	4,858,342	4,854,000	4,860,000	369,283	375,283	2.786	2.790
6/30/93-94	185,946	6,385,581	7,030,963	7,029,448	7,029,000	7,031,000	643,419	645,419	3.780	3.781
6/30/94-95	194,051	7,474,126	8,355,823	8,346,732	8,346,000	8,356,000	871,874	881,874	4.301	4.306
6/30/95-96	205,262	6,575,595	7,442,720	7,439,105	7,440,000	7,443,000	864,405	867,405	3.625	3.626
6/30/96-97	234,073	7,759,294	8,792,001	8,787,463	8,787,000	8,792,000	1,027,706	1,032,706	3.754	3.756
6/30/97-98	221,865	9,959,493	11,509,863	11,466,223	11,466,000	11,510,000	1,506,507	1,550,507	5.168	5.188
6/30/98-99	256,071	9,382,359	11,035,054	11,001,176	11,001,000	11,035,000	1,618,641	1,652,641	4.296	4.309
6/30/99-00	268,486	10,193,681	12,148,887	12,100,650	12,100,000	12,149,000	1,906,319	1,955,319	4.507	4.525
6/30/00-01	279,182	13,416,775	16,224,021	16,114,226	15,519,863	16,224,000	2,103,088	2,807,225	5.559	5.811
6/30/01-02	283,070	10,808,068	13,276,499	13,218,605	13,219,000	13,276,000	2,410,932	2,467,932	4.670	4.690
6/30/02-03	289,846	10,914,565	13,559,019	13,501,249	12,846,782	13,559,000	1,932,216	2,644,435	4.432	4.678
6/30/03-04	293,771	9,874,861	12,464,370	12,429,847	11,820,694	12,464,000	1,945,833	2,589,139	4.024	4.243
6/30/04-05	291,382	10,747,763	13,839,858	13,164,520	13,165,000	13,840,000	2,417,237	3,092,237	4.518	4.750
6/30/05-06	294,709	7,903,256	10,391,766	10,534,491	10,267,000	10,659,000	2,363,744	2,755,744	3.484	3.617
6/30/06-07	289,603	6,246,667	8,476,686	9,100,625	8,774,000	9,100,000	2,527,333	2,853,333	3.030	3.142
6/30/07-08	354,668	6,025,640	8,551,372	9,962,669	9,162,000	9,962,000	3,136,360	3,936,360	2.583	2.809
6/30/08-09	332,413	5,019,641	7,505,606	9,197,277	8,154,000	9,545,000	3,134,359	4,525,359	2.453	2.871
6/30/09-10	336,338	3,028,714	4,924,169	7,946,432	6,228,000	8,249,000	3,199,286	5,220,286	1.852	2.453
6/30/10-11	333,783	3,773,801	7,220,449	9,869,153	8,232,000	10,362,350	4,458,199	6,588,549	2.466	3.105
6/30/11-12	348,187	2,015,638	5,166,303	10,146,581	7,336,000	10,653,900	5,320,362	8,638,262	2.107	3.060
6/30/12-13	368,022	885,308	5,181,113	12,664,614	8,454,000	13,298,100	7,568,692	12,412,792	2.297	3.613
Total	7,080,138	223,127,092	275,668,373	282,920,683	280,610,514	305,626,859	57,483,422	82,499,767		
Tot 6/30/84-13	7,080,138	213,618,253	270,215,238	282,920,683	269,478,495	292,772,350	55,860,242	79,154,097	3.806	4.135

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) - (9) = Sum of Section 4, Exhibit 1, Page 1 + Section 4, Exhibit 2, Page 1

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Amherst) - Cluster 4
Total Indemnity (Including Lump Sums) + Medical

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Pd Loss Including Lump Sum	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		2,241,784			2,650,821	2,781,333	409,037	539,549		
6/30/82-83		225,530	228,337		229,124	232,535	3,594	7,005		
6/30/83-84		220,938	223,911		224,907	230,112	3,969	9,174		
6/30/84-85	176,924	1,910,488	2,306,522	1,937,602	1,937,805	2,307,546	27,317	397,058	1.095	1.304
6/30/85-86	188,662	1,676,445	2,276,634	1,696,970	1,696,741	1,987,349	20,296	310,904	0.899	1.053
6/30/86-87	212,277	2,515,270	3,391,324	2,546,842	2,547,000	3,392,000	31,730	876,730	1.200	1.598
6/30/87-88	243,118	2,317,900	2,354,744	2,353,147	2,353,000	2,355,000	35,100	37,100	0.968	0.969
6/30/88-89	248,990	2,132,172	2,165,981	2,166,374	2,166,000	2,167,000	33,828	34,828	0.870	0.870
6/30/89-90	250,404	679,355	691,827	697,289	691,890	697,463	12,535	18,108	0.276	0.279
6/30/90-91	235,170	2,782,174	2,856,200	2,855,602	2,856,000	2,856,000	73,826	73,826	1.214	1.214
6/30/91-92	235,607	2,952,949	3,314,355	3,096,492	3,096,000	3,314,000	143,051	361,051	1.314	1.407
6/30/92-93	241,161	712,440	741,478	741,417	719,696	740,317	7,256	27,877	0.298	0.307
6/30/93-94	254,321	1,204,525	1,406,068	1,287,992	1,224,000	1,253,000	19,476	48,476	0.481	0.493
6/30/94-95	256,665	1,067,175	1,156,028	1,153,837	1,078,423	1,111,476	11,248	44,301	0.420	0.433
6/30/95-96	265,739	835,707	915,933	914,423	844,425	870,865	8,718	35,158	0.318	0.328
6/30/96-97	296,336	700,495	791,479	790,142	707,847	730,726	7,352	30,232	0.239	0.247
6/30/97-98	296,982	651,847	725,363	726,108	666,000	684,000	14,153	32,153	0.224	0.230
6/30/98-99	299,530	884,936	1,006,599	1,004,262	1,004,000	1,007,000	119,064	122,064	0.335	0.336
6/30/99-00	323,627	1,576,962	1,870,242	1,852,790	1,853,000	1,870,000	276,038	293,038	0.573	0.578
6/30/00-01	338,348	1,694,820	2,059,403	2,037,343	2,038,000	2,059,000	343,180	364,180	0.602	0.609
6/30/01-02	329,555	1,206,810	1,428,626	1,421,937	1,422,000	1,429,000	215,190	222,190	0.431	0.434
6/30/02-03	329,179	1,102,507	1,332,036	1,326,207	1,326,000	1,333,000	223,493	230,493	0.403	0.405
6/30/03-04	344,547	414,340	509,571	518,725	509,000	519,000	94,660	104,660	0.148	0.151
6/30/04-05	325,530	912,330	1,138,123	1,116,026	1,114,000	1,140,000	201,670	227,670	0.342	0.350
6/30/05-06	403,750	640,143	809,554	911,464	810,000	912,000	169,857	271,857	0.201	0.226
6/30/06-07	420,219	650,460	849,300	964,787	850,000	965,000	199,540	314,540	0.202	0.230
6/30/07-08	425,998	773,367	1,028,112	1,120,170	1,028,000	1,120,000	254,633	346,633	0.241	0.263
6/30/08-09	420,566	1,264,379	1,798,868	1,690,234	1,690,000	1,799,000	425,621	534,621	0.402	0.428
6/30/09-10	433,206	718,346	1,170,271	1,296,197	1,170,000	1,297,000	451,654	578,654	0.270	0.299
6/30/10-11	444,673	779,473	1,500,295	1,490,872	1,481,000	1,510,000	701,527	730,527	0.333	0.340
6/30/11-12	467,753	783,510	1,977,636	1,785,749	1,786,000	1,978,000	1,002,490	1,194,490	0.382	0.423
6/30/12-13	495,398	428,348	2,531,646	2,013,215	1,992,000	2,554,000	1,563,652	2,125,652	0.402	0.516
Total	9,204,235	38,657,924	46,556,465	43,514,213	45,762,678	49,202,722	7,104,754	10,544,799		
Tot 6/30/84-13	9,204,235	35,969,672	46,104,217	43,514,213	42,657,826	45,958,742	6,688,154	9,989,070	0.463	0.499

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) - (9) = Sum of Section 5, Exhibit 1, Page 1 + Section 5, Exhibit 2, Page 1

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Medical Center) - Cluster 4
Total Indemnity (Including Lump Sums) + Medical

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Pd Loss Including Lump Sum	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		1,455,812			1,455,812	1,455,812	0	0		
6/30/82-83		327,566	328,904		327,672	335,649	106	8,083		
6/30/83-84		1,494,800	1,500,684		1,523,932	1,553,573	29,132	58,773		
6/30/84-85	116,303	1,015,470	1,019,885	1,021,531	1,033,339	1,052,834	17,869	37,364	0.888	0.905
6/30/85-86	123,981	2,733,296	2,745,310	2,748,055	2,745,432	2,751,662	12,136	18,367	2.214	2.219
6/30/86-87	139,388	3,755,039	4,383,360	3,770,698	3,771,000	4,077,312	15,961	322,273	2.705	2.925
6/30/87-88	159,499	3,373,806	3,650,520	3,386,884	3,387,000	3,518,609	13,194	144,804	2.124	2.206
6/30/88-89	180,644	3,112,432	3,124,419	3,128,896	3,167,349	3,268,054	54,917	155,622	1.753	1.809
6/30/89-90	142,494	3,797,545	3,826,691	3,837,869	3,865,186	3,987,422	67,641	189,877	2.713	2.798
6/30/90-91	143,694	1,403,520	1,419,309	1,419,195	1,427,065	1,473,696	23,545	70,176	0.993	1.026
6/30/91-92	155,170	2,187,492	2,219,127	2,218,620	2,221,204	2,296,867	33,712	109,375	1.431	1.480
6/30/92-93	163,283	1,033,363	1,052,117	1,051,789	1,048,102	1,085,031	14,739	51,668	0.642	0.665
6/30/93-94	177,184	2,509,844	2,576,146	2,573,940	2,574,000	2,576,000	64,156	66,156	1.453	1.454
6/30/94-95	188,391	938,111	955,957	955,801	956,000	956,000	17,889	17,889	0.507	0.507
6/30/95-96	201,751	874,675	894,079	894,038	886,424	913,492	11,749	38,817	0.439	0.453
6/30/96-97	231,872	618,509	627,838	628,791	628,838	647,186	10,329	28,677	0.271	0.279
6/30/97-98	232,237	1,008,167	1,044,026	1,043,133	1,023,642	1,057,906	15,475	49,739	0.441	0.456
6/30/98-99	232,075	940,376	966,287	966,431	967,000	967,000	26,624	26,624	0.417	0.417
6/30/99-00	211,819	872,750	915,904	914,378	915,000	916,000	42,250	43,250	0.432	0.432
6/30/00-01	215,099	942,307	983,163	982,233	983,000	984,000	40,693	41,693	0.457	0.457
6/30/01-02	227,797	551,065	580,158	581,062	580,000	581,000	28,935	29,935	0.255	0.255
6/30/02-03	242,008	1,073,497	1,154,261	1,150,724	1,151,000	1,154,000	77,503	80,503	0.476	0.477
6/30/03-04	276,758	1,259,376	1,352,389	1,349,881	1,349,000	1,367,400	89,624	108,024	0.487	0.494
6/30/04-05	260,378	366,427	398,627	441,727	399,000	451,200	32,573	84,773	0.153	0.173
6/30/05-06	317,741	1,117,488	1,264,601	1,256,631	1,257,000	1,283,900	139,512	166,412	0.396	0.404
6/30/06-07	325,922	605,124	694,524	757,499	695,000	772,100	89,876	166,976	0.213	0.237
6/30/07-08	354,130	1,755,631	2,046,912	1,981,144	1,981,000	2,076,200	225,369	320,569	0.559	0.586
6/30/08-09	362,309	782,309	944,579	999,516	944,000	1,019,050	161,691	236,741	0.261	0.281
6/30/09-10	383,298	774,542	1,026,579	1,108,362	1,026,000	1,126,950	251,458	352,408	0.268	0.294
6/30/10-11	394,924	815,434	1,247,956	1,288,103	1,248,000	1,310,400	432,566	494,966	0.316	0.332
6/30/11-12	381,943	633,738	1,345,277	1,447,753	1,346,000	1,466,150	712,262	832,412	0.352	0.384
6/30/12-13	384,763	287,109	1,255,371	1,431,615	1,256,000	1,454,000	968,891	1,166,891	0.326	0.378
Total	6,926,856	44,416,618	47,544,960	45,336,298	48,138,996	49,936,454	3,722,378	5,519,836		
Tot 6/30/84-13	6,926,856	41,138,440	45,715,372	45,336,298	44,831,580	46,591,420	3,693,141	5,452,980	0.647	0.673

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) - (9) = Sum of Section 6, Exhibit 1, Page 1 + Section 6, Exhibit 2, Page 1

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Massachusetts Colleges & Universities - Cluster 4
Total Indemnity (Including Lump Sums) + Medical

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Pd Loss Including Lump Sum	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		3,351,421			3,894,078	4,094,483	542,657	743,062		
6/30/82-83		796,317	798,049		811,448	826,578	15,131	30,261		
6/30/83-84		945,504	947,429		963,997	982,491	18,493	36,987		
6/30/84-85	357,749	1,604,929	1,608,326	1,610,045	1,635,334	1,665,739	30,405	60,810	0.457	0.466
6/30/85-86	380,112	2,253,254	2,258,416	2,260,170	2,259,269	2,262,190	6,015	8,936	0.594	0.595
6/30/86-87	423,770	2,846,285	3,101,676	2,853,284	2,853,246	3,103,437	6,962	257,152	0.673	0.732
6/30/87-88	480,405	4,817,165	5,606,018	4,828,473	4,903,031	5,028,385	85,865	211,219	1.021	1.047
6/30/88-89	495,261	1,941,224	1,945,340	1,947,510	1,972,514	2,018,971	31,290	77,746	0.398	0.408
6/30/89-90	502,691	4,091,736	4,103,573	4,103,872	4,164,576	4,271,035	72,841	179,299	0.828	0.850
6/30/90-91	482,143	1,866,079	1,872,343	1,872,321	1,872,000	1,872,000	5,921	5,921	0.388	0.388
6/30/91-92	492,539	2,161,309	2,627,301	2,172,493	2,236,619	2,399,466	75,310	238,157	0.454	0.487
6/30/92-93	524,541	1,653,844	1,663,467	1,663,367	1,679,326	1,716,282	25,482	62,438	0.320	0.327
6/30/93-94	584,853	1,672,340	2,066,138	1,693,771	1,693,000	2,066,000	20,660	393,660	0.289	0.353
6/30/94-95	587,701	2,098,204	2,132,085	2,131,507	2,131,000	2,132,000	32,796	33,796	0.363	0.363
6/30/95-96	614,868	1,850,889	1,901,677	1,901,219	1,879,180	1,920,160	28,290	69,271	0.306	0.312
6/30/96-97	700,686	1,828,184	1,896,952	1,896,853	1,896,000	1,898,000	67,816	69,816	0.271	0.271
6/30/97-98	684,415	2,408,286	2,570,659	2,565,318	2,566,000	2,571,000	157,714	162,714	0.375	0.376
6/30/98-99	707,796	1,655,682	1,794,797	1,793,690	1,794,000	1,867,000	138,318	211,318	0.253	0.264
6/30/99-00	760,477	1,667,525	1,821,852	1,824,410	1,822,000	1,824,000	154,475	156,475	0.240	0.240
6/30/00-01	811,600	2,114,712	2,385,077	2,381,680	2,382,000	2,386,000	267,288	271,288	0.293	0.294
6/30/01-02	835,038	2,775,916	3,213,908	3,199,831	3,200,000	3,214,000	424,084	438,084	0.383	0.385
6/30/02-03	825,340	1,775,291	2,081,026	2,082,928	2,081,000	2,083,000	305,709	307,709	0.252	0.252
6/30/03-04	849,216	2,177,552	2,584,103	2,582,077	2,582,000	2,675,000	404,448	497,448	0.304	0.315
6/30/04-05	992,508	1,679,841	2,038,534	2,197,827	2,038,000	2,198,000	358,159	518,159	0.205	0.221
6/30/05-06	962,878	2,044,571	2,574,716	2,620,366	2,571,000	2,713,000	526,429	668,429	0.267	0.282
6/30/06-07	1,032,930	1,579,796	2,034,749	2,281,799	2,034,000	2,282,000	454,204	702,204	0.197	0.221
6/30/07-08	1,063,597	2,753,103	3,764,065	3,662,596	3,663,000	3,764,000	909,897	1,010,897	0.344	0.354
6/30/08-09	1,073,805	2,209,864	3,160,346	3,223,148	3,156,000	3,227,000	946,136	1,017,136	0.294	0.301
6/30/09-10	1,084,749	2,953,034	4,743,933	4,396,758	4,397,000	4,744,000	1,443,966	1,790,966	0.405	0.437
6/30/10-11	1,134,164	2,635,751	5,122,388	4,738,026	4,738,000	5,122,000	2,102,249	2,486,249	0.418	0.452
6/30/11-12	1,202,674	1,547,399	3,924,256	3,905,659	3,850,000	3,980,000	2,302,601	2,432,601	0.320	0.331
6/30/12-13	1,284,741	723,500	4,502,395	4,921,884	4,502,000	4,922,000	3,778,500	4,198,500	0.350	0.383
Total	21,933,246	68,480,509	82,845,595	79,312,880	84,220,618	87,829,217	15,740,109	19,348,708		
Tot 6/30/84-13	21,933,246	63,387,267	81,100,116	79,312,880	78,551,095	81,925,665	15,163,829	18,538,398	0.358	0.374

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) - (9) = Sum of Section 7, Exhibit 1, Page 1 + Section 7, Exhibit 2, Page 1

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Total Indemnity (Including Lump Sums) + Medical

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Pd Loss Including Lump Sum	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		46,126,291			52,680,854	57,430,241	6,554,562	11,303,950		
6/30/82-83		6,065,143	6,505,494		6,349,155	6,815,326	284,012	750,183		
6/30/83-84		8,719,565	9,436,510		9,206,494	9,876,133	486,929	1,156,569		
6/30/84-85	732,729	17,699,160	19,375,708	18,399,296	18,399,000	19,376,000	699,840	1,676,840	2.511	2.644
6/30/85-86	787,208	21,351,810	23,185,335	22,404,071	22,384,690	23,185,000	1,032,880	1,833,190	2.844	2.945
6/30/86-87	902,483	21,500,166	23,591,621	22,808,671	22,808,000	23,592,000	1,307,834	2,091,834	2.527	2.614
6/30/87-88	1,366,586	30,268,483	32,752,062	32,704,723	32,701,000	33,494,000	2,432,517	3,225,517	2.393	2.451
6/30/88-89	1,486,478	28,397,353	30,998,158	30,656,272	30,653,000	31,684,000	2,255,647	3,286,647	2.062	2.131
6/30/89-90	1,494,463	27,262,313	30,142,486	30,087,230	30,081,000	30,803,000	2,818,687	3,540,687	2.013	2.061
6/30/90-91	1,405,560	24,076,284	27,011,640	26,990,845	26,953,660	27,596,000	2,877,376	3,519,716	1.918	1.963
6/30/91-92	1,364,510	15,224,860	17,304,822	17,280,334	17,281,000	18,024,000	2,056,140	2,799,140	1.266	1.321
6/30/92-93	1,347,359	11,813,416	14,544,015	13,697,013	13,697,000	15,141,000	1,883,584	3,327,584	1.017	1.124
6/30/93-94	1,424,410	13,102,263	15,282,481	15,236,416	15,237,000	15,892,000	2,134,737	2,789,737	1.070	1.116
6/30/94-95	1,497,829	11,656,934	13,782,606	13,738,678	13,739,000	14,340,000	2,082,066	2,683,066	0.917	0.957
6/30/95-96	1,582,635	11,506,266	14,008,383	13,948,233	13,948,000	14,596,000	2,441,734	3,089,734	0.881	0.922
6/30/96-97	1,979,748	12,508,247	15,334,479	15,286,785	15,287,000	15,957,000	2,778,753	3,448,753	0.772	0.806
6/30/97-98	1,917,994	10,645,590	13,131,924	13,122,338	13,120,000	13,679,000	2,474,410	3,033,410	0.684	0.713
6/30/98-99	2,081,524	11,224,337	14,152,484	14,144,083	14,144,000	14,717,000	2,919,663	3,492,663	0.680	0.707
6/30/99-00	2,207,243	12,921,134	16,788,542	16,737,531	16,738,000	17,463,000	3,816,866	4,541,866	0.758	0.791
6/30/00-01	2,201,008	12,199,357	16,267,235	16,237,942	16,238,000	16,917,000	4,038,643	4,717,643	0.738	0.769
6/30/01-02	2,292,592	12,697,340	17,287,941	17,272,831	17,266,000	18,004,000	4,568,660	5,306,660	0.753	0.785
6/30/02-03	2,260,534	12,535,145	17,566,658	17,551,805	17,549,000	18,269,000	5,013,855	5,733,855	0.776	0.808
6/30/03-04	2,255,942	11,643,493	16,643,785	16,678,023	16,644,000	17,324,000	5,000,507	5,680,507	0.738	0.768
6/30/04-05	2,309,083	14,225,002	20,584,740	20,349,296	19,744,000	20,661,000	5,518,998	6,435,998	0.855	0.895
6/30/05-06	2,480,693	12,774,679	19,180,820	20,060,287	18,799,000	20,060,000	6,024,321	7,285,321	0.758	0.809
6/30/06-07	2,612,577	13,024,654	20,276,539	21,534,475	19,174,000	21,966,000	6,149,346	8,941,346	0.734	0.841
6/30/07-08	2,783,717	14,952,071	25,232,346	25,449,092	23,757,000	25,449,000	8,804,929	10,496,929	0.853	0.914
6/30/08-09	2,750,907	14,717,132	26,988,115	26,788,908	26,192,000	27,289,000	11,474,868	12,571,868	0.952	0.992
6/30/09-10	2,806,048	13,786,820	28,645,268	28,253,854	27,579,000	29,082,000	13,792,180	15,295,180	0.983	1.036
6/30/10-11	2,942,638	13,528,741	33,686,463	32,263,680	31,610,000	34,115,000	18,081,259	20,586,259	1.074	1.159
6/30/11-12	3,006,849	10,284,459	34,857,509	32,934,043	32,180,000	35,238,000	21,895,541	24,953,541	1.070	1.172
6/30/12-13	3,138,905	4,705,107	37,173,438	35,243,410	34,407,000	37,606,000	29,701,893	32,900,893	1.096	1.198
Total	57,420,250	503,143,615	651,719,606	627,860,163	686,546,853	725,640,701	183,403,238	222,497,086		
Tot 6/30/84-13	57,420,250	442,232,616	635,777,602	627,860,163	618,310,350	651,519,000	176,077,734	209,286,384	1.077	1.135

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) - (9) = Sum of Section 8, Exhibit 1, Page 1 + Section 8, Exhibit 2, Page 1

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Total Indemnity (Including Lump Sums) + Medical

Calculation of Implied Development Factors

(1)	(2)	(3)	(4)
Accident Year	Pd Loss Including Lump Sum	Implied Cumulative LDF	Selected Ult Loss Including Lump Sum
All Prior Yrs	99,346,096	1.228	122,011,890
6/30/82-83	17,951,311	1.079	19,372,948
6/30/83-84	25,813,638	1.112	28,709,250
6/30/84-85	38,754,498	1.066	41,302,219
6/30/85-86	51,743,311	1.069	55,308,199
6/30/86-87	57,437,027	1.056	60,650,795
6/30/87-88	82,901,411	1.076	89,240,430
6/30/88-89	81,860,342	1.079	88,310,914
6/30/89-90	78,902,219	1.071	84,537,803
6/30/90-91	65,477,543	1.102	72,153,710
6/30/91-92	44,128,376	1.098	48,432,078
6/30/92-93	30,240,922	1.119	33,842,377
6/30/93-94	32,680,548	1.118	36,546,500
6/30/94-95	29,898,090	1.136	33,976,950
6/30/95-96	28,374,742	1.148	32,562,273
6/30/96-97	28,860,810	1.166	33,652,298
6/30/97-98	31,425,506	1.168	36,719,274
6/30/98-99	29,396,399	1.197	35,195,000
6/30/99-00	33,215,564	1.223	40,608,500
6/30/00-01	38,879,135	1.224	47,578,781
6/30/01-02	34,332,143	1.264	43,392,500
6/30/02-03	33,761,209	1.278	43,143,391
6/30/03-04	33,702,710	1.295	43,637,547
6/30/04-05	35,199,405	1.308	46,052,600
6/30/05-06	30,738,273	1.384	42,540,450
6/30/06-07	28,465,514	1.459	41,542,050
6/30/07-08	30,735,387	1.544	47,459,600
6/30/08-09	29,358,749	1.679	49,292,025
6/30/09-10	26,593,962	1.908	50,730,475
6/30/10-11	26,307,686	2.217	58,321,375
6/30/11-12	19,325,688	3.059	59,121,025
6/30/12-13	8,980,703	7.184	64,518,050
Total	1,264,788,918		1,630,463,277

NOTES:

(2) From Summary Exhibit 8, Page 1, Column (3)

(3) = (4) / (2)

(4) From Summary Exhibit 8, Page 1, Av erage of Columns (6) and (7)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Massachusetts Colleges & Universities - Cluster 4

Allocation Methodology

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	5 Year	Initial Loss Costs		Expected Losses				5 Year	Credibility	Distribution	CURRENT Reserve Estimate		PRIOR Reserve Estimate	
Cluster	Average Payroll	Indemnity	Medical	Indemnity	Medical	Total	Credibility	Average Ult Loss	Weighted Ult Loss	of Total Losses	Low End	High End	Low End	High End
Berkshire Community College	12,875,791	0.20	0.11	25,752	14,163	39,915	20.5%	44,632	40,881	1.1%	172,293	211,793	156,000	192,226
Bridgewater State College	74,025,253	0.20	0.11	148,051	81,428	229,478	78.7%	267,112	259,107	6.9%	1,092,009	1,342,365	1,116,675	1,375,986
Bristol Community College	33,709,513	0.20	0.11	67,419	37,080	104,499	40.3%	59,372	86,327	2.3%	363,825	447,236	341,057	420,256
Bunker Hill Community College	39,115,981	0.20	0.11	78,232	43,028	121,260	66.2%	93,443	102,854	2.8%	433,480	532,860	472,043	581,660
Cape Cod Community College	17,670,340	0.20	0.11	35,341	19,437	54,778	26.1%	75,163	60,101	1.6%	253,297	311,368	202,244	249,208
Fitchburg State College	35,094,588	0.20	0.11	70,189	38,604	108,793	63.7%	215,335	176,659	4.7%	744,531	915,224	678,517	836,080
Framingham State College	35,475,572	0.20	0.11	70,951	39,023	109,974	63.9%	126,276	120,399	3.2%	507,423	623,756	553,518	682,054
Greenfield Community College	13,846,729	0.20	0.11	27,693	15,231	42,925	40.9%	8,527	28,853	0.8%	121,600	149,478	111,266	137,104
Holyoke Community College	31,001,463	0.20	0.11	62,003	34,102	96,105	38.3%	44,316	76,284	2.0%	321,498	395,205	306,613	377,813
Mass Bay Community College	21,635,495	0.20	0.11	43,271	23,799	67,070	52.0%	9,840	37,331	1.0%	157,332	193,402	203,902	251,252
Mass College of Art	26,983,646	0.20	0.11	53,967	29,682	83,649	57.4%	132,612	111,770	3.0%	471,055	579,050	362,079	446,160
Mass Maritime Academy	17,788,017	0.20	0.11	35,576	19,567	55,143	47.1%	282,118	161,987	4.3%	682,698	839,214	326,469	402,281
Massachusetts College of Liberal Arts	19,426,143	0.20	0.11	38,852	21,369	60,221	28.0%	69,028	62,685	1.7%	264,188	324,756	242,453	298,754
Massasoit Community College	31,048,821	0.20	0.11	62,098	34,154	96,251	60.8%	194,317	155,897	4.2%	657,030	807,661	642,376	791,547
Middlesex Community College	41,114,886	0.20	0.11	82,230	45,226	127,456	67.3%	66,116	86,190	2.3%	363,249	446,528	270,090	332,810
Mt Wachusett Community College	24,506,247	0.20	0.11	49,012	26,957	75,969	32.9%	132,425	94,539	2.5%	398,434	489,780	298,799	368,185
North Essex Community College	28,337,066	0.20	0.11	56,674	31,171	87,845	58.6%	33,203	55,812	1.5%	235,220	289,147	197,986	243,962
North Shore Community College	32,542,175	0.20	0.11	65,084	35,796	100,881	39.4%	50,791	81,133	2.2%	341,936	420,329	312,438	384,991
Quinsigamond Community College	34,533,093	0.20	0.11	69,066	37,986	107,053	40.9%	99,702	104,050	2.8%	438,519	539,055	472,273	581,943
Roxbury Community College	15,554,182	0.20	0.11	31,108	17,110	48,218	23.7%	86,251	57,242	1.5%	241,248	296,556	216,071	266,246
Salem State College	70,496,817	0.20	0.11	140,994	77,546	218,540	77.9%	235,237	231,547	6.2%	975,859	1,199,585	799,992	985,763
Springfield Tech Community College	30,488,076	0.20	0.11	60,976	33,537	94,513	60.4%	342,320	244,156	6.5%	1,028,998	1,264,907	944,403	1,163,710
UMass (Boston)	154,397,362	0.20	0.11	308,795	169,837	478,632	88.5%	273,949	297,422	8.0%	1,253,490	1,540,867	1,060,258	1,306,468
UMass (Dartmouth)	98,655,427	0.20	0.11	197,311	108,521	305,832	83.1%	312,662	311,510	8.3%	1,312,865	1,613,854	1,247,800	1,537,560
University of Lowell	135,355,825	0.20	0.11	270,712	148,891	419,603	87.1%	357,311	365,330	9.8%	1,539,688	1,892,679	1,144,549	1,410,333
Westfield State College	43,399,894	0.20	0.11	86,800	47,740	134,540	68.5%	234,724	203,120	5.4%	856,052	1,052,312	842,308	1,037,907
Worcester State College	36,948,365	0.20	0.11	73,897	40,643	114,540	64.9%	125,350	121,554	3.3%	512,290	629,739	425,981	524,901
Total	1,156,026,767			2,312,054	1,271,629			3,972,134	3,734,738		15,740,109	19,348,708	13,948,159	17,187,159

NOTES:

(1) Provided by Commonwealth of Massachusetts; From Summary Exhibit 10, Page 3

(2) From Section 7, Exhibit 1, Page 4

(3) From Section 7, Exhibit 2, Page 4

(4) = (1) * (2) / 100

(5) = (1) * (3) / 100

(6) = (4) + (5)

(7) = P / (P+K); where P = Column (1) and K = 20M (if CV < 1) and K = 50M (if CV > 1). CV is the Coefficient of Variation, as calculated on Summary Exhibit 10, Page 2.

(8) = The Average of Columns (2) - (6) plus The Average of Columns (8) - (12) on Summary Exhibit 10 Page 4.

(9) = (7) * (8) + [1.00 - (7)] * (6)

(10) = (9) / Total (9)

(11) = The Total from Summary Exhibit 8, Page7, Column (8), allocated according to Column (10) of this exhibit.

(12) = The Total from Summary Exhibit 8, Page7, Column (9), allocated according to Column (10) of this exhibit.

(13) & (14) From Aon analysis as of June 30, 2012

Massachusetts Colleges & Universities - Cluster 4

Estimated Loss Costs (Indemnity and Medical Combined)

	(1)	(2)	(3)	(4)	(5)	(6)
Cluster	2013	2012	2011	2010	2009	Coefficient of Variation
Berkshire Community College	0.027	0.815	0.717	0.139	0.038	1.113
Bridgewater State College	0.348	0.359	0.565	0.393	0.127	0.436
Bristol Community College	0.065	0.036	0.134	0.506	0.181	1.022
Bunker Hill Community College	0.124	0.191	0.459	0.387	0.052	0.716
Cape Cod Community College	0.593	0.143	1.337	0.079	0.007	1.285
Fitchburg State College	0.571	0.185	0.925	0.813	0.603	0.458
Framingham State College	0.600	0.211	0.363	0.564	0.009	0.707
Greenfield Community College	0.046	0.093	0.016	0.037	0.113	0.666
Holyoke Community College	0.066	0.010	0.386	0.193	0.067	1.043
Mass Bay Community College	0.022	0.095	0.030	0.072	0.008	0.811
Mass College of Art	0.465	0.266	0.933	0.097	0.708	0.679
Mass Maritime Academy	2.470	0.216	0.153	2.019	3.128	0.845
Massachusetts College of Liberal Arts	0.035	0.031	0.005	1.008	0.763	1.303
Massasoit Community College	0.293	0.673	0.626	0.917	0.666	0.351
Middlesex Community College	0.211	0.380	0.129	0.013	0.070	0.890
Mt Wachusett Community College	0.158	0.153	0.814	1.580	0.085	1.154
North Essex Community College	0.264	0.098	0.030	0.113	0.060	0.801
North Shore Community College	0.211	0.119	0.010	0.421	0.018	1.087
Quinsigamond Community College	0.832	0.307	0.079	0.052	0.061	1.253
Roxbury Community College	1.103	0.000	0.019	1.626	0.004	1.392
Salem State College	0.285	0.289	0.800	0.080	0.204	0.829
Springfield Tech Community College	0.397	0.496	1.196	1.705	1.887	0.598
UMass (Boston)	0.130	0.219	0.255	0.137	0.143	0.319
UMass (Dartmouth)	0.261	0.609	0.208	0.364	0.123	0.598
University of Lowell	0.101	0.228	0.499	0.293	0.236	0.536
Westfield State College	0.162	1.034	0.377	0.699	0.445	0.615
Worcester State College	0.563	0.070	0.161	0.474	0.420	0.627

NOTES:

(1) - (5) - Sum of Indemnity + Medical Losses from Summary Exhibit 10, Page 4 divided by Payroll from Summary Exhibit 10, Page 3.

(6) = Std Deviation / Mean of Columns (1) - (5) Used to calculate "ballast factor" (K) on Summary Exhibit 10, Page 1, Column (7).

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Massachusetts Colleges & Universities - Cluster 4

Payroll

Cluster	2013	2012	2011	2010	2009	2008	2007	2006
Berkshire Community College	13,566,121	12,961,874	12,765,728	12,608,194	12,477,038	12,992,058	11,898,851	11,571,324
Bridgewater State College	81,947,985	76,987,472	73,247,587	69,620,026	68,323,197	67,652,873	64,261,538	61,047,713
Bristol Community College	37,759,083	35,468,250	33,155,586	31,455,847	30,708,796	29,632,813	28,018,495	27,162,772
Bunker Hill Community College	45,382,743	41,205,115	38,164,922	35,956,105	34,871,020	34,997,441	33,161,774	31,541,772
Cape Cod Community College	17,989,520	17,381,338	17,148,486	17,159,865	18,672,490	16,912,998	15,950,229	15,226,570
Fitchburg State College	37,998,115	35,976,187	34,204,248	33,842,950	33,451,439	33,452,473	32,301,042	31,062,131
Framingham State College	40,576,899	37,321,481	33,532,654	32,772,606	33,174,219	33,380,388	30,833,277	29,662,046
Greenfield Community College	14,413,590	14,351,088	13,421,721	13,089,560	13,957,686	14,137,583	13,176,176	12,124,207
Holyoke Community College	32,555,311	31,361,111	30,596,223	30,303,801	30,190,866	29,693,264	27,429,195	26,202,662
Mass Bay Community College	23,421,254	22,339,575	21,205,789	20,707,657	20,503,198	19,674,504	19,109,225	17,901,584
Mass College of Art	29,531,509	28,328,979	26,762,645	25,447,450	24,847,648	24,308,780	22,974,607	21,431,467
Mass Maritime Academy	20,061,575	18,578,003	17,378,246	16,347,571	16,574,691	17,178,285	15,082,818	14,253,305
Massachusetts College of Liberal Arts	21,001,880	20,035,251	18,732,309	18,675,839	18,685,437	18,454,686	18,630,165	17,120,021
Massasoit Community College	33,406,357	31,525,419	30,340,130	28,826,366	31,145,834	29,299,579	27,145,154	26,147,478
Middlesex Community College	43,177,441	40,195,957	39,162,007	38,762,758	44,276,269	46,721,418	40,306,485	39,854,733
Mt Wachusett Community College	26,759,891	25,995,624	24,563,097	22,854,199	22,358,426	22,613,805	21,506,104	20,291,041
North Essex Community College	31,238,577	28,927,197	27,447,993	26,978,801	27,092,760	26,683,224	25,763,800	24,367,949
North Shore Community College	34,642,152	33,319,965	32,328,218	31,394,592	31,025,948	30,519,208	29,162,993	27,735,649
Quinsigamond Community College	39,013,977	36,409,993	34,059,973	32,268,537	30,912,984	29,278,660	27,416,465	26,247,469
Roxbury Community College	16,551,154	15,935,833	15,402,953	15,082,812	14,798,159	14,611,682	13,898,017	13,523,360
Salem State College	77,905,236	72,888,033	69,431,901	65,990,811	66,268,106	65,262,785	61,444,512	58,062,968
Springfield Tech Community College	31,913,074	30,853,455	29,918,442	29,428,123	30,327,286	30,213,259	28,750,170	28,506,180
UMass (Boston)	178,091,389	163,491,368	152,917,036	142,970,614	134,516,405	132,813,241	128,623,720	122,484,538
UMass (Dartmouth)	108,031,901	102,971,786	98,435,825	92,935,564	90,902,061	91,166,561	88,363,987	83,231,754
University of Lowell	158,366,477	144,359,303	131,389,765	122,995,978	119,667,601	121,369,367	119,277,790	111,802,758
Westfield State College	47,718,557	45,096,498	42,505,518	41,760,360	39,918,536	36,827,031	35,142,912	33,641,879
Worcester State College	41,719,450	38,408,159	35,944,721	34,512,511	34,156,985	33,749,525	31,849,376	30,672,750
UMass (Amherst)	495,397,824	467,753,393	444,672,991	433,205,775	420,565,863	425,998,100	420,218,656	403,750,092
UMass (Medical Center)	384,762,790	381,942,827	394,924,203	383,297,750	362,308,924	354,130,286	325,921,625	317,740,675
Total	2,164,901,832	2,052,370,532	1,973,760,916	1,901,253,022	1,856,679,871	1,843,725,875	1,757,619,156	1,684,368,848

Massachusetts Colleges & Universities - Cluster 4

Estimated Ultimate Losses

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
			Indemnity					Medical		
Cluster	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Berkshire Community College	108	13,550	62,465	76,883	0	4,605	4,014	29,089	28,787	3,660
Bridgewater State College	47,909	159,065	354,346	217,965	187,704	38,775	114,344	59,654	58,601	97,196
Bristol Community College	33,771	137,991	63	534	0	21,920	21,272	44,314	12,408	24,587
Bunker Hill Community College	7,991	106,626	110,864	51,985	32,925	10,022	32,560	64,178	26,542	23,523
Cape Cod Community College	0	-3,921	195,353	7,550	63,350	1,396	17,493	33,936	17,393	43,267
Fitchburg State College	128,955	207,162	231,207	30,161	183,499	72,650	67,986	85,274	36,399	33,380
Framingham State College	0	122,051	92,875	38,356	195,223	3,057	62,828	28,717	40,228	48,046
Greenfield Community College	5,282	0	0	8,206	0	10,462	4,884	2,083	5,147	6,571
Holyoke Community College	5,179	26,014	76,485	2,156	0	15,196	32,534	41,596	1,067	21,353
Mass Bay Community College	0	8,892	0	18,155	3,220	1,661	5,943	6,283	3,176	1,870
Mass College of Art	137,906	13,613	220,257	40,664	97,356	38,097	10,994	29,544	34,570	40,060
Mass Maritime Academy	349,383	306,429	17,185	19,471	478,821	169,028	23,568	9,320	20,611	16,776
Massachusetts College of Liberal Arts	117,302	159,603	0	0	0	25,226	28,575	932	6,204	7,299
Massasoit Community College	167,571	220,481	115,033	179,748	54,278	39,770	43,961	74,854	32,299	43,593
Middlesex Community College	15,711	0	42,806	57,956	55,962	15,331	5,126	7,563	94,920	35,207
Mt Wachusett Community College	5,118	323,800	177,946	13,750	21,852	13,972	37,338	22,038	26,014	20,299
North Essex Community College	5,743	15,441	2,501	6,494	54,800	10,496	15,172	5,628	21,990	27,753
North Shore Community College	0	81,668	0	6,994	60,340	5,734	50,551	3,253	32,763	12,654
Quinsigamond Community College	7,077	10,054	15,219	78,834	265,393	11,692	6,636	11,803	32,790	59,013
Roxbury Community College	0	230,946	8	0	173,579	550	14,264	2,946	0	8,961
Salem State College	52,252	22,265	290,148	154,377	128,627	83,106	30,593	265,145	56,000	93,674
Springfield Tech Community College	403,935	446,417	307,476	105,874	85,950	168,358	55,397	50,216	47,077	40,903
UMass (Boston)	137,170	140,528	289,162	315,003	80,050	55,724	55,979	101,234	43,206	151,689
UMass (Dartmouth)	52,356	253,723	109,867	502,376	219,036	59,331	84,244	94,567	124,540	63,267
University of Lowell	198,925	213,750	587,745	242,148	99,569	83,448	146,127	68,218	86,983	59,640
Westfield State College	146,087	213,464	76,018	270,321	31,531	31,657	78,491	84,223	195,894	45,935
Worcester State College	114,852	94,155	13,166	11,580	196,794	28,757	69,324	44,619	15,225	38,280
Total	2,140,583	3,523,765	3,388,195	2,457,537	2,769,859	1,020,020	1,120,195	1,271,227	1,100,832	1,068,456
Age to Ultimate LDF's	1.591	1.724	2.060	2.823	6.405	1.180	1.232	1.397	1.626	3.671

NOTES:

(1) - (10) - Cumualtive Paid Losses from Summary Exhibit 10, Page 5 multiplied by Age to Ultimate LDF's at the bottom of this exhibit.

Massachusetts Colleges & Universities - Cluster 4

Cumulative Paid Losses as of 6/30/13

	Indemnity					Medical				
Cluster	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Berkshire Community College	68	7,858	30,316	27,231	0	3,904	3,259	20,823	17,703	997
Bridgewater State College	30,105	92,252	171,973	77,200	29,307	32,874	92,825	42,702	36,038	26,475
Bristol Community College	21,221	80,030	31	189	0	18,584	17,269	31,721	7,631	6,697
Bunker Hill Community College	5,021	61,839	53,805	18,412	5,141	8,497	26,433	45,940	16,322	6,407
Cape Cod Community College	0	-2,274	94,810	2,674	9,891	1,183	14,201	24,292	10,696	11,785
Fitchburg State College	81,031	120,146	112,211	10,683	28,650	61,594	55,191	61,042	22,384	9,092
Framingham State College	0	70,785	45,075	13,585	30,481	2,592	51,004	20,556	24,739	13,087
Greenfield Community College	3,319	0	0	2,907	0	8,870	3,965	1,491	3,165	1,790
Holyoke Community College	3,254	15,087	37,120	764	0	12,883	26,411	29,775	656	5,816
Mass Bay Community College	0	5,157	0	6,430	503	1,408	4,825	4,498	1,953	509
Mass College of Art	86,656	7,895	106,896	14,403	15,200	32,299	8,925	21,148	21,260	10,912
Mass Maritime Academy	219,542	177,717	8,340	6,896	74,759	143,303	19,133	6,671	12,675	4,570
Massachusetts College of Liberal Arts	73,709	92,564	0	0	0	21,387	23,197	667	3,815	1,988
Massasoit Community College	105,297	127,871	55,828	63,664	8,475	33,718	35,687	53,583	19,863	11,874
Middlesex Community College	9,873	0	20,775	20,527	8,737	12,998	4,161	5,414	58,372	9,590
Mt Wachusett Community College	3,216	187,792	86,362	4,870	3,412	11,846	30,311	15,776	15,998	5,529
North Essex Community College	3,609	8,955	1,214	2,300	8,556	8,899	12,316	4,029	13,523	7,560
North Shore Community College	0	47,364	0	2,477	9,421	4,862	41,037	2,329	20,148	3,447
Quinsigamond Community College	4,447	5,831	7,386	27,922	41,436	9,913	5,387	8,449	20,165	16,075
Roxbury Community College	0	133,940	4	0	27,101	466	11,579	2,109	0	2,441
Salem State College	32,834	12,913	140,816	54,678	20,083	70,458	24,835	189,799	34,438	25,516
Springfield Tech Community College	253,821	258,906	149,226	37,499	13,420	142,735	44,971	35,946	28,951	11,142
UMass (Boston)	86,194	81,501	140,338	111,570	12,498	47,243	45,444	72,467	26,570	41,318
UMass (Dartmouth)	32,899	147,150	53,321	177,934	34,199	50,301	68,390	67,694	76,588	17,233
University of Lowell	124,999	123,967	285,247	85,766	15,546	70,748	118,626	48,833	53,491	16,245
Westfield State College	91,797	123,801	36,893	95,744	4,923	26,839	63,719	60,289	120,468	12,512
Worcester State College	72,170	54,607	6,390	4,101	30,726	24,381	56,277	31,940	9,363	10,427
Total	1,345,080	2,043,656	1,644,376	870,425	432,464	864,784	909,378	909,985	676,973	291,036

Massachusetts Colleges & Universities - Cluster 4

Fiscal Year 2013 Paid Losses

	Indemnity					Medical				
Cluster	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Berkshire Community College	0	0	3,582	27,231	0	0	0	499	14,877	997
Bridgewater State College	0	9,380	71,065	27,103	29,307	0	5,015	2,655	8,767	26,475
Bristol Community College	0	0	0	0	0	0	0	9	752	6,697
Bunker Hill Community College	0	0	0	0	5,141	0	1,831	1,659	1,880	6,407
Cape Cod Community College	0	0	63,251	0	9,891	0	9	9,166	1,627	11,785
Fitchburg State College	18,878	30,797	32,980	0	28,650	2,117	1,890	31,735	8,081	9,092
Framingham State College	0	20,779	16,917	669	30,481	0	907	2,285	7,885	13,087
Greenfield Community College	0	0	0	2,907	0	0	214	0	1,585	1,790
Holyoke Community College	0	0	0	18	0	0	101	780	550	5,816
Mass Bay Community College	0	0	0	5,106	503	0	0	0	628	509
Mass College of Art	38,738	0	48,734	0	15,200	646	0	8,842	3,802	10,912
Mass Maritime Academy	60,731	47,769	0	605	74,759	11,176	1,040	0	5,475	4,570
Massachusetts College of Liberal Arts	0	23,013	0	0	0	0	2,024	0	1,508	1,988
Massasoit Community College	41,152	4,261	26,612	37,186	8,475	0	0	10,793	6,327	11,874
Middlesex Community College	0	0	9,125	12,047	8,737	0	0	66	46,594	9,590
Mt Wachusett Community College	0	131,518	26,671	4,422	3,412	0	1,942	66	8,162	5,529
North Essex Community College	0	0	0	763	8,556	0	0	0	10,236	7,560
North Shore Community College	0	0	0	21	9,421	0	0	99	3,919	3,447
Quinsigamond Community College	0	0	0	1,197	41,436	0	0	162	6,826	16,075
Roxbury Community College	0	29,086	0	0	27,101	0	1,868	0	0	2,441
Salem State College	0	0	53,808	36,333	20,083	834	99	6,008	19,913	25,516
Springfield Tech Community College	29,289	102,924	71,493	20,043	13,420	31,575	2,999	2,146	8,473	11,142
UMass (Boston)	0	0	60,087	58,400	12,498	0	194	6,593	9,720	41,318
UMass (Dartmouth)	0	24,924	0	106,665	34,199	179	1,855	1,642	30,217	17,233
University of Lowell	0	31,647	210,064	58,557	15,546	21	15,667	9,055	26,025	16,245
Westfield State College	24,418	0	11,843	58,678	4,923	1,475	232	13,283	110,520	12,512
Worcester State College	0	26,781	-454	0	30,726	0	5,640	0	2,308	10,427
Total	213,206	482,880	705,778	457,953	432,464	48,022	43,527	107,543	346,656	291,036

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

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Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined

Indemnity

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Pd Loss Including Lump Sum	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		93,141,915			109,649,052	118,880,601	16,507,137	25,738,686		
6/30/82-83		16,714,183	18,051,444		17,643,183	18,583,267	929,000	1,869,083		
6/30/83-84		22,567,095	25,235,353		24,757,952	26,025,597	2,190,857	3,458,502		
6/30/84-85	1,823,085	35,573,280	39,661,281	36,726,295	37,003,769	39,110,574	1,430,489	3,537,294	2.030	2.145
6/30/85-86	1,952,445	46,790,591	52,611,066	48,669,866	49,468,066	51,052,086	2,677,475	4,261,495	2.534	2.615
6/30/86-87	2,220,820	51,710,727	56,671,276	54,208,520	53,563,000	56,013,312	1,852,273	4,302,584	2.412	2.522
6/30/87-88	2,885,583	73,193,225	81,359,686	77,601,371	78,033,866	80,483,994	4,840,641	7,290,769	2.704	2.789
6/30/88-89	3,098,180	69,929,603	76,194,731	74,508,127	74,939,574	77,070,799	5,009,971	7,141,196	2.419	2.488
6/30/89-90	3,079,763	66,363,642	72,156,774	71,660,124	70,757,031	72,405,797	4,393,389	6,042,154	2.297	2.351
6/30/90-91	2,914,364	53,653,638	62,738,309	58,926,497	57,676,859	62,051,914	4,023,222	8,398,276	1.979	2.129
6/30/91-92	2,880,434	33,761,904	37,954,555	37,247,771	37,020,289	38,282,685	3,258,386	4,520,781	1.285	1.329
6/30/92-93	2,887,238	22,485,020	26,155,959	25,304,109	24,935,376	26,500,946	2,450,356	4,015,926	0.864	0.918
6/30/93-94	3,056,850	24,643,039	28,399,073	27,857,191	27,523,000	28,616,000	2,879,961	3,972,961	0.900	0.936
6/30/94-95	3,158,808	23,100,684	26,610,174	26,435,539	26,365,000	27,127,000	3,264,316	4,026,316	0.835	0.859
6/30/95-96	3,301,791	21,837,007	25,541,633	25,476,196	25,172,985	25,935,891	3,335,979	4,098,885	0.762	0.786
6/30/96-97	3,902,868	22,002,927	25,969,634	25,931,044	25,846,838	26,551,286	3,843,911	4,548,359	0.662	0.680
6/30/97-98	3,776,138	25,153,864	29,634,445	29,568,373	29,487,642	30,127,556	4,333,778	4,973,692	0.781	0.798
6/30/98-99	4,017,530	22,918,042	27,650,984	27,617,691	27,612,000	28,294,000	4,693,958	5,375,958	0.687	0.704
6/30/99-00	4,221,786	25,953,462	32,106,661	32,003,050	31,999,000	32,783,000	6,045,538	6,829,538	0.758	0.777
6/30/00-01	4,310,725	30,033,720	37,540,782	37,370,902	36,776,863	38,191,000	6,743,143	8,157,280	0.853	0.886
6/30/01-02	4,438,755	27,259,025	34,861,102	34,763,683	34,763,000	35,571,000	7,503,975	8,311,975	0.783	0.801
6/30/02-03	4,423,888	26,110,244	34,054,631	33,984,053	33,454,782	34,767,000	7,344,538	8,656,756	0.756	0.786
6/30/03-04	4,482,207	25,521,779	33,726,130	33,691,895	33,170,694	34,502,000	7,648,914	8,980,221	0.740	0.770
6/30/04-05	4,639,517	25,459,739	34,673,136	34,285,545	34,024,000	34,938,000	8,564,261	9,478,261	0.733	0.753
6/30/05-06	4,938,165	22,052,516	31,122,432	32,416,902	31,079,000	32,551,000	9,026,485	10,498,485	0.629	0.659
6/30/06-07	5,183,126	19,268,427	28,448,543	31,083,576	28,725,000	31,105,000	9,456,573	11,836,573	0.554	0.600
6/30/07-08	5,508,425	22,122,062	35,154,455	37,086,400	34,650,000	37,219,000	12,527,938	15,096,938	0.629	0.676
6/30/08-09	5,447,676	20,583,010	35,712,213	37,389,832	36,215,000	37,985,000	15,631,990	17,401,990	0.665	0.697
6/30/09-10	5,525,579	18,862,650	37,253,244	39,085,390	37,562,000	40,455,000	18,699,350	21,592,350	0.680	0.732
6/30/10-11	5,712,303	18,221,996	44,030,563	44,299,056	43,172,000	46,777,000	24,950,004	28,555,004	0.756	0.819
6/30/11-12	5,880,714	12,614,112	42,933,422	44,683,467	42,535,000	47,705,000	29,920,888	35,090,888	0.723	0.811
6/30/12-13	6,162,621	6,077,573	45,319,966	49,680,044	46,190,000	52,638,000	40,112,427	46,560,427	0.750	0.854
Total	115,831,383	1,025,680,701	1,219,533,656	1,169,562,509	1,301,771,820	1,370,300,305	276,091,119	344,619,604		
Tot 6/30/84-13	115,831,383	893,257,508	1,176,246,859	1,169,562,509	1,149,721,634	1,206,810,840	256,464,126	313,553,332	0.993	1.042

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) Sum of Section 1, Exhibit 1, Page 2, Column 3 and Section 1, Exhibit 1, Page 9, Column 8

(4) From Section 1, Exhibit 1, Page 2, Column 8

(5) From Section 1, Exhibit 1, Page 3, Column 8

(6), (7) Selected based on (3), (4), and (5)

(8) = (6) - (3)

(9) = (7) - (3)

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Indemnity

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Accident Year	Payroll (000's)	Paid Loss Excluding Lump Sum	Implied Paid LDF	Adjstmnt for Extra Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/11-12	Paid Counts 7/1/12-13	Average Outstanding Claim	Average Age
All Prior Yrs		89,200,233							43	40		80
6/30/82-83		15,942,952	1.084	N/A	17,278,852	772,592	18,051,444		4	4	333,975	80
6/30/83-84		20,774,456	1.128	N/A	23,432,386	1,802,967	25,235,353		5	4	664,483	67
6/30/84-85	1,823,085	32,782,016	1.124	N/A	36,854,687	2,806,595	39,661,281	2.176	8	8	509,084	75
6/30/85-86	1,952,445	43,486,990	1.133	N/A	49,286,473	3,324,593	52,611,066	2.695	7	4	1,449,871	78
6/30/86-87	2,220,820	46,262,977	1.107	N/A	51,194,485	5,476,791	56,671,276	2.552	10	10	493,151	76
6/30/87-88	2,885,583	65,136,208	1.125	N/A	73,257,562	8,102,124	81,359,686	2.820	19	17	477,727	73
6/30/88-89	3,098,180	60,103,365	1.103	N/A	66,296,784	9,897,947	76,194,731	2.459	21	19	325,969	74
6/30/89-90	3,079,763	56,499,344	1.101	N/A	62,214,044	9,942,730	72,156,774	2.343	15	15	380,980	69
6/30/90-91	2,914,364	45,327,198	1.198	N/A	54,314,687	8,423,622	62,738,309	2.153	13	14	641,964	70
6/30/91-92	2,880,434	28,341,430	1.145	N/A	32,459,368	5,495,187	37,954,555	1.318	12	15	274,529	66
6/30/92-93	2,887,238	18,397,903	1.196	N/A	21,999,161	4,156,798	26,155,959	0.906	9	10	360,126	66
6/30/93-94	3,056,850	20,466,005	1.180	N/A	24,140,307	4,258,765	28,399,073	0.929	11	15	244,953	62
6/30/94-95	3,158,808	19,049,825	1.179	N/A	22,459,018	4,151,156	26,610,174	0.842	9	7	487,028	74
6/30/95-96	3,301,791	18,213,137	1.197	N/A	21,802,193	3,739,440	25,541,633	0.774	9	10	358,906	61
6/30/96-97	3,902,868	17,558,775	1.217	N/A	21,363,267	4,606,367	25,969,634	0.665	12	6	634,082	67
6/30/97-98	3,776,138	20,466,987	1.209	N/A	24,737,143	4,897,302	29,634,445	0.785	14	7	610,022	61
6/30/98-99	4,017,530	18,941,104	1.239	N/A	23,473,658	4,177,326	27,650,984	0.688	12	10	453,255	56
6/30/99-00	4,221,786	22,046,094	1.268	N/A	27,962,639	4,144,022	32,106,661	0.760	11	8	739,568	58
6/30/00-01	4,310,725	26,218,857	1.275	N/A	33,435,221	4,105,561	37,540,782	0.871	17	20	360,818	58
6/30/01-02	4,438,755	23,431,357	1.309	N/A	30,665,762	4,195,340	34,861,102	0.785	14	17	425,553	56
6/30/02-03	4,423,888	22,650,331	1.330	N/A	30,131,241	3,923,390	34,054,631	0.770	18	14	534,351	55
6/30/03-04	4,482,207	21,965,260	1.349	N/A	29,638,205	4,087,925	33,726,130	0.752	13	9	852,549	53
6/30/04-05	4,639,517	21,449,586	1.396	N/A	29,942,584	4,730,552	34,673,136	0.747	30	16	530,812	57
6/30/05-06	4,938,165	18,224,087	1.444	N/A	26,317,580	4,804,852	31,122,432	0.630	42	25	323,740	53
6/30/06-07	5,183,126	16,403,895	1.497	N/A	24,558,185	3,890,358	28,448,543	0.549	48	39	209,084	53
6/30/07-08	5,508,425	18,454,471	1.614	N/A	29,777,514	5,376,940	35,154,455	0.638	94	56	202,197	53
6/30/08-09	5,447,676	17,821,067	1.729	N/A	30,813,093	4,899,120	35,712,213	0.656	155	90	144,356	52
6/30/09-10	5,525,579	16,517,571	1.934	N/A	31,942,614	5,310,630	37,253,244	0.674	211	135	114,260	52
6/30/10-11	5,712,303	16,418,085	2.270	N/A	37,275,476	6,755,087	44,030,563	0.771	508	208	100,276	51
6/30/11-12	5,880,714	12,172,326	3.074	N/A	37,422,550	5,510,872	42,933,422	0.730	1,288	490	51,531	49
6/30/12-13	6,162,621	5,964,573	6.433	N/A	38,370,752	6,949,213	45,319,966	0.735		1,209	26,804	46
Total	115,831,383	896,688,465			1,064,817,491	154,716,165	1,219,533,656		2,682	2,551		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 1, Exhibit 1, Page 7

(4) = (6) / (5) / (3). For this All Clusters Combined exhibit only, this column includes the impact of the "Additional Tail consideration".

(5) Based on information from the MA WCRIB. For this All Clusters Combined exhibit only, impacts shown here are for Escalation of Benefits only.

(6) = (3) x (4) x (5)

(7) From Section 1, Exhibit 1, Page 9, Column 13

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10), (11) Provided by Commonwealth of Massachusetts

(12) = Maximum of [{(6) - (3)} / (11)] and 0

(13) Calculated for claimants that had an indemnity payment within the last calendar year.

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Indemnity

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident Year	Payroll (000's)	A Priori Loss Rate	Paid Loss Excluding Lump Sum	Paid LDF	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Ultimate Loss Cost Excluding Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	1,823,085	2.991	32,782,016	1.124	33,919,701	2,806,595	36,726,295	2.015	1.861
6/30/85-86	1,952,445	3.712	43,486,990	1.133	45,345,273	3,324,593	48,669,866	2.493	2.322
6/30/86-87	2,220,820	3.485	46,262,977	1.107	48,731,729	5,476,791	54,208,520	2.441	2.194
6/30/87-88	2,885,583	3.526	65,136,208	1.125	69,499,247	8,102,124	77,601,371	2.689	2.408
6/30/88-89	3,098,180	2.963	60,103,365	1.103	64,610,181	9,897,947	74,508,127	2.405	2.085
6/30/89-90	3,079,763	2.802	56,499,344	1.101	61,717,394	9,942,730	71,660,124	2.327	2.004
6/30/90-91	2,914,364	1.851	45,327,198	1.198	50,502,875	8,423,622	58,926,497	2.022	1.733
6/30/91-92	2,880,434	1.115	28,341,430	1.145	31,752,584	5,495,187	37,247,771	1.293	1.102
6/30/92-93	2,887,238	0.753	18,397,903	1.196	21,147,311	4,156,798	25,304,109	0.876	0.732
6/30/93-94	3,056,850	0.777	20,466,005	1.180	23,598,425	4,258,765	27,857,191	0.911	0.772
6/30/94-95	3,158,808	0.700	19,049,825	1.179	22,284,383	4,151,156	26,435,539	0.837	0.705
6/30/95-96	3,301,791	0.650	18,213,137	1.197	21,736,756	3,739,440	25,476,196	0.772	0.658
6/30/96-97	3,902,868	0.544	17,558,775	1.217	21,324,678	4,606,367	25,931,044	0.664	0.546
6/30/97-98	3,776,138	0.644	20,466,987	1.209	24,671,071	4,897,302	29,568,373	0.783	0.653
6/30/98-99	4,017,530	0.579	18,941,104	1.239	23,440,365	4,177,326	27,617,691	0.687	0.583
6/30/99-00	4,221,786	0.650	22,046,094	1.268	27,859,028	4,144,022	32,003,050	0.758	0.660
6/30/00-01	4,310,725	0.754	26,218,857	1.275	33,265,342	4,105,561	37,370,902	0.867	0.772
6/30/01-02	4,438,755	0.680	23,431,357	1.309	30,568,343	4,195,340	34,763,683	0.783	0.689
6/30/02-03	4,423,888	0.672	22,650,331	1.330	30,060,663	3,923,390	33,984,053	0.768	0.680
6/30/03-04	4,482,207	0.654	21,965,260	1.349	29,603,970	4,087,925	33,691,895	0.752	0.660
6/30/04-05	4,639,517	0.603	21,449,586	1.396	29,554,993	4,730,552	34,285,545	0.739	0.637
6/30/05-06	4,938,165	0.615	18,224,087	1.444	27,612,050	4,804,852	32,416,902	0.656	0.559
6/30/06-07	5,183,126	0.628	16,403,895	1.497	27,193,218	3,890,358	31,083,576	0.600	0.525
6/30/07-08	5,508,425	0.641	18,454,471	1.614	31,709,460	5,376,940	37,086,400	0.673	0.576
6/30/08-09	5,447,676	0.655	17,821,067	1.729	32,490,712	4,899,120	37,389,832	0.686	0.596
6/30/09-10	5,525,579	0.664	16,517,571	1.934	33,774,760	5,310,630	39,085,390	0.707	0.611
6/30/10-11	5,712,303	0.670	16,418,085	2.270	37,543,969	6,755,087	44,299,056	0.776	0.657
6/30/11-12	5,880,714	0.681	12,172,326	3.074	39,172,595	5,510,872	44,683,467	0.760	0.666
6/30/12-13	6,162,621	0.693	5,964,573	6.433	42,730,831	6,949,213	49,680,044	0.806	0.693
Total	115,831,383		770,770,824		1,017,421,903	152,140,606	1,169,562,509		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 1, Exhibit 1, Page 4, Column 11

(4) From Section 1, Exhibit 1, Page 2, Column 3

(5) From Section 1, Exhibit 1, Page 2, Column 4

(6) = (4) + [{1 - {1 / (5)}} x (3) x (2) x 10]

(7) From Section 1, Exhibit 1, Page 9, Column 13

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10) = (6) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Indemnity

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Exp Ult Loss Excluding Lump Sum	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									2.991	2.991
6/30/85-86									3.712	3.712
6/30/86-87									3.485	3.485
6/30/87-88									3.526	3.526
6/30/88-89									2.963	2.963
6/30/89-90									2.802	2.802
6/30/90-91	2,914,364	54,314,687	1.864	0.953	1.776	1.257	2.232	0.584	1.848	1.851
6/30/91-92	2,880,434	32,459,368	1.127	1.045	1.178	1.245	1.466	0.538	1.110	1.115
6/30/92-93	2,887,238	21,999,161	0.762	1.219	0.929	1.232	1.144	0.466	0.750	0.753
6/30/93-94	3,056,850	24,140,307	0.790	1.203	0.950	1.220	1.159	0.477	0.774	0.777
6/30/94-95	3,158,808	22,459,018	0.711	1.192	0.848	1.208	1.024	0.486	0.702	0.700
6/30/95-96	3,301,791	21,802,193	0.660	1.183	0.781	1.196	0.934	0.495	0.651	0.650
6/30/96-97	3,902,868	21,363,267	0.547	1.171	0.641	1.184	0.759	0.505	0.549	0.544
6/30/97-98	3,776,138	24,737,143	0.655	1.156	0.757	1.173	0.888	0.517	0.649	0.644
6/30/98-99	4,017,530	23,473,658	0.584	1.141	0.666	1.161	0.774	0.529	0.588	0.579
6/30/99-00	4,221,786	27,962,639	0.662	1.122	0.743	1.149	0.854	0.543	0.660	0.650
6/30/00-01	4,310,725	33,435,221	0.776	1.094	0.848	1.138	0.965	0.562	0.762	0.754
6/30/01-02	4,438,755	30,665,762	0.691	1.072	0.741	1.127	0.835	0.579	0.692	0.680
6/30/02-03	4,423,888	30,131,241	0.681	1.069	0.728	1.116	0.812	0.587	0.685	0.672
6/30/03-04	4,482,207	29,638,205	0.661	1.069	0.707	1.105	0.780	0.593	0.670	0.654
6/30/04-05	4,639,517	29,942,584	0.645	1.062	0.685	1.094	0.749	0.603	0.657	0.603
6/30/05-06	4,938,165	26,317,580	0.533	1.051	0.560	1.083	0.607	0.615	0.670	0.615
6/30/06-07	5,183,126	24,558,185	0.474	1.040	0.493	1.072	0.528	0.628	0.684	0.628
6/30/07-08	5,508,425	29,777,514	0.541	1.028	0.556	1.062	0.590	0.641	0.699	0.641
6/30/08-09	5,447,676	30,813,093	0.566	1.016	0.575	1.051	0.604	0.655	0.714	0.655
6/30/09-10	5,525,579	31,942,614	0.578	1.012	0.585	1.041	0.609	0.664	0.724	0.664
6/30/10-11	5,712,303	37,275,476	0.653	1.014	0.661	1.030	0.682	0.670	0.730	0.670
6/30/11-12	5,880,714	37,422,550	0.636	1.007	0.641	1.020	0.654	0.681	0.743	0.681
6/30/12-13	6,162,621	38,370,752	0.623	1.000	0.623	1.010	0.629	0.693		0.693
Total	100,771,507	685,002,219								

Trend Last 4 (ex 12-13):	4.6%	Avg 3 (x12-13):	0.648
Trend Last 8 (ex 12-13):	1.1%	Avg 5 (x12-13):	0.628
Trend Last 12 (ex 12-13):	-2.6%	Avg 10 (x12-13):	0.661
Prior Selected Trend:	1.0%	Prior Sel Avg:	0.750
Selected Trend:	1.0%	Sel. Loss Cost:	0.700

NOTES:
(2) Provided by Commonwealth of Massachusetts
(3) From Section 1, Exhibit 1, Page 2, Column 6
(4) = (3) / (2) / 10
(5) Based on information from the MA WCRIB
(6) = (4) x (5)
(7) Based on Selected Trend from (6)
(8) = (6) x (7)
(9) = Sel. Loss Cost / [(5) * (7)]
(10) From Aon analysis as of June 30, 2012
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Indemnity

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend		0.960	
(2)	Credibility		92%	
(3)	Average Pmt Trend Statewide		0.960	
(4)	Credibility Weighted Trend		0.960	
		(Low)		(High)
(5)	Selected Range	0.940		0.970
(6)	Incremental Paid for 2013	1,527,315		1,527,315
(7)	Estimated Reserve	23,927,937		49,383,189
(8)	Paid to Date (82 & Prior)	89,200,233		89,200,233
(9)	Est Ult Paid for 1982 & Prior	113,128,170		138,583,422

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	1,583,092	1,678,237
(11)	Projected Number of Years	2	2
(12)	Estimated Reserve	3,166,183	3,356,475
(13)	Paid to Date (82 & Prior)	89,200,233	87,672,918
(14)	Est Ult Paid for 1982 & Prior	92,366,416	91,029,393
(14a)	Paid Counts During Fiscal Year	40	43
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	102,747,293	114,806,407
(16)	Lump Sum Ultimates	3,971,578	3,971,578
(17)	Ult Loss Including Lump Sums	**106,718,871**	**118,777,985**
(18)	Implied Tail	1.152	1.287
(19)	Ult Loss Inc Lump Sums @ 6/12	105,588,862	117,914,302

NOTES:

(1) From Section 1, Exhibit 1, Page 6
(2) = (Average of Section 1, Exhibit 1, Page 6, Column 3 / 3,000,000) ^ 0.5
(3) Average Statewide Trend
(4) = (1) x (2) + (4) x {1 - (2)}
(5) Selected judgmentally based on (4)
(6), (14a) Provided by Commonwealth of Massachusetts
(7) = (6) x (5) / {1 - (5)}
(8), (16) From Section 1, Exhibit 1, Page 2, Column 3
(9) = (7) + (8)
(10) Avg of 3 latest years from Section 1, Exhibit 1, Page 6, Column 3
(11) Selected judgmentally
(12) = (10 x (11)
(14) = (12) + (13)
(15) = Average of (9) and (14)
(16) From Section 1, Exhibit 1, Page 9, Column 13
(17) = (15) + (16)
(18) = (15) / (8)
(19) From Aon analysis as of June 30, 2012

All Clusters Combined

Indemnity

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paids	LN	Average Observed Trend		Trend Calculations
1992	1	3,761,035	15.140			
1993	2	3,748,741	15.137	0.997		
1994	3	3,655,655	15.112	0.975		
1995	4	3,194,135	14.977	0.874		
1996	5	3,058,848	14.934	0.958		
1997	6	3,023,014	14.922	0.988		
1998	7	3,014,756	14.919	0.997		
1999	8	2,756,848	14.830	0.914		
2000	9	2,909,790	14.884	1.055	n =	22
2001	10	2,865,446	14.868	0.985	S(x) =	44,055
2002	11	2,547,239	14.751	0.889	S(x-sq) =	88,221,023
2003	12	2,422,167	14.700	0.951	S(xy) =	647,871
2004	13	2,289,077	14.644	0.945	S(y) =	324
2005	14	2,336,964	14.664	1.021	D =	19,481
2006	15	2,051,702	14.534	0.878	slope =	-0.044
2007	16	2,039,778	14.528	0.994	Avg Trend =	0.956
2008	17	1,799,337	14.403	0.882		
2009	18	1,743,820	14.372	0.969		
2010	19	1,812,753	14.410	1.040		
2011	20	1,656,071	14.320	0.914		
2012	21	1,565,889	14.264	0.946		
2013	22	1,527,315	14.239	0.975		
					Selected Trend:	**0.960**

NOTES:

(3) 2013 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2012

(4) LN [(3)]

(5) Eg. 2013: 0.975 = 1527315 / 1565889

Commonwealth of Massachusetts Workers Compensation
All Clusters Combined
INDEMNITY
Paid Loss Development
Paid Loss (Excluding Lump Sum)

Acc Yr Ending	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372
June-83	858,552	2,079,063	3,017,221	3,810,750	4,609,642	5,393,851	6,194,575	7,153,066	7,958,008	8,806,991	9,470,978	10,033,054	10,617,896	11,118,585	11,511,440	11,832,357	12,136,396	12,447,391	12,810,499	13,089,144	13,380,298	13,654,129	13,942,380	14,231,914	14,539,406	14,849,146	15,118,643	15,379,653	15,594,288	15,766,236	15,942,952
June-84	1,522,536	3,686,963	5,350,672	6,757,899	8,148,886	9,608,045	10,911,357	12,126,179	13,057,188	13,815,581	14,430,389	14,959,403	15,419,688	15,772,255	16,197,151	16,639,612	17,122,286	17,516,764	17,977,580	18,438,292	18,803,484	19,139,323	19,459,619	19,718,217	19,937,128	20,149,887	20,327,863	20,472,356	20,620,991	20,774,456	
June-85	2,512,722	6,084,789	8,830,495	11,054,439	13,342,359	15,590,069	17,427,365	18,998,017	20,498,944	21,563,372	22,525,232	23,442,205	24,219,603	25,046,022	25,818,487	26,459,414	27,121,279	27,778,658	28,406,491	28,976,876	29,543,002	30,030,413	30,523,992	30,983,182	31,363,675	31,712,251	32,055,755	32,412,266	32,782,016		
June-86	3,828,307	9,270,600	13,395,875	16,854,774	20,186,912	22,858,610	24,903,526	26,819,536	28,134,649	29,661,018	30,865,387	32,219,696	33,488,982	34,570,174	35,702,155	36,866,038	37,770,882	38,520,460	39,153,946	39,794,497	40,432,599	41,063,216	41,644,745	42,241,569	42,712,869	43,097,941	43,312,360	43,486,990			
June-87	4,540,457	10,913,697	15,583,325	19,957,432	23,712,974	26,356,678	28,401,253	30,259,862	31,823,542	33,295,483	34,562,410	35,908,967	37,317,032	38,375,710	39,392,496	40,287,844	41,070,876	41,703,092	42,193,153	42,715,548	43,489,344	43,946,144	44,426,128	44,966,121	45,385,703	45,816,061	46,262,977				
June-88	6,620,154	15,480,715	23,458,326	30,204,560	36,116,026	39,838,569	42,256,230	44,503,212	46,313,785	47,917,629	49,366,750	50,785,172	52,214,314	53,499,831	54,758,162	56,029,186	57,216,310	58,242,797	59,272,196	60,251,502	61,225,020	62,100,854	62,859,543	63,676,981	64,434,879	65,136,208					
June-89	6,105,502	16,819,476	24,950,175	31,278,437	35,945,703	38,915,779	41,415,130	43,490,698	45,072,501	46,555,926	47,860,013	49,040,632	50,166,177	51,242,940	52,234,068	53,147,033	54,016,738	54,832,591	55,632,016	56,403,282	57,157,649	57,924,017	58,698,403	59,460,012	60,103,365						
June-90	8,325,393	19,198,639	27,299,181	32,979,315	36,467,113	39,225,080	41,403,021	43,119,245	44,619,978	46,178,291	47,478,622	48,500,081	49,380,975	50,215,035	50,970,670	51,700,073	52,443,554	53,046,968	53,676,223	54,272,144	54,832,428	55,362,682	55,910,367	56,499,344							
June-91	6,727,038	15,771,999	21,820,901	25,665,833	28,606,961	30,755,665	32,249,710	33,434,382	34,630,923	35,639,652	36,661,638	37,733,064	38,765,183	39,734,589	40,612,815	41,479,663	42,275,974	42,925,167	43,635,680	44,069,182	44,462,411	44,863,611	45,327,198								
June-92	5,529,696	11,010,530	14,154,478	16,707,353	18,010,508	19,080,293	19,981,070	20,663,423	21,458,872	22,141,168	22,851,311	23,533,251	24,097,364	24,573,283	25,143,387	25,744,950	26,283,250	26,767,829	27,207,194	27,587,356	27,962,307	28,341,430									
June-93	3,873,223	8,389,572	10,824,326	12,579,041	13,682,345	14,650,572	14,980,197	15,299,706	15,652,059	15,960,508	16,198,969	16,437,335	16,647,751	16,845,525	17,057,906	17,261,464	17,446,939	17,667,638	17,927,011	18,169,867	18,397,903										
June-94	3,781,238	7,763,240	10,451,304	12,041,730	13,184,654	14,033,719	14,780,593	15,679,180	16,229,340	16,777,362	17,232,935	17,804,861	18,235,433	18,616,699	18,971,484	19,309,314	19,603,806	19,888,097	20,167,726	20,466,005											
June-95	4,117,530	8,085,099	10,658,744	12,524,501	13,540,049	14,383,050	15,205,770	15,840,120	16,337,357	16,680,320	17,024,333	17,347,955	17,691,046	17,980,888	18,198,811	18,406,575	18,613,590	18,839,234	19,049,825												
June-96	3,925,641	7,606,581	10,157,406	11,265,946	12,618,021	13,573,564	14,313,197	14,989,243	15,617,069	16,021,237	16,346,275	16,663,225	16,942,675	17,212,063	17,486,480	17,759,866	18,012,627	18,213,137													
June-97	3,802,186	7,776,567	9,916,724	11,863,394	13,377,068	14,556,289	15,406,967	15,928,071	16,176,008	16,397,842	16,558,081	16,798,807	16,939,079	17,083,096	17,228,429	17,411,092	17,558,775														
June-98	3,999,102	8,090,389	11,057,251	13,063,666	14,725,657	15,964,487	16,892,108	17,479,286	18,004,896	18,445,861	18,841,212	19,225,160	19,574,481	19,929,478	20,239,681	20,466,987															
June-99	3,807,499	8,152,795	11,043,621	13,229,580	14,782,416	15,710,384	16,521,760	17,074,054	17,452,452	17,884,931	18,180,175	18,422,658	18,600,387	18,768,162	18,941,104																
June-00	4,950,740	10,538,860	14,135,679	16,504,973	18,268,102	19,419,784	20,242,086	20,650,338	21,022,134	21,259,984	21,435,910	21,642,301	21,850,101	22,046,094																	
June-01	5,803,207	12,402,263	16,670,356	19,654,595	21,577,531	22,938,517	23,908,952	24,600,463	24,859,220	25,164,944	25,501,251	25,878,042	26,218,857																		
June-02	5,765,203	12,277,793	16,238,526	18,865,437	20,310,007	21,368,596	21,931,812	22,319,683	22,695,839	22,992,294	23,221,272	23,431,357																			
June-03	6,502,533	13,090,711	16,966,298	18,968,477	20,360,493	21,059,553	21,569,956	21,885,146	22,172,772	22,423,326	22,650,331																				
June-04	5,782,322	12,048,196	15,821,995	18,335,339	19,734,152	20,590,574	21,163,829	21,542,100	21,767,551	21,965,260																					
June-05	5,772,533	11,867,294	15,701,108	18,020,724	19,113,731	19,972,058	20,719,729	21,201,896	21,449,586																						
June-06	4,757,322	10,205,384	13,459,435	15,194,558	16,291,664	17,297,747	17,913,398	18,224,087																							
June-07	4,763,872	9,431,881	11,584,810	13,586,119	15,001,635	15,786,760	16,403,895																								
June-08	4,973,425	10,276,897	13,437,601	15,869,686	17,473,101	18,454,471																									
June-09	4,815,871	10,151,475	13,666,751	16,148,288	17,821,067																										
June-10	5,243,901	10,948,444	14,508,772	16,517,571																											
June-11	6,252,011	12,542,403	16,418,085																												
June-12	5,840,358	12,172,326																													
June-13	5,964,573																														

Age-to-Age Factors

Acc Yr Ending	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372
June-83	2.422	1.451	1.263	1.210	1.170	1.148	1.155	1.113	1.107	1.075	1.059	1.058	1.047	1.035	1.028	1.026	1.026	1.029	1.022	1.022	1.020	1.021	1.021	1.022	1.021	1.018	1.017	1.014	1.011	1.011
June-84	2.422	1.451	1.263	1.206	1.179	1.136	1.111	1.077	1.058	1.045	1.037	1.031	1.023	1.027	1.027	1.029	1.023	1.026	1.026	1.020	1.018	1.017	1.013	1.011	1.011	1.009	1.007	1.007	1.007	
June-85	2.422	1.451	1.252	1.207	1.168	1.118	1.090	1.079	1.052	1.045	1.041	1.033	1.034	1.031	1.025	1.025	1.024	1.023	1.020	1.020	1.016	1.016	1.015	1.012	1.011	1.011	1.011	1.011		
June-86	2.422	1.445	1.258	1.198	1.132	1.089	1.077	1.049	1.054	1.041	1.044	1.039	1.032	1.033	1.033	1.025	1.020	1.016	1.016	1.016	1.016	1.014	1.014	1.011	1.009	1.005	1.004			
June-87	2.404	1.428	1.281	1.188	1.111	1.078	1.065	1.052	1.046	1.038	1.039	1.039	1.028	1.026	1.023	1.019	1.015	1.012	1.012	1.018	1.011	1.011	1.012	1.009	1.009	1.010				
June-88	2.338	1.515	1.288	1.196	1.103	1.061	1.053	1.041	1.035	1.030	1.029	1.028	1.025	1.024	1.023	1.021	1.018	1.018	1.017	1.016	1.014	1.012	1.013	1.012	1.011					
June-89	2.755	1.483	1.254	1.149	1.083	1.064	1.050	1.036	1.033	1.028	1.025	1.023	1.021	1.019	1.017	1.016	1.015	1.015	1.014	1.013	1.013	1.013	1.013	1.011						
June-90	2.306	1.422	1.208	1.106	1.076	1.056	1.041	1.035	1.035	1.028	1.022	1.018	1.017	1.015	1.014	1.014	1.012	1.012	1.011	1.010	1.010	1.010	1.011							
June-91	2.345	1.384	1.176	1.115	1.075	1.049	1.037	1.036	1.029	1.029	1.029	1.027	1.025	1.022	1.021	1.019	1.015	1.017	1.010	1.009	1.009	1.010								
June-92	1.991	1.286	1.180	1.078	1.059	1.047	1.034	1.038	1.032	1.032	1.030	1.024	1.020	1.023	1.024	1.021	1.018	1.016	1.014	1.014	1.014									
June-93	2.166	1.290	1.162	1.088	1.071	1.022	1.021	1.023	1.020	1.015	1.015	1.013	1.012	1.013	1.012	1.011	1.013	1.015	1.014	1.013										
June-94	2.053	1.346	1.152	1.095	1.064	1.053	1.061	1.035	1.034	1.027	1.033	1.024	1.021	1.019	1.018	1.015	1.015	1.014	1.015											
June-95	1.964	1.318	1.175	1.081	1.062	1.057	1.042	1.031	1.021	1.021	1.019	1.020	1.016	1.012	1.011	1.011	1.012	1.011												
June-96	1.938	1.335	1.109	1.120	1.076	1.054	1.047	1.042	1.026	1.020	1.019	1.017	1.016	1.016	1.016	1.014	1.011													
June-97	2.045	1.275	1.196	1.128	1.088	1.058	1.034	1.016	1.014	1.010	1.015	1.008	1.009	1.009	1.011	1.008														
June-98	2.023	1.367	1.181	1.127	1.084	1.058	1.035	1.030	1.024	1.021	1.020	1.018	1.018	1.016	1.011															
June-99	2.141	1.355	1.198	1.117	1.063	1.052	1.033	1.022	1.025	1.017	1.013	1.010	1.009	1.009																
June-00	2.129	1.341	1.168	1.107	1.063	1.042	1.020	1.018	1.011	1.008	1.010	1.010	1.009																	
June-01	2.137	1.344	1.179	1.098	1.063	1.042	1.029	1.011	1.012	1.013	1.015	1.013																		
June-02	2.130	1.323	1.162	1.077	1.052	1.026	1.018	1.017	1.013	1.010	1.009																			
June-03	2.013	1.296	1.118	1.073	1.034	1.024	1.015	1.013	1.011	1.010																				
June-04	2.084	1.313	1.159	1.076	1.043	1.028	1.018	1.010	1.009																					
June-05	2.056	1.323	1.148	1.061	1.045	1.037	1.023	1.012																						
June-06	2.145	1.319	1.129	1.072	1.062	1.036	1.017																							
June-07	1.980	1.228	1.173	1.104	1.052	1.039																								
June-08	2.066	1.308	1.181	1.101	1.056																									
June-09	2.108	1.346	1.182	1.104																										
June-10	2.088	1.325	1.138																											
June-11	2.006	1.309																												
June-12	2.084																													

Averages	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	To Ult
Simple Avg																															
All Yrs	2.173	1.358	1.190	1.121	1.082	1.059	1.047	1.036	1.032	1.027	1.026	1.024	1.021	1.021	1.020	1.018	1.017	1.017	1.016	1.016	1.014	1.014	1.014	1.013	1.012	1.011	1.010	1.011	1.009	1.011	
Latest 5	2.070	1.303	1.161	1.088	1.052	1.033	1.018	1.013	1.011	1.012	1.013	1.012	1.012	1.012	1.013	1.012	1.014	1.015	1.013	1.012	1.012	1.011	1.013	1.011	1.010	1.011					
Latest 3	2.059	1.327	1.167	1.103	1.057	1.037	1.019	1.012	1.011	1.011	1.011	1.011	1.012	1.011	1.012	1.011	1.013	1.013	1.014	1.012	1.011	1.011	1.012	1.011	1.010	1.009	1.007	1.011			
Volume Wtd																															
All Yrs	2.165	1.360	1.191	1.119	1.078	1.055	1.043	1.034	1.031	1.027	1.026	1.024	1.022	1.021	1.020	1.019	1.016	1.016	1.015	1.015	1.013	1.013	1.013	1.012	1.011	1.009	1.008	1.011	1.009		
Latest 5	2.068	1.305	1.160	1.087	1.051	1.032	1.018	1.013	1.011	1.012	1.013	1.012	1.012	1.012	1.013	1.012	1.014	1.015	1.012	1.012	1.012	1.011	1.013	1.011	1.010	1.009					
Latest 3	2.057	1.326	1.166	1.103	1.057	1.037	1.020	1.012	1.011	1.011	1.011	1.011	1.012	1.011	1.012	1.011	1.013	1.013	1.014	1.011	1.010	1.011	1.012	1.011	1.010	1.008	1.007	1.011			

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Indemnity

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Ultimate Loss		Ultimate Loss		Change in Ultimate Loss		Change in Ultimate Loss	
Accident	As of 6/12		As of 6/13		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	108,747,179	118,155,925	109,649,052	118,880,601	901,873	0.8%	724,676	0.6%
6/30/82-83	17,467,009	18,396,525	17,643,183	18,583,267	176,174	1.0%	186,742	1.0%
6/30/83-84	24,588,692	25,847,387	24,757,952	26,025,597	169,260	0.7%	178,210	0.7%
6/30/84-85	36,659,859	38,738,574	37,003,769	39,110,574	343,910	0.9%	372,000	1.0%
6/30/85-86	49,371,185	50,963,945	49,468,066	51,052,086	96,881	0.2%	88,141	0.2%
6/30/86-87	53,223,000	55,642,705	53,563,000	56,013,312	340,000	0.6%	370,606	0.7%
6/30/87-88	77,486,456	79,902,709	78,033,866	80,483,994	547,409	0.7%	581,285	0.7%
6/30/88-89	74,525,366	76,654,799	74,939,574	77,070,799	414,208	0.6%	416,000	0.5%
6/30/89-90	70,449,658	72,066,971	70,757,031	72,405,797	307,373	0.4%	338,825	0.5%
6/30/90-91	57,534,859	61,857,914	57,676,859	62,051,914	142,000	0.2%	194,000	0.3%
6/30/91-92	36,848,479	38,104,118	37,020,289	38,282,685	171,810	0.5%	178,567	0.5%
6/30/92-93	24,832,376	26,375,946	24,935,376	26,500,946	103,000	0.4%	125,000	0.5%
6/30/93-94	27,410,000	28,497,000	27,523,000	28,616,000	113,000	0.4%	119,000	0.4%
6/30/94-95	26,360,000	27,122,000	26,365,000	27,127,000	5,000	0.0%	5,000	0.0%
6/30/95-96	25,126,985	25,896,891	25,172,985	25,935,891	46,000	0.2%	39,000	0.2%
6/30/96-97	25,974,838	26,694,286	25,846,838	26,551,286	(128,000)	-0.5%	(143,000)	-0.5%
6/30/97-98	29,612,642	30,266,556	29,487,642	30,127,556	(125,000)	-0.4%	(139,000)	-0.5%
6/30/98-99	27,828,000	28,525,000	27,612,000	28,294,000	(216,000)	-0.8%	(231,000)	-0.8%
6/30/99-00	32,328,000	33,135,000	31,999,000	32,783,000	(329,000)	-1.0%	(352,000)	-1.1%
6/30/00-01	36,945,892	38,382,000	36,776,863	38,191,000	(169,029)	-0.5%	(191,000)	-0.5%
6/30/01-02	35,244,000	36,080,000	34,763,000	35,571,000	(481,000)	-1.4%	(509,000)	-1.4%
6/30/02-03	33,899,450	35,261,000	33,454,782	34,767,000	(444,668)	-1.3%	(494,000)	-1.4%
6/30/03-04	33,841,043	35,178,000	33,170,694	34,502,000	(670,350)	-2.0%	(676,000)	-1.9%
6/30/04-05	34,597,000	35,512,000	34,024,000	34,938,000	(573,000)	-1.7%	(574,000)	-1.6%
6/30/05-06	31,988,000	33,384,000	31,079,000	32,551,000	(909,000)	-2.8%	(833,000)	-2.5%
6/30/06-07	29,360,000	31,800,000	28,725,000	31,105,000	(635,000)	-2.2%	(695,000)	-2.2%
6/30/07-08	35,305,000	38,203,000	34,650,000	37,219,000	(655,000)	-1.9%	(984,000)	-2.6%
6/30/08-09	36,751,000	39,349,000	36,215,000	37,985,000	(536,000)	-1.5%	(1,364,000)	-3.5%
6/30/09-10	39,028,000	43,571,000	37,562,000	40,455,000	(1,466,000)	-3.8%	(3,116,000)	-7.2%
6/30/10-11	42,977,000	48,035,000	43,172,000	46,777,000	195,000	0.5%	(1,258,000)	-2.6%
6/30/11-12	43,477,000	51,645,000	42,535,000	47,705,000	(942,000)	-2.2%	(3,940,000)	-7.6%
6/30/12-13								
Total	1,259,787,969	1,329,244,252	1,255,581,820	1,317,662,305	(4,206,149)	-0.3%	(11,581,947)	-0.9%

NOTES:

(2), (3) From Aon analysis as of June 30, 2012

(4), (5) From Section 1, Exhibit 1, Page 1, Columns 6, 7

(6) = (4) - (2)

(7) = (4) / (2) - 1

(8) = (5) - (3)

(9) = (5) / (3) - 1

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Indemnity

Calculation of Ultimate Lump Sum Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Accident Year	Paid Loss Excluding Lump Sum	Implied Cumulative LDF	Ult Loss Excluding Lump Sum	Selected Incr Lump Sum % Outstdg	Cumulative Lump Sum % Outstdg	Total Lump Sum Outstdg	Paid Lump Sum to Date	Est Ult Lump Sum - Incr Method	Ultimate Lump Sum Percentage	Lump Sum LDF	Est Ult Lump Sum - Paid Method	Selected Est Ultimate Lump Sums	Prior Est Ultimate Lump Sums
All Prior Yrs	89,200,233	1.219	108,776,850	0.0%	0.0%	0	3,941,682	3,941,682	3.6%	1.015	4,001,474	3,971,578	3,971,578
6/30/82-83	15,942,952	1.084	17,278,852	0.0%	0.0%	0	771,231	771,231	4.5%	1.004	773,954	772,592	772,592
6/30/83-84	20,774,456	1.128	23,432,386	0.0%	0.0%	0	1,792,639	1,792,639	7.7%	1.012	1,813,296	1,802,967	1,802,967
6/30/84-85	32,782,016	1.124	36,854,687	0.0%	0.0%	0	2,791,264	2,791,264	7.6%	1.011	2,821,925	2,806,595	2,781,595
6/30/85-86	43,486,990	1.133	49,286,473	0.0%	0.0%	0	3,303,601	3,303,601	6.7%	1.013	3,345,586	3,324,593	3,312,593
6/30/86-87	46,262,977	1.107	51,194,485	0.0%	0.0%	0	5,447,750	5,447,750	10.6%	1.011	5,505,832	5,476,791	5,477,825
6/30/87-88	65,136,208	1.125	73,257,562	0.0%	0.0%	0	8,057,017	8,057,017	11.0%	1.011	8,147,230	8,102,124	8,052,256
6/30/88-89	60,103,365	1.103	66,296,784	0.0%	0.0%	0	9,826,238	9,826,238	14.8%	1.015	9,969,656	9,897,947	9,909,170
6/30/89-90	56,499,344	1.101	62,214,044	0.0%	0.0%	0	9,864,298	9,864,298	15.9%	1.016	10,021,162	9,942,730	9,976,169
6/30/90-91	45,327,198	1.198	54,314,687	0.1%	0.1%	29,934	8,326,440	8,356,374	15.4%	1.020	8,490,870	8,423,622	8,391,545
6/30/91-92	28,341,430	1.145	32,459,368	0.1%	0.1%	38,644	5,420,474	5,459,117	16.8%	1.020	5,531,257	5,495,187	5,510,759
6/30/92-93	18,397,903	1.196	21,999,161	0.1%	0.2%	39,699	4,087,117	4,126,816	18.8%	1.024	4,186,781	4,156,798	4,176,594
6/30/93-94	20,466,005	1.180	24,140,307	0.0%	0.2%	54,416	4,177,034	4,231,450	17.5%	1.026	4,286,081	4,258,765	4,288,369
6/30/94-95	19,049,825	1.179	22,459,018	0.0%	0.3%	57,847	4,050,859	4,108,706	18.3%	1.035	4,193,606	4,151,156	4,181,473
6/30/95-96	18,213,137	1.197	21,802,193	0.1%	0.4%	88,026	3,623,870	3,711,896	17.0%	1.039	3,766,984	3,739,440	3,787,979
6/30/96-97	17,558,775	1.217	21,363,267	0.0%	0.4%	92,905	4,444,152	4,537,057	21.2%	1.052	4,675,676	4,606,367	4,682,386
6/30/97-98	20,466,987	1.209	24,737,143	0.0%	0.4%	102,110	4,686,877	4,788,987	19.4%	1.068	5,005,617	4,897,302	4,993,070
6/30/98-99	18,941,104	1.239	23,473,658	0.1%	0.5%	112,644	3,976,938	4,089,582	17.4%	1.072	4,265,071	4,177,326	4,211,010
6/30/99-00	22,046,094	1.268	27,962,639	0.1%	0.6%	167,100	3,907,368	4,074,468	14.6%	1.078	4,213,575	4,144,022	4,239,944
6/30/00-01	26,218,857	1.275	33,435,221	0.2%	0.8%	254,311	3,814,863	4,069,174	12.2%	1.081	4,122,702	4,105,561	4,166,685
6/30/01-02	23,431,357	1.309	30,665,762	0.1%	0.9%	278,603	3,827,668	4,106,271	13.4%	1.110	4,249,335	4,195,340	4,344,900
6/30/02-03	22,650,331	1.330	30,131,241	0.3%	1.2%	375,442	3,459,912	3,835,354	12.7%	1.146	3,964,182	3,923,390	3,990,031
6/30/03-04	21,965,260	1.349	29,638,205	0.3%	1.5%	456,499	3,556,519	4,013,018	13.5%	1.155	4,106,391	4,087,925	4,274,344
6/30/04-05	21,449,586	1.396	29,942,584	0.3%	1.8%	548,815	4,010,153	4,558,968	15.2%	1.200	4,813,682	4,730,552	4,799,790
6/30/05-06	18,224,087	1.444	26,317,580	0.5%	2.3%	614,656	3,828,429	4,443,085	16.9%	1.249	4,781,389	4,804,852	5,102,778
6/30/06-07	16,403,895	1.497	24,558,185	0.9%	3.3%	806,057	2,864,532	3,670,589	14.9%	1.333	3,819,305	3,890,358	4,100,555
6/30/07-08	18,454,471	1.614	29,777,514	0.9%	4.2%	1,244,419	3,667,592	4,912,011	16.5%	1.429	5,242,580	5,376,940	5,740,538
6/30/08-09	17,821,067	1.729	30,813,093	1.6%	5.8%	1,788,828	2,761,944	4,550,772	14.8%	1.732	4,783,286	4,899,120	5,412,485
6/30/09-10	16,517,571	1.934	31,942,614	2.6%	8.4%	2,677,618	2,345,079	5,022,698	15.7%	2.307	5,409,127	5,310,630	6,094,524
6/30/10-11	16,418,085	2.270	37,275,476	2.8%	11.2%	4,178,054	1,803,911	5,981,965	16.0%	3.959	7,142,436	6,755,087	6,109,930
6/30/11-12	12,172,326	3.074	37,422,550	3.3%	14.5%	5,421,914	441,786	5,863,701	15.7%	9.941	4,391,763	5,510,872	6,314,253
6/30/12-13	5,964,573	6.433	38,370,752	1.9%	16.4%	6,292,620	113,000	6,405,620	16.7%	33.370	3,770,808	6,949,213	
Total	896,688,465		1,173,594,341			25,721,162	128,992,236	154,713,398	13.2%		155,612,618	158,687,743	154,970,685

NOTES:

(2) From Section 1, Exhibit 1, Page 2, Column 3
(3) = (4) / (2)
(4) From Section 1, Exhibit 1, Page 2, Column 6
(5) From Section 1, Exhibit 1, Page 11
(6) Downward sum of (5)
(7) = (6) x (4)
(8) From Section 1, Exhibit 1, Page 10
(9) = (7) + (8)
(10) = (9) / (4)
(11) From Section 1, Exhibit 1, Page 12
(12) = (8) x (11)
(13) Selected based on (9) and (12)
(14) From Aon analysis as of June 30, 2012

Commonwealth of Massachusetts Workers Compensation
All Clusters Combined
INDEMNITY
Lump Sum Development
Incremental Lump Sum Payments

Acc Yr Ending	0-12	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384
All Prior Yrs	0	0	0	0	0	0	12,000	46,500	31,000	20,000	184,000	115,000	138,000	550,984	594,000	318,784	155,500	30,000	362,833	369,668	354,998	72,250	145,500	201,500	118,040	28,000	78,125	0	0	7,500	7,500	0
Jun-83	0	0	0	0	0	20,000	0	32,500	37,500	80,000	153,481	90,750	77,000	110,000	160,000	0	10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jun-84	0	0	0	0	25,750	32,500	110,600	178,437	119,500	233,650	204,200	246,501	48,000	102,001	50,000	30,000	37,500	85,000	45,000	0	0	84,000	0	10,000	0	0	150,000	0	0	0		
Jun-85	0	0	0	98,476	35,500	126,500	146,555	201,250	383,400	565,833	337,200	193,500	294,550	40,000	0	133,500	120,000	30,000	35,000	25,000	0	0	0	0	0	0	0	0	25,000			
Jun-86	0	0	58,000	116,759	213,100	146,344	336,928	826,899	586,995	10,000	147,000	20,000	86,000	37,500	0	0	0	30,000	55,000	64,000	16,000	45,000	58,275	237,801	0	198,000	2,000	12,000				
Jun-87	0	81,440	184,322	246,666	253,462	621,607	1,050,537	509,001	398,456	184,806	186,424	102,671	334,859	406,500	240,000	239,999	50,000	132,000	80,000	10,000	0	0	0	135,000	0	0	0					
Jun-88	0	106,671	200,428	418,500	836,484	1,573,442	1,192,500	711,383	849,000	373,400	305,326	241,507	328,463	0	59,910	0	191,667	65,000	85,333	100,001	90,000	150,001	0	58,001	62,000	58,000						
Jun-89	0	239,195	381,000	997,744	1,789,441	1,630,950	1,022,995	995,502	531,500	332,500	603,811	258,100	276,500	92,500	25,000	18,500	63,500	218,333	116,383	160,284	62,500	0	0	10,000	0							
Jun-90	0	254,094	1,205,138	1,809,296	1,317,952	1,060,755	985,550	993,000	409,534	438,300	365,512	408,833	40,833	46,000	31,000	25,000	106,000	110,125	129,876	27,500	33,333	33,333	33,333	0								
Jun-91	13,500	438,707	1,994,750	1,433,327	920,426	1,217,840	758,000	203,289	232,000	140,000	100,001	54,000	0	0	70,000	178,100	102,500	280,000	130,000	0	0	0	60,000									
Jun-92	66,000	830,673	583,116	753,497	838,750	535,501	294,500	221,500	181,500	178,000	202,683	31,250	13,500	122,268	33,368	20,867	326,500	107,000	80,001	0	0	0										
Jun-93	62,000	654,058	665,328	971,951	408,250	415,801	286,729	103,000	190,000	85,000	12,000	55,000	0	0	0	0	50,000	58,000	35,000	35,000	0											
Jun-94	90,000	679,356	863,226	715,524	525,377	333,501	199,500	201,500	47,500	40,050	0	234,500	71,000	25,000	25,000	120,000	6,000	0	0	0												
Jun-95	219,963	888,102	977,200	797,324	399,770	225,600	67,000	10,000	70,625	134,875	58,400	35,000	0	112,000	42,500	12,500	0	0	0													
Jun-96	80,500	705,230	1,049,356	656,831	319,451	110,001	89,167	158,833	123,000	131,001	103,000	62,500	0	18,400	16,600	0	0	0														
Jun-97	134,365	1,184,751	1,074,000	820,183	422,500	172,251	16,000	140,600	106,501	109,001	167,000	17,000	0	0	40,000	40,000	0															
Jun-98	408,337	890,613	1,162,675	665,000	431,091	264,909	110,335	161,166	29,000	8,001	10,000	227,750	130,000	119,000	69,000	0																
Jun-99	251,500	439,250	1,042,681	765,621	367,556	218,197	270,076	179,055	73,001	180,000	52,000	73,001	0	0	65,000																	
Jun-00	135,731	994,493	726,541	532,050	394,551	264,499	364,884	198,118	118,001	76,000	31,500	34,000	25,000	12,000																		
Jun-01	108,490	517,820	838,510	515,804	486,170	523,565	239,504	370,500	134,000	18,000	0	0	62,500																			
Jun-02	48,000	251,595	619,400	692,914	768,087	556,815	356,721	325,000	45,136	69,000	53,000	42,000																				
Jun-03	20,000	243,617	973,654	830,735	554,982	452,423	125,001	80,000	6,000	96,000	77,500																					
Jun-04	47,500	153,200	552,463	917,102	829,753	553,000	162,000	241,501	100,000	0																						
Jun-05	6,157	171,103	840,367	1,359,602	649,723	301,000	271,000	217,001	194,200																							
Jun-06	0	307,301	772,454	1,353,001	484,173	445,500	363,000	103,000																								
Jun-07	36,000	451,583	914,752	703,751	416,002	193,002	149,442																									
Jun-08	17,730	728,501	774,649	979,000	795,250	372,462																										
Jun-09	285,000	362,500	783,767	808,001	522,676																											
Jun-10	0	601,092	797,379	946,609																												
Jun-11	315,691	461,993	1,026,227																													
Jun-12	0	441,786																														
Jun-13	113,000																															

Cumulative Lump Sum Payment

Acc Yr Ending	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384
All Prior Yrs	0	0	0	0	0	0	12,000	58,500	89,500	109,500	293,500	408,500	546,500	1,097,484	1,691,484	2,010,268	2,165,768	2,195,768	2,558,601	2,928,269	3,283,267	3,355,517	3,501,017	3,702,517	3,820,557	3,848,557	3,926,682	3,926,682	3,926,682	3,934,182	3,941,682	3,941,682
Jun-83	0	0	0	0	0	20,000	20,000	52,500	90,000	170,000	323,481	414,231	491,231	601,231	761,231	761,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	
Jun-84	0	0	0	0	25,750	58,250	168,850	347,287	466,787	700,437	904,637	1,151,138	1,199,138	1,301,139	1,351,139	1,381,139	1,418,639	1,503,639	1,548,639	1,548,639	1,548,639	1,632,639	1,632,639	1,642,639	1,642,639	1,642,639	1,792,639	1,792,639	1,792,639	1,792,639	1,792,639	
Jun-85	0	0	0	98,476	133,976	260,476	407,031	608,281	991,681	1,557,514	1,894,714	2,088,214	2,382,764	2,422,764	2,422,764	2,556,264	2,676,264	2,706,264	2,741,264	2,766,264	2,766,264	2,766,264	2,766,264	2,766,264	2,766,264	2,766,264	2,766,264	2,766,264	2,791,264			
Jun-86	0	0	58,000	174,759	387,859	534,203	871,131	1,698,030	2,285,025	2,295,025	2,442,025	2,462,025	2,548,025	2,585,525	2,585,525	2,585,525	2,585,525	2,615,525	2,670,525	2,734,525	2,750,525	2,795,525	2,853,800	3,091,601	3,091,601	3,289,601	3,291,601	3,303,601					
Jun-87	0	81,440	265,762	512,428	765,890	1,387,497	2,438,034	2,947,035	3,345,491	3,530,297	3,716,721	3,819,392	4,154,251	4,560,751	4,800,751	5,040,750	5,090,750	5,222,750	5,302,750	5,312,750	5,312,750	5,312,750	5,312,750	5,447,750	5,447,750	5,447,750	5,447,750						
Jun-88	0	106,671	307,099	725,599	1,562,083	3,135,525	4,328,025	5,039,408	5,888,408	6,261,808	6,567,134	6,808,641	7,137,104	7,137,104	7,197,014	7,197,014	7,388,681	7,453,681	7,539,014	7,639,015	7,729,015	7,879,016	7,879,016	7,937,017	7,999,017	8,057,017							
Jun-89	0	239,195	620,195	1,617,939	3,407,380	5,038,330	6,061,325	7,056,827	7,588,327	7,920,827	8,524,638	8,782,738	9,059,238	9,151,738	9,176,738	9,195,238	9,258,738	9,477,071	9,593,454	9,753,738	9,816,238	9,816,238	9,816,238	9,826,238	9,826,238								
Jun-90	0	254,094	1,459,232	3,268,528	4,586,480	5,647,235	6,632,785	7,625,785	8,035,319	8,473,619	8,839,131	9,247,964	9,288,797	9,334,797	9,365,797	9,390,797	9,496,797	9,606,922	9,736,798	9,764,298	9,797,631	9,830,965	9,864,298	9,864,298								
Jun-91	13,500	452,207	2,446,957	3,880,284	4,800,710	6,018,550	6,776,550	6,979,839	7,211,839	7,351,839	7,451,840	7,505,840	7,505,840	7,505,840	7,575,840	7,753,940	7,856,440	8,136,440	8,266,440	8,266,440	8,266,440	8,266,440	8,326,440										
Jun-92	66,000	896,673	1,479,789	2,233,286	3,072,036	3,607,537	3,902,037	4,123,537	4,305,037	4,483,037	4,685,720	4,716,970	4,730,470	4,852,738	4,886,106	4,906,973	5,233,473	5,340,473	5,420,474	5,420,474	5,420,474	5,420,474											
Jun-93	62,000	716,058	1,381,386	2,353,337	2,761,587	3,177,388	3,464,117	3,567,117	3,757,117	3,842,117	3,854,117	3,909,117	3,909,117	3,909,117	3,909,117	3,909,117	3,959,117	4,017,117	4,052,117	4,087,117	4,087,117												
Jun-94	90,000	769,356	1,632,582	2,348,106	2,873,483	3,206,984	3,406,484	3,607,984	3,655,484	3,695,534	3,695,534	3,930,034	4,001,034	4,026,034	4,051,034	4,171,034	4,177,034	4,177,034	4,177,034	4,177,034													
Jun-95	219,963	1,108,065	2,085,265	2,882,589	3,282,359	3,507,959	3,574,959	3,584,959	3,655,584	3,790,459	3,848,859	3,883,859	3,883,859	3,995,859	4,038,359	4,050,859	4,050,859	4,050,859	4,050,859														
Jun-96	80,500	785,730	1,835,086	2,491,917	2,811,368	2,921,369	3,010,536	3,169,369	3,292,369	3,423,370	3,526,370	3,588,870	3,588,870	3,607,270	3,623,870	3,623,870	3,623,870	3,623,870														
Jun-97	134,365	1,319,116	2,393,116	3,213,299	3,635,799	3,808,050	3,824,050	3,964,650	4,071,151	4,180,152	4,347,152	4,364,152	4,364,152	4,364,152	4,404,152	4,444,152	4,444,152															
Jun-98	408,337	1,298,950	2,461,625	3,126,625	3,557,716	3,822,625	3,932,960	4,094,126	4,123,126	4,131,127	4,141,127	4,368,877	4,498,877	4,617,877	4,686,877	4,686,877																
Jun-99	251,500	690,750	1,733,431	2,499,052	2,866,608	3,084,805	3,354,881	3,533,936	3,606,937	3,786,937	3,838,937	3,911,938	3,911,938	3,911,938	3,976,938																	
Jun-00	135,731	1,130,224	1,856,765	2,388,815	2,783,366	3,047,865	3,412,749	3,610,867	3,728,868	3,804,868	3,836,368	3,870,368	3,895,368	3,907,368																		
Jun-01	108,490	626,310	1,464,820	1,980,624	2,466,794	2,990,359	3,229,863	3,600,363	3,734,363	3,752,363	3,752,363	3,752,363	3,814,863																			
Jun-02	48,000	299,595	918,995	1,611,909	2,379,996	2,936,811	3,293,532	3,618,532	3,663,668	3,732,668	3,785,668	3,827,668																				
Jun-03	20,000	263,617	1,237,271	2,068,006	2,622,988	3,075,411	3,200,412	3,280,412	3,286,412	3,382,412	3,459,912																					
Jun-04	47,500	200,700	753,163	1,670,265	2,500,018	3,053,018	3,215,018	3,456,519	3,556,519	3,556,519																						
Jun-05	6,157	177,260	1,017,627	2,377,229	3,026,952	3,327,952	3,598,952	3,815,953	4,010,153																							
Jun-06	0	307,301	1,079,755	2,432,756	2,916,929	3,362,429	3,725,429	3,828,429																								
Jun-07	36,000	487,583	1,402,335	2,106,086	2,522,088	2,715,090	2,864,532																									
Jun-08	17,730	746,231	1,520,880	2,499,880	3,295,130	3,667,592																										
Jun-09	285,000	647,500	1,431,267	2,239,268	2,761,944																											
Jun-10	0	601,092	1,398,471	2,345,079																												
Jun-11	315,691	777,684	1,803,911																													
Jun-12	0	441,786																														
Jun-13	113,000																															

Commonwealth of Massachusetts Workers Compensation
All Clusters Combined
INDEMNITY
Lump Sum Development
Incremental Lump Sums as a % of Ultimate Losses Excluding Lump Sums

Acc Yr Ending	0-12	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384
All Prior Yrs	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.001	0.005	0.005	0.003	0.001	0.000	0.003	0.003	0.003	0.001	0.001	0.002	0.001	0.000	0.001	0.000	0.000	0.000	0.000	0.000
Jun-83	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.002	0.002	0.005	0.009	0.005	0.004	0.006	0.009	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-84	0.000	0.000	0.000	0.000	0.001	0.001	0.005	0.008	0.005	0.010	0.009	0.011	0.002	0.004	0.002	0.001	0.002	0.004	0.002	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000		
Jun-85	0.000	0.000	0.000	0.003	0.001	0.003	0.004	0.005	0.010	0.015	0.009	0.005	0.008	0.001	0.000	0.004	0.003	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001			
Jun-86	0.000	0.000	0.001	0.002	0.004	0.003	0.007	0.017	0.012	0.000	0.003	0.000	0.002	0.001	0.000	0.000	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.005	0.000	0.004	0.000	0.000				
Jun-87	0.000	0.002	0.004	0.005	0.005	0.012	0.021	0.010	0.008	0.004	0.004	0.002	0.007	0.008	0.005	0.005	0.001	0.003	0.002	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000					
Jun-88	0.000	0.001	0.003	0.006	0.011	0.021	0.016	0.010	0.012	0.005	0.004	0.003	0.004	0.000	0.001	0.000	0.003	0.001	0.001	0.001	0.001	0.002	0.000	0.001	0.001	0.001						
Jun-89	0.000	0.004	0.006	0.015	0.027	0.025	0.015	0.015	0.008	0.005	0.009	0.004	0.004	0.001	0.000	0.000	0.001	0.003	0.002	0.002	0.001	0.000	0.000	0.000	0.000							
Jun-90	0.000	0.004	0.019	0.029	0.021	0.017	0.016	0.016	0.007	0.007	0.006	0.007	0.001	0.001	0.000	0.000	0.002	0.002	0.002	0.000	0.001	0.001	0.001	0.000								
Jun-91	0.000	0.008	0.037	0.026	0.017	0.022	0.014	0.004	0.004	0.003	0.002	0.001	0.000	0.000	0.001	0.003	0.002	0.005	0.002	0.000	0.000	0.000	0.001									
Jun-92	0.002	0.026	0.018	0.023	0.026	0.016	0.009	0.007	0.006	0.005	0.006	0.001	0.000	0.004	0.001	0.001	0.010	0.003	0.002	0.000	0.000	0.000										
Jun-93	0.003	0.030	0.030	0.044	0.019	0.019	0.013	0.005	0.009	0.004	0.001	0.003	0.000	0.000	0.000	0.000	0.002	0.003	0.002	0.002	0.000											
Jun-94	0.004	0.028	0.036	0.030	0.022	0.014	0.008	0.008	0.002	0.002	0.000	0.010	0.003	0.001	0.001	0.005	0.000	0.000	0.000	0.000												
Jun-95	0.010	0.040	0.044	0.036	0.018	0.010	0.003	0.000	0.003	0.006	0.003	0.002	0.000	0.005	0.002	0.001	0.000	0.000	0.000													
Jun-96	0.004	0.032	0.048	0.030	0.015	0.005	0.004	0.007	0.006	0.006	0.005	0.003	0.000	0.001	0.001	0.000	0.000	0.000														
Jun-97	0.006	0.055	0.050	0.038	0.020	0.008	0.001	0.007	0.005	0.005	0.008	0.001	0.000	0.000	0.002	0.002	0.000															
Jun-98	0.017	0.036	0.047	0.027	0.017	0.011	0.004	0.007	0.001	0.000	0.000	0.009	0.005	0.005	0.003	0.000																
Jun-99	0.011	0.019	0.044	0.033	0.016	0.009	0.012	0.008	0.003	0.008	0.002	0.003	0.000	0.000	0.003																	
Jun-00	0.005	0.036	0.026	0.019	0.014	0.009	0.013	0.007	0.004	0.003	0.001	0.001	0.001	0.000																		
Jun-01	0.003	0.015	0.025	0.015	0.015	0.016	0.007	0.011	0.004	0.001	0.000	0.000	0.002																			
Jun-02	0.002	0.008	0.020	0.023	0.025	0.018	0.012	0.011	0.001	0.002	0.002	0.001																				
Jun-03	0.001	0.008	0.032	0.028	0.018	0.015	0.004	0.003	0.000	0.003	0.003																					
Jun-04	0.002	0.005	0.019	0.031	0.028	0.019	0.005	0.008	0.003	0.000																						
Jun-05	0.000	0.006	0.028	0.045	0.022	0.010	0.009	0.007	0.006																							
Jun-06	0.000	0.012	0.029	0.051	0.018	0.017	0.014	0.004																								
Jun-07	0.001	0.018	0.037	0.029	0.017	0.008	0.006																									
Jun-08	0.001	0.024	0.026	0.033	0.027	0.013																										
Jun-09	0.009	0.012	0.025	0.026	0.017																											
Jun-10	0.000	0.019	0.025	0.030																												
Jun-11	0.008	0.012	0.028																													
Jun-12	0.000	0.012																														
Jun-13	0.003																															

Averages		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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384
Simple Avg																																
All Yrs (ex P)	0.003	0.016	0.024	0.024	0.016	0.012	0.009	0.008	0.005	0.004	0.004	0.004	0.002	0.002	0.002	0.001	0.002	0.002	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.001	0.000	0.000	0.000	0.000	
Latest 5	0.004	0.016	0.028	0.034	0.020	0.013	0.008	0.007	0.003	0.002	0.001	0.003	0.002	0.001	0.002	0.001	0.001	0.001	0.001	0.000	0.000	0.001	0.000	0.002	0.000	0.001	0.001					
Latest 3	0.004	0.014	0.026	0.030	0.020	0.012	0.010	0.006	0.003	0.002	0.001	0.001	0.001	0.002	0.002	0.001	0.000	0.000	0.001	0.001	0.000	0.000	0.001	0.000	0.000	0.002	0.000	0.000	0.000			
Olympic Avg																																
All Yrs (ex P)	0.003	0.015	0.024	0.024	0.016	0.012	0.009	0.008	0.005	0.004	0.004	0.003	0.002	0.002	0.001	0.001	0.001	0.002	0.001	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000			
Latest 10	0.002	0.012	0.027	0.030	0.020	0.013	0.009	0.007	0.003	0.003	0.002	0.003	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.000	0.000										
Latest 5	0.004	0.014	0.026	0.030	0.019	0.013	0.007	0.006	0.003	0.002	0.002	0.002	0.001	0.000	0.002	0.001	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000					

Commonwealth of Massachusetts Workers Compensation
All Clusters Combined
INDEMNITY
Paid Loss Development
Paid Loss - Lump Sum only

Acc Yr Ending	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384
All Prior Yrs	0	0	0	0	0	0	12,000	58,500	89,500	109,500	293,500	408,500	546,500	1,097,484	1,691,484	2,010,268	2,165,768	2,195,768	2,558,601	2,928,269	3,283,267	3,355,517	3,501,017	3,702,517	3,820,557	3,848,557	3,926,682	3,926,682	3,926,682	3,934,182	3,941,682	3,941,682
Jun-83	0	0	0	0	0	20,000	20,000	52,500	90,000	170,000	323,481	414,231	491,231	601,231	761,231	761,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	771,231	
Jun-84	0	0	0	0	25,750	58,250	168,850	347,287	466,787	700,437	904,637	1,151,138	1,199,138	1,301,139	1,351,139	1,381,139	1,418,639	1,503,639	1,548,639	1,548,639	1,548,639	1,632,639	1,632,639	1,642,639	1,642,639	1,642,639	1,792,639	1,792,639	1,792,639	1,792,639		
Jun-85	0	0	0	98,476	133,976	260,476	407,031	608,281	991,681	1,557,514	1,894,714	2,088,214	2,382,764	2,422,764	2,422,764	2,556,264	2,676,264	2,706,264	2,741,264	2,766,264	2,766,264	2,766,264	2,766,264	2,766,264	2,766,264	2,766,264	2,766,264	2,791,264				
Jun-86	0	0	58,000	174,759	387,859	534,203	871,131	1,698,030	2,285,025	2,295,025	2,442,025	2,462,025	2,548,025	2,585,525	2,585,525	2,585,525	2,585,525	2,615,525	2,670,525	2,734,525	2,750,525	2,795,525	2,853,800	3,091,601	3,091,601	3,289,601	3,291,601	3,303,601				
Jun-87	0	81,440	265,762	512,428	765,890	1,387,497	2,438,034	2,947,035	3,345,491	3,530,297	3,716,721	3,819,392	4,154,251	4,560,751	4,800,751	5,040,750	5,090,750	5,222,750	5,302,750	5,312,750	5,312,750	5,312,750	5,312,750	5,447,750	5,447,750	5,447,750	5,447,750					
Jun-88	0	106,671	307,099	725,599	1,562,083	3,135,525	4,328,025	5,039,408	5,888,408	6,261,808	6,567,134	6,808,641	7,137,104	7,137,104	7,197,014	7,197,014	7,388,681	7,453,681	7,539,014	7,639,015	7,729,015	7,879,016	7,879,016	7,937,017	7,999,017	8,057,017						
Jun-89	0	239,195	620,195	1,617,939	3,407,380	5,038,330	6,061,325	7,056,827	7,588,327	7,920,827	8,524,638	8,782,738	9,059,238	9,151,738	9,176,738	9,195,238	9,258,738	9,477,071	9,593,454	9,753,738	9,816,238	9,816,238	9,816,238	9,826,238	9,826,238							
Jun-90	0	254,094	1,459,232	3,268,528	4,586,480	5,647,235	6,632,785	7,625,785	8,035,319	8,473,619	8,839,131	9,247,964	9,288,797	9,334,797	9,365,797	9,390,797	9,496,797	9,606,922	9,736,798	9,764,298	9,797,631	9,830,965	9,864,298	9,864,298								
Jun-91	13,500	452,207	2,446,957	3,880,284	4,800,710	6,018,550	6,776,550	6,979,839	7,211,839	7,351,839	7,451,840	7,505,840	7,505,840	7,505,840	7,575,840	7,753,940	7,856,440	8,136,440	8,266,440	8,266,440	8,266,440	8,266,440	8,326,440									
Jun-92	66,000	896,673	1,479,789	2,233,286	3,072,036	3,607,537	3,902,037	4,123,537	4,305,037	4,483,037	4,685,720	4,716,970	4,730,470	4,852,738	4,886,106	4,906,973	5,233,473	5,340,473	5,420,474	5,420,474	5,420,474	5,420,474										
Jun-93	62,000	716,058	1,381,386	2,353,337	2,761,587	3,177,388	3,464,117	3,567,117	3,757,117	3,842,117	3,854,117	3,909,117	3,909,117	3,909,117	3,909,117	3,909,117	3,959,117	4,017,117	4,052,117	4,087,117	4,087,117											
Jun-94	90,000	769,356	1,632,582	2,348,106	2,873,483	3,206,984	3,406,484	3,607,984	3,655,484	3,695,534	3,695,534	3,930,034	4,001,034	4,026,034	4,051,034	4,171,034	4,177,034	4,177,034	4,177,034	4,177,034												
Jun-95	219,963	1,108,065	2,085,265	2,882,589	3,282,359	3,507,959	3,574,959	3,584,959	3,655,584	3,790,459	3,848,859	3,883,859	3,883,859	3,995,859	4,038,359	4,050,859	4,050,859	4,050,859	4,050,859													
Jun-96	80,500	785,730	1,835,086	2,491,917	2,811,368	2,921,369	3,010,536	3,169,369	3,292,369	3,423,370	3,526,370	3,588,870	3,588,870	3,607,270	3,623,870	3,623,870	3,623,870	3,623,870														
Jun-97	134,365	1,319,116	2,393,116	3,213,299	3,635,799	3,808,050	3,824,050	3,964,650	4,071,151	4,180,152	4,347,152	4,364,152	4,364,152	4,364,152	4,404,152	4,444,152	4,444,152															
Jun-98	408,337	1,298,950	2,461,625	3,126,625	3,557,716	3,822,625	3,932,960	4,094,126	4,123,126	4,131,127	4,141,127	4,368,877	4,498,877	4,617,877	4,686,877	4,686,877																
Jun-99	251,500	690,750	1,733,431	2,499,052	2,866,608	3,084,805	3,354,881	3,533,936	3,606,937	3,786,937	3,838,937	3,911,938	3,911,938	3,911,938	3,976,938																	
Jun-00	135,731	1,130,224	1,856,765	2,388,815	2,783,366	3,047,865	3,412,749	3,610,867	3,728,868	3,804,868	3,836,368	3,870,368	3,895,368	3,907,368																		
Jun-01	108,490	626,310	1,464,820	1,980,624	2,466,794	2,990,359	3,229,863	3,600,363	3,734,363	3,752,363	3,752,363	3,752,363	3,814,863																			
Jun-02	48,000	299,595	918,995	1,611,909	2,379,996	2,936,811	3,293,532	3,618,532	3,663,668	3,732,668	3,785,668	3,827,668																				
Jun-03	20,000	263,617	1,237,271	2,068,006	2,622,988	3,075,411	3,200,412	3,280,412	3,286,412	3,382,412	3,459,912																					
Jun-04	47,500	200,700	753,163	1,670,265	2,500,018	3,053,018	3,215,018	3,456,519	3,556,519	3,556,519																						
Jun-05	6,157	177,260	1,017,627	2,377,229	3,026,952	3,327,952	3,598,952	3,815,953	4,010,153																							
Jun-06	0	307,301	1,079,755	2,432,756	2,916,929	3,362,429	3,725,429	3,828,429																								
Jun-07	36,000	487,583	1,402,335	2,106,086	2,522,088	2,715,090	2,864,532																									
Jun-08	17,730	746,231	1,520,880	2,499,880	3,295,130	3,667,592																										
Jun-09	285,000	647,500	1,431,267	2,239,268	2,761,944																											
Jun-10	0	601,092	1,398,471	2,345,079																												
Jun-11	315,691	777,684	1,803,911																													
Jun-12	0	441,786																														
Jun-13	113,000																															

Age-to-Age Factors

Acc Yr Ending	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	To Ult
All Prior Yrs							4.875	1.530	1.223	2.680	1.392	1.338	2.008	1.541	1.188	1.077	1.014	1.165	1.144	1.121	1.022	1.043	1.058	1.032	1.007	1.020	1.000	1.000	1.002	1.002	1.000	
Jun-83						1.000	2.625	1.714	1.889	1.903	1.281	1.186	1.224	1.266	1.000	1.013	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
Jun-84					2.262	2.899	2.057	1.344	1.501	1.292	1.272	1.042	1.085	1.038	1.022	1.027	1.060	1.030	1.000	1.000	1.054	1.000	1.006	1.000	1.000	1.000	1.091	1.000	1.000			
Jun-85				1.360	1.944	1.563	1.494	1.630	1.571	1.216	1.102	1.141	1.017	1.000	1.055	1.047	1.011	1.013	1.009	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.009				
Jun-86			3.013	2.219	1.377	1.631	1.949	1.346	1.004	1.064	1.008	1.035	1.015	1.000	1.000	1.000	1.012	1.021	1.024	1.006	1.016	1.021	1.083	1.000	1.064	1.001	1.004					
Jun-87		3.263	1.928	1.495	1.812	1.757	1.209	1.135	1.055	1.053	1.028	1.088	1.098	1.053	1.050	1.010	1.026	1.015	1.002	1.000	1.000	1.000	1.025	1.000	1.000	1.000						
Jun-88		2.879	2.363	2.153	2.007	1.380	1.164	1.168	1.063	1.049	1.037	1.048	1.000	1.008	1.000	1.027	1.009	1.011	1.013	1.012	1.019	1.000	1.007	1.008	1.007							
Jun-89		2.593	2.609	2.106	1.479	1.203	1.164	1.075	1.044	1.076	1.030	1.031	1.010	1.003	1.002	1.007	1.024	1.012	1.017	1.006	1.000	1.000	1.001	1.000								
Jun-90		5.743	2.240	1.403	1.231	1.175	1.150	1.054	1.055	1.043	1.046	1.004	1.005	1.003	1.003	1.011	1.012	1.014	1.003	1.003	1.003	1.003	1.000									
Jun-91	33.497	5.411	1.586	1.237	1.254	1.126	1.030	1.033	1.019	1.014	1.007	1.000	1.000	1.009	1.024	1.013	1.036	1.016	1.000	1.000	1.000	1.007										
Jun-92	13.586	1.650	1.509	1.376	1.174	1.082	1.057	1.044	1.041	1.045	1.007	1.003	1.026	1.007	1.004	1.067	1.020	1.015	1.000	1.000	1.000											
Jun-93	11.549	1.929	1.704	1.173	1.151	1.090	1.030	1.053	1.023	1.003	1.014	1.000	1.000	1.000	1.000	1.013	1.015	1.009	1.009	1.000												
Jun-94	8.548	2.122	1.438	1.224	1.116	1.062	1.059	1.013	1.011	1.000	1.063	1.018	1.006	1.006	1.030	1.001	1.000	1.000	1.000													
Jun-95	5.038	1.882	1.382	1.139	1.069	1.019	1.003	1.020	1.037	1.015	1.009	1.000	1.029	1.011	1.003	1.000	1.000	1.000														
Jun-96	9.761	2.336	1.358	1.128	1.039	1.031	1.053	1.039	1.040	1.030	1.018	1.000	1.005	1.005	1.000	1.000	1.000															
Jun-97	9.817	1.814	1.343	1.131	1.047	1.004	1.037	1.027	1.027	1.040	1.004	1.000	1.000	1.009	1.009	1.000																
Jun-98	3.181	1.895	1.270	1.138	1.074	1.029	1.041	1.007	1.002	1.002	1.055	1.030	1.026	1.015	1.000																	
Jun-99	2.747	2.509	1.442	1.147	1.076	1.088	1.053	1.021	1.050	1.014	1.019	1.000	1.000	1.017																		
Jun-00	8.327	1.643	1.287	1.165	1.095	1.120	1.058	1.033	1.020	1.008	1.009	1.006	1.003																			
Jun-01	5.773	2.339	1.352	1.245	1.212	1.080	1.115	1.037	1.005	1.000	1.000	1.017																				
Jun-02	6.242	3.067	1.754	1.477	1.234	1.121	1.099	1.012	1.019	1.014	1.011																					
Jun-03	13.181	4.693	1.671	1.268	1.172	1.041	1.025	1.002	1.029	1.023																						
Jun-04	4.225	3.753	2.218	1.497	1.221	1.053	1.075	1.029	1.000																							
Jun-05	28.790	5.741	2.336	1.273	1.099	1.081	1.060	1.051																								
Jun-06		3.514	2.253	1.199	1.153	1.108	1.028																									
Jun-07	13.544	2.876	1.502	1.198	1.077	1.055																										
Jun-08	42.089	2.038	1.644	1.318	1.113																											
Jun-09	2.272	2.210	1.565	1.233																												
Jun-10		2.327	1.677																													
Jun-11	2.463	2.320																														
Jun-12																																

Averages	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	To Ult
Simple Avg																																
All Yrs (ex P)	11.823	2.902	1.778	1.372	1.300	1.232	1.235	1.126	1.114	1.091	1.051	1.034	1.031	1.026	1.013	1.016	1.016	1.012	1.006	1.002	1.009	1.003	1.015	1.001	1.012	1.018	1.001	1.003	1.000	1.000		
Latest 5		2.354	1.728	1.244	1.133	1.068	1.057	1.026	1.015	1.012	1.019	1.011	1.007	1.011	1.008	1.003	1.007	1.008	1.002	1.002	1.005	1.002	1.023	1.002	1.014	1.018						
Latest 3		2.286	1.628	1.250	1.114	1.081	1.054	1.027	1.016	1.012	1.007	1.008	1.010	1.014	1.003	1.000	1.000	1.003	1.003	1.000	1.001	1.004	1.003	1.003	1.024	1.000	1.001	1.003				
Volume Wtd																																
All Yrs (ex P)	6.574	2.406	1.611	1.284	1.190	1.122	1.092	1.060	1.041	1.038	1.029	1.022	1.015	1.012	1.011	1.015	1.017	1.012	1.007	1.003	1.006	1.003	1.011	1.002	1.012	1.011	1.001	1.005	1.000			
Latest 5		2.318	1.701	1.246	1.131	1.069	1.057	1.027	1.014	1.012	1.019	1.011	1.007	1.011	1.008	1.003	1.008	1.010	1.002	1.003	1.004	1.002	1.012	1.002	1.012	1.011						
Latest 3		2.287	1.628	1.253	1.116	1.083	1.053	1.028	1.016	1.012	1.007	1.008	1.011	1.013	1.003	1.000	1.000	1.003	1.003	1.000	1.001	1.003	1.002	1.003	1.015	1.000	1.002	1.005				

All Clusters Combined

Indemnity

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At: 4%	6%
384	100.0%	7.7%	0.0%	2.2%	1.2%	1.000	1.000
372	92.3%	3.6%	7.7%	1.1%	0.6%	0.981	0.971
360	88.7%	-0.3%	11.3%	-0.1%	-0.1%	0.955	0.934
348	88.9%	0.7%	11.1%	0.2%	0.1%	0.916	0.879
336	88.2%	-2.1%	11.8%	-0.7%	-0.4%	0.887	0.838
324	90.4%	1.5%	9.6%	0.5%	0.3%	0.825	0.750
312	88.9%	-1.7%	11.1%	-0.6%	-0.4%	0.818	0.742
300	90.7%	-0.2%	9.3%	-0.1%	0.0%	0.750	0.649
288	90.8%	7.4%	9.2%	2.9%	1.9%	0.717	0.607
276	83.5%	-3.9%	16.5%	-1.6%	-1.0%	0.819	0.750
264	87.3%	3.7%	12.7%	1.6%	1.1%	0.729	0.627
252	83.6%	-1.1%	16.4%	-0.5%	-0.3%	0.764	0.677
240	84.8%	0.0%	15.2%	0.0%	0.0%	0.716	0.614
228	84.8%	1.3%	15.2%	0.6%	0.4%	0.687	0.578
216	83.5%	1.3%	16.5%	0.7%	0.5%	0.686	0.578
204	82.2%	-0.5%	17.8%	-0.3%	-0.2%	0.684	0.578
192	82.7%	2.0%	17.3%	1.1%	0.8%	0.647	0.532
180	80.7%	1.8%	19.3%	1.0%	0.8%	0.660	0.551
168	78.8%	0.4%	21.2%	0.2%	0.2%	0.665	0.559
156	78.4%	2.0%	21.6%	1.2%	1.0%	0.646	0.537
144	76.4%	1.2%	23.6%	0.8%	0.6%	0.652	0.546
132	75.2%	1.1%	24.8%	0.7%	0.6%	0.644	0.538
120	74.1%	2.5%	25.9%	1.7%	1.4%	0.634	0.526
108	71.6%	2.4%	28.4%	1.7%	1.5%	0.642	0.538
96	69.2%	2.5%	30.8%	1.8%	1.6%	0.646	0.543
84	66.8%	4.8%	33.2%	3.7%	3.3%	0.648	0.547
72	62.0%	4.1%	38.0%	3.3%	3.0%	0.668	0.573
60	57.8%	6.1%	42.2%	5.1%	4.7%	0.676	0.583
48	51.7%	7.7%	48.3%	6.7%	6.3%	0.692	0.604
36	44.0%	11.5%	56.0%	10.4%	10.0%	0.708	0.624
24	32.5%	17.0%	67.5%	16.0%	15.6%	0.732	0.654
12	15.5%	15.5%	84.5%	15.2%	15.1%	0.760	0.688
Total		100.0%					

NOTES:

(2) = 1 / Section 1, Exhibit 1, Page 2, Column 4

(3) Incremental % based on (2)

(4) = 1 - (2)

(5) = [(3) / 1.04] ^ {[(1) - 6] / 12}

(6) = [(3) / 1.06] ^ {[(1) - 6] / 12}

(7), (8) Discount factor based on (5), (6)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Indemnity

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	16,507,137	25,738,686		14,489,954	22,603,577
6/30/82-83	929,000	1,869,083	0.981	910,959	1,832,787
6/30/83-84	2,190,857	3,458,502	0.955	2,098,482	3,309,853
6/30/84-85	1,430,489	3,537,294	0.916	1,323,885	3,270,606
6/30/85-86	2,677,475	4,261,495	0.887	2,420,920	3,846,591
6/30/86-87	1,852,273	4,302,584	0.825	1,649,897	3,761,698
6/30/87-88	4,840,641	7,290,769	0.818	4,227,689	6,357,670
6/30/88-89	5,009,971	7,141,196	0.750	4,292,229	6,091,320
6/30/89-90	4,393,389	6,042,154	0.717	3,697,326	5,085,834
6/30/90-91	4,023,222	8,398,276	0.819	3,344,089	6,933,433
6/30/91-92	3,258,386	4,520,781	0.729	2,691,203	3,745,055
6/30/92-93	2,450,356	4,015,926	0.764	1,977,622	3,249,676
6/30/93-94	2,879,961	3,972,961	0.716	2,299,908	3,209,556
6/30/94-95	3,264,316	4,026,316	0.687	2,558,510	3,155,446
6/30/95-96	3,335,979	4,098,885	0.686	2,583,403	3,182,540
6/30/96-97	3,843,911	4,548,359	0.684	2,923,513	3,464,723
6/30/97-98	4,333,778	4,973,692	0.647	3,238,998	3,721,964
6/30/98-99	4,693,958	5,375,958	0.660	3,468,070	3,983,119
6/30/99-00	6,045,538	6,829,538	0.665	4,408,538	4,980,860
6/30/00-01	6,743,143	8,157,280	0.646	4,836,841	5,852,989
6/30/01-02	7,503,975	8,311,975	0.652	5,319,734	5,892,696
6/30/02-03	7,344,538	8,656,756	0.644	5,114,483	6,024,732
6/30/03-04	7,648,914	8,980,221	0.634	5,247,540	6,170,065
6/30/04-05	8,564,261	9,478,261	0.642	5,799,500	6,436,174
6/30/05-06	9,026,485	10,498,485	0.646	6,079,083	7,081,779
6/30/06-07	9,456,573	11,836,573	0.648	6,322,386	7,937,179
6/30/07-08	12,527,938	15,096,938	0.668	8,449,330	10,178,090
6/30/08-09	15,631,990	17,401,990	0.676	10,568,063	11,787,057
6/30/09-10	18,699,350	21,592,350	0.692	12,914,595	14,969,612
6/30/10-11	24,950,004	28,555,004	0.708	17,696,440	20,294,010
6/30/11-12	29,920,888	35,090,888	0.732	21,895,594	25,757,515
6/30/12-13	40,112,427	46,560,427	0.760	30,501,695	35,572,409
Total	276,091,119	344,619,604		205,350,477	259,740,614
			(7) Total Discount Factor:	0.744	0.754

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	16,507,137	25,738,686
(9) Projected Number of Years:	N/A	N/A
(10) Projected Paid Loss per Year:	2,495,880	3,921,960
(11) Discounted Value at 4%:	14,489,954	22,603,577

NOTES:
(2), (3) From Section 1, Exhibit 1, Page 1, Columns 8, 9
(4) From Section 1, Exhibit 1, Page 13, Column 7
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Indemnity

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	16,507,137	25,738,686		13,633,043	21,271,524
6/30/82-83	929,000	1,869,083	0.981	902,324	1,815,414
6/30/83-84	2,190,857	3,458,502	0.955	2,055,308	3,240,406
6/30/84-85	1,430,489	3,537,294	0.916	1,275,423	3,149,419
6/30/85-86	2,677,475	4,261,495	0.887	2,307,041	3,662,569
6/30/86-87	1,852,273	4,302,584	0.825	1,561,751	3,528,288
6/30/87-88	4,840,641	7,290,769	0.818	3,966,276	5,960,071
6/30/88-89	5,009,971	7,141,196	0.750	3,992,272	5,653,853
6/30/89-90	4,393,389	6,042,154	0.717	3,412,869	4,695,226
6/30/90-91	4,023,222	8,398,276	0.819	3,071,663	6,349,969
6/30/91-92	3,258,386	4,520,781	0.729	2,466,644	3,438,343
6/30/92-93	2,450,356	4,015,926	0.764	1,794,100	2,951,635
6/30/93-94	2,879,961	3,972,961	0.716	2,078,227	2,917,227
6/30/94-95	3,264,316	4,026,316	0.687	2,293,514	2,828,447
6/30/95-96	3,335,979	4,098,885	0.686	2,304,606	2,842,864
6/30/96-97	3,843,911	4,548,359	0.684	2,588,492	3,069,995
6/30/97-98	4,333,778	4,973,692	0.647	2,847,596	3,274,060
6/30/98-99	4,693,958	5,375,958	0.660	3,035,861	3,491,425
6/30/99-00	6,045,538	6,829,538	0.665	3,840,418	4,339,081
6/30/00-01	6,743,143	8,157,280	0.646	4,186,648	5,066,832
6/30/01-02	7,503,975	8,311,975	0.652	4,585,365	5,079,133
6/30/02-03	7,344,538	8,656,756	0.644	4,377,423	5,154,774
6/30/03-04	7,648,914	8,980,221	0.634	4,469,421	5,258,042
6/30/04-05	8,564,261	9,478,261	0.642	4,915,841	5,462,595
6/30/05-06	9,026,485	10,498,485	0.646	5,149,734	6,002,909
6/30/06-07	9,456,573	11,836,573	0.648	5,350,426	6,723,661
6/30/07-08	12,527,938	15,096,938	0.668	7,192,117	8,663,613
6/30/08-09	15,631,990	17,401,990	0.676	9,026,714	10,077,335
6/30/09-10	18,699,350	21,592,350	0.692	11,162,588	12,959,652
6/30/10-11	24,950,004	28,555,004	0.708	15,503,856	17,794,602
6/30/11-12	29,920,888	35,090,888	0.732	19,464,994	22,928,980
6/30/12-13	40,112,427	46,560,427	0.760	27,556,563	32,196,472
Total	276,091,119	344,619,604		182,369,120	231,848,418
			(7) Total Discount Factor:	0.661	0.673

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	16,507,137	25,738,686
(9) Projected Number of Years:	N/A	N/A
(10) Projected Paid Loss per Year:	2,495,880	3,921,960
(11) Discounted Value at 6%:	13,633,043	21,271,524

NOTES:
(2), (3) From Section 1, Exhibit 1, Page 1, Columns 8, 9
(4) From Section 1, Exhibit 1, Page 13, Column 8
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Total Indemnity (Including Lump Sums) + Medical

Calculation of Fiscal Year 7/1/13 - 14 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Cumulative	Incremental Paid		Estimated Payments from		FY 7/1/13 - 6/30/14	
Accident	Est Ult Losses	Est Ult Losses	Paid Losses	Reserves	Reserves	Percent	as a % of	as a % of	7/1/13 - 6/30/14		as a % of Reserves	
Year	(Low)	(High)	to Date	(Low)	(High)	Paid	Ultimates	Reserves	(Low)	(High)	(Low)	(High)
All Prior Yrs	116,855,222	127,168,558	99,346,096	17,509,126	27,822,462				1,464,269	1,610,696	8.4%	5.8%
6/30/82-83	18,885,074	19,860,823	17,951,311	933,763	1,909,511	92.7%	1.0%	13.6%	115,686	289,358	12.4%	15.2%
6/30/83-84	28,022,273	29,396,227	25,813,638	2,208,635	3,582,589	89.9%	1.0%	9.9%	213,299	404,825	9.7%	11.3%
6/30/84-85	40,239,124	42,365,314	38,754,498	1,484,626	3,610,816	93.8%	1.0%	16.2%	289,538	677,218	19.5%	18.8%
6/30/85-86	54,500,197	56,116,202	51,743,311	2,756,886	4,372,890	93.6%	1.0%	15.5%	405,896	618,190	14.7%	14.1%
6/30/86-87	59,414,562	61,887,028	57,437,027	1,977,536	4,450,001	94.7%	1.0%	18.9%	403,975	749,563	20.4%	16.8%
6/30/87-88	88,006,866	90,473,994	82,901,411	5,105,455	7,572,583	92.9%	1.0%	14.1%	718,961	1,146,881	14.1%	15.1%
6/30/88-89	87,229,804	89,392,024	81,860,342	5,369,462	7,531,682	92.7%	1.0%	13.7%	770,262	1,137,034	14.3%	15.1%
6/30/89-90	83,668,261	85,407,346	78,902,219	4,766,042	6,505,127	93.3%	1.0%	15.0%	911,297	1,266,954	19.1%	19.5%
6/30/90-91	69,939,725	74,367,696	65,477,543	4,462,182	8,890,153	90.7%	1.0%	10.8%	687,412	1,266,278	15.4%	14.2%
6/30/91-92	47,777,823	49,086,333	44,128,376	3,649,448	4,957,957	91.1%	2.0%	22.5%	531,310	691,666	14.6%	14.0%
6/30/92-93	33,045,124	34,639,630	30,240,922	2,804,202	4,398,708	89.4%	2.0%	18.8%	411,893	582,396	14.7%	13.2%
6/30/93-94	35,996,000	37,097,000	32,680,548	3,315,452	4,416,452	89.4%	2.0%	18.9%	482,360	599,850	14.5%	13.6%
6/30/94-95	33,591,423	34,362,476	29,898,090	3,693,332	4,464,386	88.0%	2.0%	16.7%	487,946	571,108	13.2%	12.8%
6/30/95-96	32,167,029	32,957,516	28,374,742	3,792,287	4,582,774	87.1%	2.0%	15.6%	429,189	532,495	11.3%	11.6%
6/30/96-97	33,289,684	34,014,912	28,860,810	4,428,875	5,154,102	85.8%	2.0%	14.0%	501,093	565,632	11.3%	11.0%
6/30/97-98	36,374,642	37,063,906	31,425,506	4,949,135	5,638,400	85.6%	2.0%	13.9%	632,263	700,270	12.8%	12.4%
6/30/98-99	34,844,000	35,546,000	29,396,399	5,447,601	6,149,601	83.5%	2.0%	12.1%	599,199	672,187	11.0%	10.9%
6/30/99-00	40,201,000	41,016,000	33,215,564	6,985,436	7,800,436	81.8%	3.0%	16.5%	834,955	912,889	12.0%	11.7%
6/30/00-01	46,801,563	48,356,000	38,879,135	7,922,428	9,476,865	81.7%	3.2%	17.5%	898,036	1,070,790	11.3%	11.3%
6/30/01-02	42,973,000	43,812,000	34,332,143	8,640,857	9,479,857	79.1%	2.6%	12.4%	785,732	841,019	9.1%	8.9%
6/30/02-03	42,400,782	43,886,000	33,761,209	8,639,573	10,124,791	78.3%	0.9%	4.0%	723,178	859,079	8.4%	8.5%
6/30/03-04	42,880,694	44,394,400	33,702,710	9,177,983	10,691,690	77.2%	1.0%	4.5%	639,493	743,322	7.0%	7.0%
6/30/04-05	45,002,000	47,103,200	35,199,405	9,802,595	11,903,795	76.4%	2.0%	8.5%	821,584	1,011,791	8.4%	8.5%
6/30/05-06	41,465,000	43,615,900	30,738,273	10,726,727	12,877,627	72.3%	4.2%	15.1%	1,622,224	1,931,802	15.1%	15.0%
6/30/06-07	39,700,000	43,384,100	28,465,514	11,234,486	14,918,586	68.5%	3.7%	11.9%	1,155,058	1,467,614	10.3%	9.8%
6/30/07-08	45,712,000	49,207,200	30,735,387	14,976,613	18,471,813	64.8%	3.8%	10.7%	1,541,665	1,914,601	10.3%	10.4%
6/30/08-09	47,649,000	50,935,050	29,358,749	18,290,251	21,576,301	59.6%	5.2%	12.9%	2,288,092	2,709,027	12.5%	12.6%
6/30/09-10	48,357,000	53,103,950	26,593,962	21,763,038	26,509,988	52.4%	7.1%	15.0%	3,196,854	4,068,990	14.7%	15.3%
6/30/10-11	55,501,000	61,141,750	26,307,686	29,193,314	34,834,064	45.1%	7.3%	13.3%	3,625,979	4,168,633	12.4%	12.0%
6/30/11-12	55,299,000	62,943,050	19,325,688	35,973,312	43,617,362	32.7%	12.4%	18.5%	6,400,428	7,906,209	17.8%	18.1%
6/30/12-13	59,444,000	69,592,100	8,980,703	50,463,297	60,611,397	13.9%	18.8%	21.8%	10,963,544	12,965,288	21.7%	21.4%
Total	1,587,232,870	1,673,693,684	1,264,788,918	322,443,952	408,904,766				45,552,672	56,653,655	14.1%	13.9%

NOTES:

(2) Exhibit 1, Page 1, Column (4) + Exhibit 2, Page 1, Column (4)
(3) Exhibit 1, Page 1, Column (5) + Exhibit 2, Page 1, Column (5)
(4) Exhibit 1, Page 1, Column (2) + Exhibit 2, Page 1, Column (2)
(5) = (2) - (4)
(6) = (3) - (4)
(7) = (4) / Average of Columns (2), (3)
(8) = (7) - Prior Year's (7)
(9) = (8) / (1.00 - (7))
(10), (11) Sum of Columns (10), (11) for all clusters
(12) = (10) / (5)
(13) = (11) / (6)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Medical

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Paid Loss	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		6,204,181			7,206,170	8,287,956	1,001,990	2,083,776		
6/30/82-83		1,237,128	1,252,862		1,241,891	1,277,556	4,763	40,428		
6/30/83-84		3,246,544	3,300,507		3,264,321	3,370,630	17,778	124,086		
6/30/84-85	1,823,085	3,181,218	3,241,810	3,236,170	3,235,354	3,254,739	54,136	73,521	0.177	0.179
6/30/85-86	1,952,445	4,952,720	5,055,424	5,052,315	5,032,131	5,064,115	79,411	111,395	0.258	0.259
6/30/86-87	2,220,820	5,726,299	5,857,960	5,862,154	5,851,562	5,873,716	125,263	147,417	0.263	0.264
6/30/87-88	2,885,583	9,708,186	9,978,583	9,983,460	9,973,000	9,990,000	264,814	281,814	0.346	0.346
6/30/88-89	3,098,180	11,930,739	12,291,669	12,295,655	12,290,230	12,321,225	359,491	390,486	0.397	0.398
6/30/89-90	3,079,763	12,538,576	12,976,563	12,989,806	12,911,230	13,001,549	372,653	462,973	0.419	0.422
6/30/90-91	2,914,364	11,823,905	12,302,248	12,299,098	12,262,865	12,315,782	438,960	491,877	0.421	0.423
6/30/91-92	2,880,434	10,366,472	10,786,422	10,781,593	10,757,534	10,803,647	391,062	437,175	0.373	0.375
6/30/92-93	2,887,238	7,755,902	8,117,039	8,112,141	8,109,747	8,138,684	353,846	382,782	0.281	0.282
6/30/93-94	3,056,850	8,037,509	8,481,769	8,474,093	8,473,000	8,481,000	435,491	443,491	0.277	0.277
6/30/94-95	3,158,808	6,797,406	7,238,929	7,232,067	7,226,423	7,235,476	429,017	438,070	0.229	0.229
6/30/95-96	3,301,791	6,537,735	7,011,534	7,005,006	6,994,043	7,021,625	456,308	483,890	0.212	0.213
6/30/96-97	3,902,868	6,857,883	7,456,275	7,448,890	7,442,847	7,463,626	584,964	605,743	0.191	0.191
6/30/97-98	3,776,138	6,271,642	6,893,804	6,888,167	6,887,000	6,936,350	615,358	664,708	0.182	0.184
6/30/98-99	4,017,530	6,478,357	7,238,277	7,232,106	7,232,000	7,252,000	753,643	773,643	0.180	0.181
6/30/99-00	4,221,786	7,262,102	8,215,522	8,202,616	8,202,000	8,233,000	939,898	970,898	0.194	0.195
6/30/00-01	4,310,725	8,845,415	10,136,519	10,106,656	10,024,700	10,165,000	1,179,285	1,319,585	0.233	0.236
6/30/01-02	4,438,755	7,073,118	8,215,814	8,217,451	8,210,000	8,241,000	1,136,882	1,167,882	0.185	0.186
6/30/02-03	4,423,888	7,650,965	9,097,142	9,087,631	8,946,000	9,119,000	1,295,035	1,468,035	0.202	0.206
6/30/03-04	4,482,207	8,180,931	9,853,553	9,843,228	9,710,000	9,892,400	1,529,069	1,711,469	0.217	0.221
6/30/04-05	4,639,517	9,739,666	12,139,321	11,575,888	10,978,000	12,165,200	1,238,334	2,425,534	0.237	0.262
6/30/05-06	4,938,165	8,685,758	10,964,320	10,900,920	10,386,000	11,064,900	1,700,242	2,379,142	0.210	0.224
6/30/06-07	5,183,126	9,197,087	12,138,518	11,828,996	10,975,000	12,279,100	1,777,913	3,082,013	0.212	0.237
6/30/07-08	5,508,425	8,613,325	11,639,003	11,925,011	11,062,000	11,988,200	2,448,675	3,374,875	0.201	0.218
6/30/08-09	5,447,676	8,775,739	12,331,325	12,495,644	11,434,000	12,950,050	2,658,261	4,174,311	0.210	0.238
6/30/09-10	5,525,579	7,731,312	11,434,372	12,221,180	10,795,000	12,648,950	3,063,688	4,917,638	0.195	0.229
6/30/10-11	5,712,303	8,085,690	13,235,894	13,700,855	12,329,000	14,364,750	4,243,310	6,279,060	0.216	0.251
6/30/11-12	5,880,714	6,711,576	13,692,858	14,469,729	12,764,000	15,238,050	6,052,424	8,526,474	0.217	0.259
6/30/12-13	6,162,621	2,903,130	14,532,952	15,868,784	13,254,000	16,954,100	10,350,870	14,050,970	0.215	0.275
Total	115,831,383	239,108,217	287,108,792	285,337,307	285,461,050	303,393,379	46,352,833	64,285,162		
Tot 6/30/84-13	115,831,383	228,420,365	282,555,422	285,337,307	273,748,667	290,457,236	45,328,302	62,036,872	0.236	0.251

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 1, Exhibit 2, Page 2, Column 3

(4) From Section 1, Exhibit 2, Page 2, Column 8

(5) From Section 1, Exhibit 2, Page 3, Column 8

(6), (7) Selected based on (3), (4), and (5)

(8) = (6) - (3)

(9) = (7) - (3)

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Medical

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Accident Year	Payroll (000's)	Paid Loss	Paid LDF	Adjustment for Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/11-12	Paid Counts 7/1/12-13	Average Outstanding Claim
All Prior Yrs		6,204,181							9	7	
6/30/82-83		1,237,128	1.013	N/A	1,252,862	N/A	1,252,862		2	2	7,867
6/30/83-84		3,246,544	1.017	N/A	3,300,507	N/A	3,300,507		2	1	53,964
6/30/84-85	1,823,085	3,181,218	1.019	N/A	3,241,810	N/A	3,241,810	0.178	3	4	15,148
6/30/85-86	1,952,445	4,952,720	1.021	N/A	5,055,424	N/A	5,055,424	0.259	3	4	25,676
6/30/86-87	2,220,820	5,726,299	1.023	N/A	5,857,960	N/A	5,857,960	0.264	5	4	32,915
6/30/87-88	2,885,583	9,708,186	1.028	N/A	9,978,583	N/A	9,978,583	0.346	15	16	16,900
6/30/88-89	3,098,180	11,930,739	1.030	N/A	12,291,669	N/A	12,291,669	0.397	18	18	20,052
6/30/89-90	3,079,763	12,538,576	1.035	N/A	12,976,563	N/A	12,976,563	0.421	10	12	36,499
6/30/90-91	2,914,364	11,823,905	1.040	N/A	12,302,248	N/A	12,302,248	0.422	19	17	28,138
6/30/91-92	2,880,434	10,366,472	1.041	N/A	10,786,422	N/A	10,786,422	0.374	11	14	29,996
6/30/92-93	2,887,238	7,755,902	1.047	N/A	8,117,039	N/A	8,117,039	0.281	13	13	27,780
6/30/93-94	3,056,850	8,037,509	1.055	N/A	8,481,769	N/A	8,481,769	0.277	22	19	23,382
6/30/94-95	3,158,808	6,797,406	1.065	N/A	7,238,929	N/A	7,238,929	0.229	17	21	21,025
6/30/95-96	3,301,791	6,537,735	1.072	N/A	7,011,534	N/A	7,011,534	0.212	10	7	67,686
6/30/96-97	3,902,868	6,857,883	1.087	N/A	7,456,275	N/A	7,456,275	0.191	20	20	29,920
6/30/97-98	3,776,138	6,271,642	1.099	N/A	6,893,804	N/A	6,893,804	0.183	21	17	36,598
6/30/98-99	4,017,530	6,478,357	1.117	N/A	7,238,277	N/A	7,238,277	0.180	23	24	31,663
6/30/99-00	4,221,786	7,262,102	1.131	N/A	8,215,522	N/A	8,215,522	0.195	27	27	35,312
6/30/00-01	4,310,725	8,845,415	1.146	N/A	10,136,519	N/A	10,136,519	0.235	39	36	35,864
6/30/01-02	4,438,755	7,073,118	1.162	N/A	8,215,814	N/A	8,215,814	0.185	56	47	24,313
6/30/02-03	4,423,888	7,650,965	1.189	N/A	9,097,142	N/A	9,097,142	0.206	51	43	33,632
6/30/03-04	4,482,207	8,180,931	1.204	N/A	9,853,553	N/A	9,853,553	0.220	52	48	34,846
6/30/04-05	4,639,517	9,739,666	1.246	N/A	12,139,321	N/A	12,139,321	0.262	68	51	47,052
6/30/05-06	4,938,165	8,685,758	1.262	N/A	10,964,320	N/A	10,964,320	0.222	77	66	34,524
6/30/06-07	5,183,126	9,197,087	1.320	N/A	12,138,518	N/A	12,138,518	0.234	91	77	38,200
6/30/07-08	5,508,425	8,613,325	1.351	N/A	11,639,003	N/A	11,639,003	0.211	133	112	27,015
6/30/08-09	5,447,676	8,775,739	1.405	N/A	12,331,325	N/A	12,331,325	0.226	204	132	26,936
6/30/09-10	5,525,579	7,731,312	1.479	N/A	11,434,372	N/A	11,434,372	0.207	368	183	20,235
6/30/10-11	5,712,303	8,085,690	1.637	N/A	13,235,894	N/A	13,235,894	0.232	1,490	399	12,908
6/30/11-12	5,880,714	6,711,576	2.040	N/A	13,692,858	N/A	13,692,858	0.233	2,380	1,526	4,575
6/30/12-13	6,162,621	2,903,130	5.006	N/A	14,532,952	N/A	14,532,952	0.236		2,177	5,342
Total	115,831,383	239,108,217			287,108,792		287,108,792		5,259	5,144	

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3), (4) From Section 1, Exhibit 2, Page 7

(5) Based on information from the MA WCRIB 9/1/12 filing. Consideration for development beyond 252 months made in selection of LDF's.

(6) = (3) x (4) x (5)

(7) Lump Sum Payments are considered in the Indemnity analysis (Section 1)

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10), (11) Provided by Commonwealth of Massachusetts

(12) = Maximum of [{(6) - (3)} / (11)] and 0

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Medical

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident Year	Payroll (000's)	A Priori Loss Rate	Paid Loss	Paid LDF	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Ultimate Loss Cost Excluding Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	1,823,085	0.198	3,181,218	1.019	3,236,170	N/A	3,236,170	0.178	0.178
6/30/85-86	1,952,445	0.298	4,952,720	1.021	5,052,315	N/A	5,052,315	0.259	0.259
6/30/86-87	2,220,820	0.308	5,726,299	1.023	5,862,154	N/A	5,862,154	0.264	0.264
6/30/87-88	2,885,583	0.387	9,708,186	1.028	9,983,460	N/A	9,983,460	0.346	0.346
6/30/88-89	3,098,180	0.448	11,930,739	1.030	12,295,655	N/A	12,295,655	0.397	0.397
6/30/89-90	3,079,763	0.489	12,538,576	1.035	12,989,806	N/A	12,989,806	0.422	0.422
6/30/90-91	2,914,364	0.419	11,823,905	1.040	12,299,098	N/A	12,299,098	0.422	0.422
6/30/91-92	2,880,434	0.370	10,366,472	1.041	10,781,593	N/A	10,781,593	0.374	0.374
6/30/92-93	2,887,238	0.277	7,755,902	1.047	8,112,141	N/A	8,112,141	0.281	0.281
6/30/93-94	3,056,850	0.272	8,037,509	1.055	8,474,093	N/A	8,474,093	0.277	0.277
6/30/94-95	3,158,808	0.225	6,797,406	1.065	7,232,067	N/A	7,232,067	0.229	0.229
6/30/95-96	3,301,791	0.209	6,537,735	1.072	7,005,006	N/A	7,005,006	0.212	0.212
6/30/96-97	3,902,868	0.189	6,857,883	1.087	7,448,890	N/A	7,448,890	0.191	0.191
6/30/97-98	3,776,138	0.181	6,271,642	1.099	6,888,167	N/A	6,888,167	0.182	0.182
6/30/98-99	4,017,530	0.179	6,478,357	1.117	7,232,106	N/A	7,232,106	0.180	0.180
6/30/99-00	4,221,786	0.192	7,262,102	1.131	8,202,616	N/A	8,202,616	0.194	0.194
6/30/00-01	4,310,725	0.229	8,845,415	1.146	10,106,656	N/A	10,106,656	0.234	0.234
6/30/01-02	4,438,755	0.184	7,073,118	1.162	8,217,451	N/A	8,217,451	0.185	0.185
6/30/02-03	4,423,888	0.204	7,650,965	1.189	9,087,631	N/A	9,087,631	0.205	0.205
6/30/03-04	4,482,207	0.217	8,180,931	1.204	9,843,228	N/A	9,843,228	0.220	0.220
6/30/04-05	4,639,517	0.202	9,739,666	1.246	11,575,888	N/A	11,575,888	0.250	0.250
6/30/05-06	4,938,165	0.207	8,685,758	1.262	10,900,920	N/A	10,900,920	0.221	0.221
6/30/06-07	5,183,126	0.211	9,197,087	1.320	11,828,996	N/A	11,828,996	0.228	0.228
6/30/07-08	5,508,425	0.215	8,613,325	1.351	11,925,011	N/A	11,925,011	0.216	0.216
6/30/08-09	5,447,676	0.221	8,775,739	1.405	12,495,644	N/A	12,495,644	0.229	0.229
6/30/09-10	5,525,579	0.231	7,731,312	1.479	12,221,180	N/A	12,221,180	0.221	0.221
6/30/10-11	5,712,303	0.236	8,085,690	1.637	13,700,855	N/A	13,700,855	0.240	0.240
6/30/11-12	5,880,714	0.240	6,711,576	2.040	14,469,729	N/A	14,469,729	0.246	0.246
6/30/12-13	6,162,621	0.245	2,903,130	5.006	15,868,784	N/A	15,868,784	0.258	0.258
Total	115,831,383		228,420,365		285,337,307		285,337,307		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 1, Exhibit 2, Page 4, Column 11

(4) From Section 1, Exhibit 2, Page 2, Column 3

(5) From Section 1, Exhibit 2, Page 2, Column 4

(6) = (4) + [{1 - {1 / (5)}} x (3) x (2) x 10]

(7) Lump Sum Payments are considered in the Indemnity analysis (Section 1)

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10) = (6) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Medical

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Expected Ult Loss	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									0.198	0.198
6/30/85-86									0.298	0.298
6/30/86-87									0.308	0.308
6/30/87-88									0.387	0.387
6/30/88-89									0.448	0.448
6/30/89-90									0.489	0.489
6/30/90-91	2,914,364	12,302,248	0.422	1.194	0.504	1.577	0.795	0.133	0.418	0.419
6/30/91-92	2,880,434	10,786,422	0.374	1.189	0.445	1.546	0.688	0.136	0.363	0.370
6/30/92-93	2,887,238	8,117,039	0.281	1.189	0.334	1.516	0.507	0.139	0.277	0.277
6/30/93-94	3,056,850	8,481,769	0.277	1.178	0.327	1.486	0.486	0.143	0.272	0.272
6/30/94-95	3,158,808	7,238,929	0.229	1.170	0.268	1.457	0.391	0.147	0.225	0.225
6/30/95-96	3,301,791	7,011,534	0.212	1.155	0.245	1.428	0.350	0.151	0.210	0.209
6/30/96-97	3,902,868	7,456,275	0.191	1.137	0.217	1.400	0.304	0.157	0.185	0.189
6/30/97-98	3,776,138	6,893,804	0.183	1.135	0.207	1.373	0.284	0.160	0.180	0.181
6/30/98-99	4,017,530	7,238,277	0.180	1.135	0.204	1.346	0.275	0.164	0.178	0.179
6/30/99-00	4,221,786	8,215,522	0.195	1.135	0.221	1.319	0.291	0.167	0.191	0.192
6/30/00-01	4,310,725	10,136,519	0.235	1.109	0.261	1.294	0.337	0.174	0.228	0.229
6/30/01-02	4,438,755	8,215,814	0.185	1.101	0.204	1.268	0.258	0.179	0.183	0.184
6/30/02-03	4,423,888	9,097,142	0.206	1.073	0.221	1.243	0.274	0.187	0.204	0.204
6/30/03-04	4,482,207	9,853,553	0.220	1.046	0.230	1.219	0.280	0.196	0.219	0.217
6/30/04-05	4,639,517	12,139,321	0.262	1.036	0.271	1.195	0.324	0.202	0.206	0.202
6/30/05-06	4,938,165	10,964,320	0.222	1.032	0.229	1.172	0.268	0.207	0.211	0.207
6/30/06-07	5,183,126	12,138,518	0.234	1.032	0.242	1.149	0.278	0.211	0.215	0.211
6/30/07-08	5,508,425	11,639,003	0.211	1.032	0.218	1.126	0.246	0.215	0.219	0.215
6/30/08-09	5,447,676	12,331,325	0.226	1.027	0.232	1.104	0.257	0.221	0.225	0.221
6/30/09-10	5,525,579	11,434,372	0.207	1.000	0.207	1.082	0.224	0.231	0.236	0.231
6/30/10-11	5,712,303	13,235,894	0.232	1.000	0.232	1.061	0.246	0.236	0.240	0.236
6/30/11-12	5,880,714	13,692,858	0.233	1.000	0.233	1.040	0.242	0.240	0.245	0.240
6/30/12-13	6,162,621	14,532,952	0.236	1.000	0.236	1.020	0.241	0.245		0.245
Total	100,771,507	233,153,414								

Trend Last 4 (ex 12-13):	1.2%	Avg 3 (ex 12-13):	0.237
Trend Last 8 (ex 12-13):	-1.7%	Avg 5 (ex 12-13):	0.243
Trend Last 12 (ex 12-13):	-0.4%	Avg 10 (ex 12-13):	0.264
Prior Selected Trend:	2.0%	Prior Sel Avg:	0.250
Selected Trend:	2.0%	Sel. Loss Cost:	0.250

NOTES:
(2) Provided by Commonwealth of Massachusetts
(3) From Section 1, Exhibit 2, Page 2, Column 6
(4) = (3) / (2) / 10
(5) Based on information from the MA WCIRB
(6) = (4) x (5)
(7) Based on Selected Trend from (6)
(8) = (6) x (7)
(9) = Sel. Loss Cost / [(5) * (7)]
(10) From Aon analysis as of June 30, 2012
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Medical

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend	0.950	
(2)	Credibility	90%	
(3)	Average Pmt Trend Statewide	0.950	
(4)	Credibility Weighted Trend	0.950	
		(Low)	(High)
(5)	Selected Range	0.920	0.970
(6)	Incremental Paid for 2013	106,562	106,562
(7)	Estimated Reserve	1,225,466	3,445,513
(8)	Paid to Date (82 & Prior)	6,204,181	6,204,181
(9)	Est Ult Paid for 1982 & Prior	7,429,647	9,649,694

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	116,285	136,810
(11)	Projected Number of Years	3	3
(12)	Estimated Reserve	348,855	410,430
(13)	Paid to Date (82 & Prior)	6,204,181	6,097,619
(14)	Est Ult Paid for 1982 & Prior	6,553,036	6,508,049
(14a)	Paid Counts During Fiscal Year	7	9
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	6,991,341	9,649,694
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	**6,991,341**	**9,649,694**
(18)	Implied Tail	1.127	1.555
(19)	Ult Loss Inc Lump Sums @ 6/12	6,893,301	9,417,929

NOTES:

(1) From Section 1, Exhibit 2, Page 6
(2) = (Average of Section 1, Exhibit 2, Page 6, Column 3 / 175,000) ^ 0.5
(3) Average Statewide Trend
(4) = (1) x (2) + (4) x {1 - (2)}
(5) Selected judgmentally based on (4)
(6), (14a) Provided by Commonwealth of Massachusetts
(7) = (6) x (5) / {1 - (5)}
(8), (16) From Section 1, Exhibit 2, Page 2, Column 3
(9) = (7) + (8)
(10) Avg of 3 latest years from Section 1, Exhibit 2, Page 6, Column 3
(11) Selected judgmentally
(12) = (10 x (11)
(14) = (12) + (13)
(15) = Average of (9) and (14)
(16) Lump Sums are considered in Indemnity analysis (Section 1)
(17) = (15) + (16)
(18) = (15) / (8)
(19) From Prior Aon Analysis as of June 30, 2012

All Clusters Combined
Medical

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paids	LN	Average Observed Trend		Trend Calculations
1992	1	401,487	12.903			
1993	2	281,130	12.547	0.700		
1994	3	275,063	12.525	0.978		
1995	4	195,978	12.186	0.712		
1996	5	235,244	12.368	1.200		
1997	6	119,211	11.689	0.507		
1998	7	74,969	11.225	0.629		
1999	8	167,971	12.032	2.241		
2000	9	112,165	11.628	0.668	n =	22
2001	10	83,644	11.334	0.746	S(x) =	44,055
2002	11	54,441	10.905	0.651	S(x-sq) =	88,221,023
2003	12	53,298	10.884	0.979	S(xy) =	515,075
2004	13	73,810	11.209	1.385	S(y) =	257
2005	14	86,676	11.370	1.174	D =	19,481
2006	15	71,904	11.183	0.830	slope =	-0.045
2007	16	66,960	11.112	0.931	Avg Trend =	0.955
2008	17	71,871	11.183	1.073		
2009	18	156,441	11.960	2.177		
2010	19	168,137	12.033	1.075		
2011	20	139,603	11.847	0.830		
2012	21	102,690	11.539	0.736		
2013	22	106,562	11.576	1.038		
					Selected Trend:	**0.950**

NOTES:

(3) 2013 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2012

(4) LN [(3)]

(5) Eg. 2013: 1.038 = 106562 / 102690

Commonwealth of Massachusetts Workers Compensati
All Clusters Combinec
MEDICAL
Paid Loss Development
Paid Loss (Excluding Lump Sum

Acc Yr Ending	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372
June-83	80,157	194,108	281,698	355,785	430,372	505,456	583,349	673,674	790,768	861,582	915,134	975,815	1,007,922	1,082,827	1,139,603	1,141,641	1,147,008	1,150,280	1,152,153	1,152,412	1,154,034	1,170,882	1,177,268	1,193,197	1,205,857	1,216,414	1,222,393	1,225,876	1,230,254	1,233,433	1,237,128
June-84	278,846	675,251	979,952	1,237,679	1,497,148	1,692,853	1,965,008	2,259,281	2,488,041	2,658,528	2,815,940	2,906,236	2,927,914	2,961,604	2,990,903	3,026,971	3,061,107	3,088,013	3,103,364	3,110,882	3,148,274	3,167,361	3,181,238	3,187,495	3,198,788	3,205,196	3,216,959	3,243,352	3,245,106	3,246,544	
June-85	281,180	680,904	988,156	1,248,041	1,524,376	1,767,225	2,056,915	2,259,407	2,404,861	2,595,178	2,656,702	2,691,247	2,723,491	2,743,570	2,791,601	2,825,986	2,858,120	2,885,590	2,909,085	2,936,115	2,962,423	2,989,438	3,016,883	3,039,299	3,063,056	3,088,322	3,111,388	3,139,070	3,181,218		
June-86	525,630	1,272,862	1,847,229	2,295,762	2,801,909	3,261,873	3,656,708	3,915,488	4,146,092	4,242,208	4,302,418	4,368,117	4,405,703	4,495,556	4,540,345	4,569,414	4,631,690	4,679,159	4,717,866	4,751,566	4,788,347	4,826,166	4,848,695	4,868,351	4,898,350	4,937,177	4,944,321	4,952,720			
June-87	679,622	1,645,768	2,495,914	3,175,646	3,758,601	4,235,026	4,616,701	4,839,601	4,982,646	5,092,983	5,194,073	5,273,395	5,401,744	5,450,543	5,483,690	5,500,132	5,518,035	5,536,163	5,551,275	5,565,383	5,582,877	5,601,832	5,621,525	5,656,386	5,681,277	5,707,463	5,726,299				
June-88	1,191,827	3,330,054	5,139,009	6,298,489	7,138,465	7,736,797	8,238,504	8,487,549	8,654,240	8,771,119	8,871,380	8,936,796	8,998,468	9,039,583	9,080,840	9,108,289	9,182,392	9,269,235	9,323,809	9,506,848	9,566,385	9,624,005	9,677,988	9,708,186							
June-89	1,301,800	4,749,050	6,698,392	8,042,212	9,005,556	9,741,252	10,145,151	10,401,975	10,588,606	10,754,116	10,897,219	11,056,485	11,133,041	11,233,906	11,311,779	11,394,541	11,460,208	11,520,998	11,631,220	11,709,730	11,752,400	11,801,214	11,852,925	11,887,968	11,930,739						
June-90	1,971,011	6,207,955	8,378,887	9,502,646	10,377,079	10,866,795	11,178,293	11,460,398	11,654,311	11,744,612	11,853,219	11,929,544	12,013,692	12,102,616	12,193,641	12,288,370	12,363,890	12,414,703	12,454,464	12,472,674	12,492,856	12,504,730	12,520,503	12,538,576							
June-91	2,079,021	6,481,845	8,128,761	9,129,342	9,569,888	9,922,223	10,074,064	10,149,765	10,198,433	10,318,761	10,419,870	10,494,642	10,576,694	10,667,922	10,767,927	10,925,448	11,031,802	11,209,381	11,429,660	11,537,541	11,643,261	11,766,239	11,823,905								
June-92	2,582,717	6,069,511	7,466,854	8,202,774	8,503,875	8,669,993	8,827,343	9,030,623	9,135,160	9,257,875	9,372,582	9,437,134	9,514,021	9,594,979	9,639,410	9,684,641	9,729,562	9,777,992	9,843,570	9,998,090	10,162,177	10,366,472									
June-93	1,951,667	5,170,869	6,081,502	6,489,487	6,751,595	6,861,506	6,914,496	6,958,865	7,037,255	7,082,866	7,132,331	7,201,081	7,259,683	7,329,612	7,401,491	7,505,162	7,578,974	7,640,635	7,679,794	7,714,728	7,755,902										
June-94	2,254,109	4,622,918	5,401,604	5,967,695	6,235,895	6,548,173	6,736,695	6,864,534	6,987,145	7,147,202	7,266,001	7,394,198	7,524,153	7,640,660	7,736,000	7,790,584	7,842,474	7,909,569	7,974,641	8,037,509											
June-95	2,029,019	3,973,539	4,748,104	5,104,898	5,297,904	5,458,376	5,592,474	5,756,438	5,903,503	6,059,664	6,161,322	6,276,889	6,428,588	6,491,856	6,546,028	6,596,908	6,642,430	6,764,444	6,797,406												
June-96	1,766,253	4,182,294	4,865,024	5,174,865	5,452,218	5,598,854	5,739,120	5,855,214	5,980,868	6,100,238	6,209,752	6,290,753	6,361,945	6,411,788	6,464,381	6,495,988	6,521,070	6,537,735													
June-97	1,766,725	3,725,485	4,494,601	4,941,702	5,201,917	5,412,606	5,536,117	5,694,640	5,852,834	5,984,835	6,131,050	6,244,244	6,315,764	6,399,332	6,491,158	6,664,852	6,857,883														
June-98	1,434,653	3,363,240	4,046,082	4,435,465	4,731,267	4,919,954	5,122,526	5,375,830	5,487,330	5,608,858	5,703,803	5,850,033	5,931,380	6,078,298	6,191,362	6,271,642															
June-99	1,427,577	3,215,372	3,912,893	4,351,301	4,694,328	4,986,960	5,249,952	5,556,545	5,746,199	5,876,662	5,994,567	6,154,782	6,268,261	6,402,584	6,478,357																
June-00	1,919,617	4,021,129	4,792,481	5,313,057	5,734,824	6,105,211	6,329,799	6,555,866	6,681,932	6,813,975	6,898,518	6,996,942	7,138,790	7,262,102																	
June-01	1,955,272	4,077,952	5,089,014	5,933,836	6,650,457	7,105,631	7,471,084	7,767,438	8,000,937	8,307,585	8,507,669	8,703,774	8,845,415																		
June-02	1,477,425	3,509,146	4,573,760	5,338,916	5,731,628	5,955,713	6,085,017	6,292,071	6,517,249	6,663,212	6,917,679	7,073,118																			
June-03	969,154	3,818,930	5,475,517	6,135,434	6,529,665	6,778,078	6,990,986	7,205,533	7,374,939	7,547,463	7,650,965																				
June-04	1,457,859	4,815,053	6,241,371	6,962,594	7,265,206	7,595,768	7,812,538	7,975,825	8,092,945	8,180,931																					
June-05	2,296,467	6,044,403	7,443,461	8,222,874	8,698,237	9,004,663	9,337,914	9,544,673	9,739,666																						
June-06	2,480,251	5,605,314	6,838,991	7,488,958	7,923,458	8,230,916	8,500,027	8,685,758																							
June-07	2,697,227	6,287,742	7,783,576	8,319,615	8,708,706	8,952,407	9,197,087																								
June-08	3,229,281	6,460,123	7,505,731	8,076,203	8,364,088	8,613,325																									
June-09	3,247,133	6,451,648	7,766,520	8,400,468	8,775,739																										
June-10	3,060,289	6,279,753	7,213,128	7,731,312																											
June-11	3,709,038	7,016,744	8,085,690																												
June-12	3,189,372	6,711,576																													
June-13	2,903,130																														

Age-to-Age Factors

Acc Yr Ending	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372
June-83	2.422	1.451	1.263	1.210	1.174	1.154	1.155	1.174	1.090	1.062	1.066	1.033	1.074	1.052	1.002	1.005	1.003	1.002	1.000	1.001	1.015	1.005	1.014	1.011	1.009	1.005	1.003	1.004	1.003	1.003
June-84	2.422	1.451	1.263	1.210	1.131	1.161	1.150	1.101	1.069	1.059	1.032	1.007	1.012	1.010	1.012	1.011	1.009	1.005	1.002	1.012	1.006	1.004	1.002	1.004	1.002	1.004	1.008	1.001	1.000	
June-85	2.422	1.451	1.263	1.221	1.159	1.164	1.098	1.064	1.079	1.024	1.013	1.012	1.007	1.018	1.012	1.011	1.010	1.008	1.009	1.009	1.009	1.009	1.007	1.008	1.008	1.007	1.009	1.013		
June-86	2.422	1.451	1.243	1.220	1.164	1.121	1.071	1.059	1.023	1.014	1.015	1.009	1.020	1.010	1.006	1.014	1.010	1.008	1.007	1.008	1.008	1.005	1.004	1.006	1.008	1.001	1.002			
June-87	2.422	1.517	1.272	1.184	1.127	1.090	1.048	1.030	1.022	1.020	1.015	1.024	1.009	1.006	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.004	1.006	1.004	1.005	1.003				
June-88	2.794	1.543	1.226	1.133	1.084	1.065	1.030	1.020	1.014	1.011	1.007	1.007	1.005	1.005	1.003	1.008	1.009	1.006	1.006	1.009	1.005	1.006	1.006	1.006	1.003					
June-89	3.648	1.410	1.201	1.120	1.082	1.041	1.025	1.018	1.016	1.013	1.015	1.007	1.009	1.007	1.007	1.006	1.005	1.010	1.007	1.004	1.004	1.004	1.003	1.004						
June-90	3.150	1.350	1.134	1.092	1.047	1.029	1.025	1.017	1.008	1.009	1.006	1.007	1.007	1.008	1.008	1.006	1.004	1.003	1.001	1.002	1.001	1.001	1.001							
June-91	3.118	1.254	1.123	1.048	1.037	1.015	1.008	1.005	1.012	1.010	1.007	1.008	1.009	1.009	1.015	1.010	1.016	1.020	1.009	1.009	1.011	1.005								
June-92	2.350	1.230	1.099	1.037	1.020	1.018	1.023	1.012	1.013	1.012	1.007	1.008	1.009	1.005	1.005	1.005	1.005	1.007	1.016	1.016	1.020									
June-93	2.649	1.176	1.067	1.040	1.016	1.008	1.006	1.011	1.006	1.007	1.010	1.008	1.010	1.010	1.014	1.010	1.008	1.005	1.005	1.005										
June-94	2.051	1.168	1.105	1.045	1.050	1.029	1.019	1.018	1.023	1.017	1.018	1.018	1.015	1.012	1.007	1.007	1.009	1.008	1.008											
June-95	1.958	1.195	1.075	1.038	1.030	1.025	1.029	1.026	1.026	1.017	1.019	1.024	1.010	1.008	1.008	1.007	1.018	1.005												
June-96	2.368	1.163	1.064	1.054	1.027	1.025	1.020	1.021	1.020	1.018	1.013	1.011	1.008	1.008	1.005	1.004	1.003													
June-97	2.109	1.206	1.099	1.053	1.041	1.023	1.029	1.028	1.023	1.024	1.018	1.011	1.013	1.014	1.027	1.029														
June-98	2.344	1.203	1.096	1.067	1.040	1.041	1.049	1.021	1.022	1.017	1.026	1.014	1.025	1.019	1.013															
June-99	2.252	1.217	1.112	1.079	1.062	1.053	1.058	1.034	1.023	1.020	1.027	1.018	1.021	1.012																
June-00	2.095	1.192	1.109	1.079	1.065	1.037	1.036	1.019	1.020	1.012	1.014	1.020	1.017																	
June-01	2.086	1.248	1.166	1.121	1.068	1.051	1.040	1.030	1.038	1.024	1.023	1.016																		
June-02	2.375	1.303	1.167	1.074	1.039	1.022	1.034	1.036	1.022	1.038	1.022																			
June-03	3.940	1.434	1.121	1.064	1.038	1.031	1.031	1.024	1.023	1.014																				
June-04	3.303	1.296	1.116	1.043	1.045	1.029	1.021	1.015	1.011																					
June-05	2.632	1.231	1.105	1.058	1.035	1.037	1.022	1.020																						
June-06	2.260	1.220	1.095	1.058	1.039	1.033	1.022																							
June-07	2.331	1.238	1.069	1.047	1.028	1.027																								
June-08	2.000	1.162	1.076	1.036	1.030																									
June-09	1.987	1.204	1.082	1.045																										
June-10	2.052	1.149	1.072																											
June-11	1.892	1.152																												
June-12	2.104																													

Averages	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	To Ult
Simple Avg																															
All Yrs	2.465	1.285	1.139	1.092	1.065	1.053	1.044	1.035	1.027	1.021	1.019	1.014	1.016	1.013	1.009	1.009	1.008	1.007	1.006	1.007	1.008	1.005	1.005	1.006	1.006	1.004	1.005	1.006	1.002	1.003	
Latest 5	2.007	1.181	1.079	1.049	1.035	1.031	1.026	1.025	1.023	1.022	1.022	1.016	1.017	1.012	1.012	1.011	1.009	1.009	1.008	1.007	1.008	1.004	1.004	1.006	1.005	1.004					
Latest 3	2.016	1.168	1.076	1.042	1.032	1.032	1.022	1.020	1.019	1.025	1.020	1.018	1.021	1.015	1.015	1.013	1.010	1.006	1.009	1.010	1.011	1.004	1.003	1.005	1.005	1.004	1.006	1.006			
Volume Wtd																															
All Yrs	2.363	1.249	1.117	1.072	1.050	1.038	1.031	1.024	1.020	1.017	1.015	1.012	1.012	1.010	1.009	1.009	1.008	1.008	1.007	1.007	1.008	1.004	1.004	1.005	1.005	1.004	1.005	1.006	1.001		
Latest 5	2.003	1.180	1.078	1.048	1.035	1.031	1.025	1.024	1.023	1.022	1.022	1.016	1.017	1.012	1.012	1.011	1.008	1.010	1.008	1.007	1.008	1.004	1.004	1.005	1.005	1.004					
Latest 3	2.009	1.168	1.077	1.042	1.032	1.032	1.022	1.019	1.018	1.025	1.020	1.018	1.021	1.015	1.015	1.013	1.010	1.006	1.010	1.011	1.010	1.003	1.003	1.004	1.005	1.004	1.006	1.006			

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Medical

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Ultimate Loss		Ultimate Loss		Change in Ultimate Loss		Change in Ultimate Loss	
Accident	As of 6/12		As of 6/12		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	7,135,868	8,272,663	7,206,170	8,287,956	70,302	1.0%	15,294	0.2%
6/30/82-83	1,238,329	1,275,632	1,241,891	1,277,556	3,562	0.3%	1,924	0.2%
6/30/83-84	3,263,074	3,374,383	3,264,321	3,370,630	1,247	0.0%	(3,753)	-0.1%
6/30/84-85	3,195,840	3,212,983	3,235,354	3,254,739	39,514	1.2%	41,757	1.3%
6/30/85-86	5,031,171	5,062,115	5,032,131	5,064,115	960	0.0%	2,000	0.0%
6/30/86-87	5,835,562	5,857,716	5,851,562	5,873,716	16,000	0.3%	16,000	0.3%
6/30/87-88	9,955,000	9,976,000	9,973,000	9,990,000	18,000	0.2%	14,000	0.1%
6/30/88-89	12,266,230	12,296,225	12,290,230	12,321,225	24,000	0.2%	25,000	0.2%
6/30/89-90	12,899,198	12,991,507	12,911,230	13,001,549	12,032	0.1%	10,042	0.1%
6/30/90-91	12,224,075	12,277,782	12,262,865	12,315,782	38,790	0.3%	38,000	0.3%
6/30/91-92	10,560,534	10,607,647	10,757,534	10,803,647	197,000	1.9%	196,000	1.8%
6/30/92-93	8,114,747	8,142,684	8,109,747	8,138,684	(5,000)	-0.1%	(4,000)	0.0%
6/30/93-94	8,453,000	8,460,000	8,473,000	8,481,000	20,000	0.2%	21,000	0.2%
6/30/94-95	7,227,423	7,237,476	7,226,423	7,235,476	(1,000)	0.0%	(2,000)	0.0%
6/30/95-96	7,017,043	7,045,625	6,994,043	7,021,625	(23,000)	-0.3%	(24,000)	-0.3%
6/30/96-97	7,277,847	7,296,626	7,442,847	7,463,626	165,000	2.3%	167,000	2.3%
6/30/97-98	6,835,000	6,885,200	6,887,000	6,936,350	52,000	0.8%	51,150	0.7%
6/30/98-99	7,197,000	7,217,000	7,232,000	7,252,000	35,000	0.5%	35,000	0.5%
6/30/99-00	8,144,000	8,173,000	8,202,000	8,233,000	58,000	0.7%	60,000	0.7%
6/30/00-01	9,950,600	10,087,000	10,024,700	10,165,000	74,100	0.7%	78,000	0.8%
6/30/01-02	8,114,000	8,145,000	8,210,000	8,241,000	96,000	1.2%	96,000	1.2%
6/30/02-03	8,929,000	9,102,000	8,946,000	9,119,000	17,000	0.2%	17,000	0.2%
6/30/03-04	9,774,000	9,956,850	9,710,000	9,892,400	(64,000)	-0.7%	(64,450)	-0.6%
6/30/04-05	10,991,000	12,161,850	10,978,000	12,165,200	(13,000)	-0.1%	3,350	0.0%
6/30/05-06	10,521,000	11,162,100	10,386,000	11,064,900	(135,000)	-1.3%	(97,200)	-0.9%
6/30/06-07	11,106,000	12,411,350	10,975,000	12,279,100	(131,000)	-1.2%	(132,250)	-1.1%
6/30/07-08	11,140,000	12,242,850	11,062,000	11,988,200	(78,000)	-0.7%	(254,650)	-2.1%
6/30/08-09	11,501,000	13,190,350	11,434,000	12,950,050	(67,000)	-0.6%	(240,300)	-1.8%
6/30/09-10	11,141,000	13,224,300	10,795,000	12,648,950	(346,000)	-3.1%	(575,350)	-4.4%
6/30/10-11	13,094,000	15,521,100	12,329,000	14,364,750	(765,000)	-5.8%	(1,156,350)	-7.5%
6/30/11-12	13,637,000	17,827,000	12,764,000	15,238,050	(873,000)	-6.4%	(2,588,950)	-14.5%
6/30/12-13								
Total	273,769,543	290,694,016	272,207,050	286,439,279	(1,562,494)	-0.6%	(4,254,737)	-1.5%

NOTES:

(2), (3) From Aon analysis as of June 30, 2012

(4), (5) From Section 1, Exhibit 2, Page 1, Columns 6, 7

(6) = (4) - (2)

(7) = (4) / (2) - 1

(8) = (5) - (3)

(9) = (5) / (3) - 1

All Clusters Combined
Medical

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At: 4%	6%
384	100.0%	1.3%	0.0%	0.4%	0.2%	1.000	1.000
372	98.7%	0.4%	1.3%	0.1%	0.1%	0.981	0.971
360	98.4%	0.2%	1.6%	0.1%	0.0%	0.952	0.929
348	98.1%	0.2%	1.9%	0.1%	0.0%	0.923	0.888
336	98.0%	0.2%	2.0%	0.1%	0.0%	0.895	0.849
324	97.8%	0.5%	2.2%	0.2%	0.1%	0.872	0.817
312	97.3%	0.2%	2.7%	0.1%	0.1%	0.863	0.805
300	97.1%	0.4%	2.9%	0.2%	0.1%	0.841	0.776
288	96.6%	0.5%	3.4%	0.2%	0.1%	0.831	0.763
276	96.1%	0.0%	3.9%	0.0%	0.0%	0.823	0.753
264	96.1%	0.6%	3.9%	0.2%	0.2%	0.792	0.711
252	95.6%	0.8%	4.4%	0.4%	0.2%	0.789	0.708
240	94.8%	0.9%	5.2%	0.4%	0.3%	0.792	0.714
228	93.9%	0.7%	6.1%	0.3%	0.2%	0.792	0.715
216	93.2%	1.3%	6.8%	0.6%	0.5%	0.783	0.704
204	92.0%	1.0%	8.0%	0.5%	0.4%	0.789	0.712
192	91.0%	1.5%	9.0%	0.8%	0.6%	0.783	0.705
180	89.5%	1.1%	10.5%	0.6%	0.5%	0.785	0.708
168	88.4%	1.1%	11.6%	0.7%	0.5%	0.776	0.697
156	87.3%	1.2%	12.7%	0.7%	0.6%	0.767	0.686
144	86.1%	2.0%	13.9%	1.3%	1.0%	0.758	0.674
132	84.1%	1.1%	15.9%	0.7%	0.6%	0.761	0.678
120	83.0%	2.8%	17.0%	1.9%	1.6%	0.747	0.661
108	80.2%	1.0%	19.8%	0.7%	0.6%	0.755	0.672
96	79.2%	3.5%	20.8%	2.6%	2.2%	0.739	0.651
84	75.8%	1.8%	24.2%	1.4%	1.2%	0.749	0.665
72	74.0%	2.8%	26.0%	2.3%	2.1%	0.738	0.651
60	71.2%	3.6%	28.8%	3.0%	2.7%	0.736	0.649
48	67.6%	6.5%	32.4%	5.7%	5.3%	0.738	0.652
36	61.1%	12.1%	38.9%	10.9%	10.4%	0.755	0.674
24	49.0%	29.0%	51.0%	27.4%	26.6%	0.786	0.716
12	20.0%	20.0%	80.0%	19.6%	19.4%	0.837	0.783
Total		100.0%					

NOTES:

(2) = 1 / Section 1, Exhibit 2, Page 2, Column 4

(3) Incremental % based on (2)

(4) = 1 - (2)

(5) = [(3) / 1.04] ^ {[(1) - 6] / 12}

(6) = [(3) / 1.06] ^ {[(1) - 6] / 12}

(7), (8) Discount factor based on (5), (6)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Medical

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	1,001,990	2,083,776		924,202	1,940,608
6/30/82-83	4,763	40,428	0.981	4,678	39,661
6/30/83-84	17,778	124,086	0.952	16,867	117,765
6/30/84-85	54,136	73,521	0.923	50,199	68,253
6/30/85-86	79,411	111,395	0.895	71,961	101,418
6/30/86-87	125,263	147,417	0.872	110,875	130,530
6/30/87-88	264,814	281,814	0.863	228,572	243,221
6/30/88-89	359,491	390,486	0.841	303,983	328,537
6/30/89-90	372,653	462,973	0.831	308,131	380,907
6/30/90-91	438,960	491,877	0.823	354,872	396,924
6/30/91-92	391,062	437,175	0.792	310,957	346,633
6/30/92-93	353,846	382,782	0.789	277,276	300,032
6/30/93-94	435,491	443,491	0.792	342,878	349,202
6/30/94-95	429,017	438,070	0.792	334,741	341,934
6/30/95-96	456,308	483,890	0.783	352,117	374,050
6/30/96-97	584,964	605,743	0.789	447,839	463,988
6/30/97-98	615,358	664,708	0.783	468,909	505,513
6/30/98-99	753,643	773,643	0.785	571,640	585,956
6/30/99-00	939,898	970,898	0.776	708,264	730,419
6/30/00-01	1,179,285	1,319,585	0.767	884,739	987,026
6/30/01-02	1,136,882	1,167,882	0.758	849,279	871,207
6/30/02-03	1,295,035	1,468,035	0.761	963,875	1,088,848
6/30/03-04	1,529,069	1,711,469	0.747	1,132,621	1,265,000
6/30/04-05	1,238,334	2,425,534	0.755	911,043	1,788,157
6/30/05-06	1,700,242	2,379,142	0.739	1,251,725	1,754,471
6/30/06-07	1,777,913	3,082,013	0.749	1,307,872	2,274,533
6/30/07-08	2,448,675	3,374,875	0.738	1,806,021	2,492,118
6/30/08-09	2,658,261	4,174,311	0.736	1,960,043	3,079,007
6/30/09-10	3,063,688	4,917,638	0.738	2,267,772	3,642,105
6/30/10-11	4,243,310	6,279,060	0.755	3,206,406	4,736,512
6/30/11-12	6,052,424	8,526,474	0.786	4,760,064	6,693,796
6/30/12-13	10,350,870	14,050,970	0.837	8,632,573	11,712,417
Total	46,352,833	64,285,162		36,122,996	50,130,747
			(7) Total Discount Factor:	0.779	0.780

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	1,001,990	2,083,776
(9) Projected Number of Years:	3	3
(10) Projected Paid Loss per Year:	333,997	694,592
(11) Discounted Value at 4%:	945,408	1,966,107

NOTES:
(2), (3) From Section 1, Exhibit 2, Page 1, Columns 8, 9
(4) From Section 1, Exhibit 2, Page 9, Column 7
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Clusters Combined
Medical

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	1,001,990	2,083,776		889,938	1,876,735
6/30/82-83	4,763	40,428	0.971	4,637	39,295
6/30/83-84	17,778	124,086	0.929	16,444	114,822
6/30/84-85	54,136	73,521	0.888	48,411	65,861
6/30/85-86	79,411	111,395	0.849	68,659	96,994
6/30/86-87	125,263	147,417	0.817	104,640	123,216
6/30/87-88	264,814	281,814	0.805	213,217	226,871
6/30/88-89	359,491	390,486	0.776	280,969	302,922
6/30/89-90	372,653	462,973	0.763	281,964	347,728
6/30/90-91	438,960	491,877	0.753	321,553	359,338
6/30/91-92	391,062	437,175	0.711	279,841	311,601
6/30/92-93	353,846	382,782	0.708	248,076	268,551
6/30/93-94	435,491	443,491	0.714	308,153	313,846
6/30/94-95	429,017	438,070	0.715	299,930	306,432
6/30/95-96	456,308	483,890	0.704	314,212	334,108
6/30/96-97	584,964	605,743	0.712	398,568	413,058
6/30/97-98	615,358	664,708	0.705	416,975	449,112
6/30/98-99	753,643	773,643	0.708	507,765	520,129
6/30/99-00	939,898	970,898	0.697	627,757	646,915
6/30/00-01	1,179,285	1,319,585	0.686	783,556	873,076
6/30/01-02	1,136,882	1,167,882	0.674	751,158	770,092
6/30/02-03	1,295,035	1,468,035	0.678	851,736	960,874
6/30/03-04	1,529,069	1,711,469	0.661	999,447	1,115,367
6/30/04-05	1,238,334	2,425,534	0.672	802,162	1,575,937
6/30/05-06	1,700,242	2,379,142	0.651	1,103,278	1,547,744
6/30/06-07	1,777,913	3,082,013	0.665	1,153,477	2,008,076
6/30/07-08	2,448,675	3,374,875	0.651	1,595,158	2,202,585
6/30/08-09	2,658,261	4,174,311	0.649	1,731,594	2,721,448
6/30/09-10	3,063,688	4,917,638	0.652	2,008,257	3,227,353
6/30/10-11	4,243,310	6,279,060	0.674	2,868,269	4,235,237
6/30/11-12	6,052,424	8,526,474	0.716	4,335,900	6,094,268
6/30/12-13	10,350,870	14,050,970	0.783	8,057,162	10,930,462
Total	46,352,833	64,285,162		32,672,860	45,380,052
			(7) Total Discount Factor:	0.705	0.706

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	1,001,990	2,083,776
(9) Projected Number of Years:	3	3
(10) Projected Paid Loss per Year:	333,997	694,592
(11) Discounted Value at 6%:	919,560	1,912,352

NOTES:
(2), (3) From Section 1, Exhibit 2, Page 1, Columns 8, 9
(4) From Section 1, Exhibit 2, Page 9, Column 8
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Retardation - Cluster 1

Indemnity

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Pd Loss Including Lump Sum	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		20,304,896			25,297,813	27,563,642	4,992,916	7,258,745		
6/30/82-83		4,663,598	5,148,269		5,019,562	5,276,976	355,965	613,378		
6/30/83-84		8,028,475	9,724,695		9,530,201	9,919,189	1,501,726	1,890,714		
6/30/84-85	181,560	6,810,711	6,994,789	7,000,081	6,879,000	6,947,000	68,289	136,289	3.789	3.826
6/30/85-86	195,247	10,272,096	10,672,281	10,665,716	10,580,000	10,683,000	307,904	410,904	5.419	5.472
6/30/86-87	224,370	13,480,506	14,088,815	14,098,499	13,750,000	13,885,000	269,494	404,494	6.128	6.188
6/30/87-88	262,864	19,206,478	22,001,258	20,194,144	20,194,000	21,098,000	987,522	1,891,522	7.682	8.026
6/30/88-89	283,884	19,878,850	21,093,681	21,091,046	21,091,000	21,094,000	1,212,150	1,215,150	7.429	7.431
6/30/89-90	285,078	14,970,266	15,981,164	16,105,957	15,120,000	15,270,000	149,734	299,734	5.304	5.356
6/30/90-91	267,732	10,864,061	11,705,767	11,699,645	10,973,000	11,081,000	108,939	216,939	4.098	4.139
6/30/91-92	261,442	7,491,754	8,157,665	8,149,052	8,149,000	8,158,000	657,246	666,246	3.117	3.120
6/30/92-93	259,992	4,189,576	4,593,730	4,587,954	4,231,000	4,273,000	41,424	83,424	1.627	1.644
6/30/93-94	257,062	3,496,223	3,840,445	3,835,827	3,566,000	3,601,000	69,777	104,777	1.387	1.401
6/30/94-95	255,854	2,081,529	2,294,958	2,295,763	2,295,000	2,296,000	213,471	214,471	0.897	0.897
6/30/95-96	255,539	3,005,014	3,328,816	3,324,103	3,324,000	3,329,000	318,986	323,986	1.301	1.303
6/30/96-97	270,071	2,467,027	2,738,446	2,738,506	2,738,000	2,739,000	270,973	271,973	1.014	1.014
6/30/97-98	245,367	2,580,493	2,908,411	2,903,764	2,904,000	2,908,000	323,507	327,507	1.184	1.185
6/30/98-99	251,453	2,345,298	2,648,981	2,648,503	2,649,000	2,649,000	303,702	303,702	1.053	1.053
6/30/99-00	255,641	2,303,047	2,657,276	2,654,441	2,654,000	2,657,000	350,953	353,953	1.038	1.039
6/30/00-01	263,918	3,162,180	3,723,033	3,705,157	3,705,000	3,723,000	542,820	560,820	1.404	1.411
6/30/01-02	267,598	2,229,481	2,641,966	2,642,116	2,642,000	2,642,000	412,519	412,519	0.987	0.987
6/30/02-03	274,465	2,927,127	3,523,195	3,511,038	3,511,000	3,523,000	583,873	595,873	1.279	1.284
6/30/03-04	272,384	2,994,067	3,662,582	3,646,730	3,647,000	3,663,000	652,933	668,933	1.339	1.345
6/30/04-05	273,647	2,658,617	3,293,758	3,218,597	3,219,000	3,294,000	560,383	635,383	1.176	1.204
6/30/05-06	285,139	2,485,890	3,318,516	3,279,945	3,280,000	3,319,000	794,110	833,110	1.150	1.164
6/30/06-07	298,516	2,524,351	3,405,754	3,384,906	3,385,000	3,406,000	860,649	881,649	1.134	1.141
6/30/07-08	314,231	1,414,271	2,178,933	2,514,470	2,179,000	2,514,000	764,729	1,099,729	0.693	0.800
6/30/08-09	302,998	1,886,924	2,935,780	3,092,674	2,936,000	3,093,000	1,049,076	1,206,076	0.969	1.021
6/30/09-10	297,252	2,544,761	4,177,315	3,961,126	3,961,000	4,177,000	1,416,239	1,632,239	1.333	1.405
6/30/10-11	292,432	1,745,634	3,436,966	3,439,751	3,437,000	3,440,000	1,691,366	1,694,366	1.175	1.176
6/30/11-12	295,908	1,505,528	4,109,569	3,848,816	3,849,000	4,110,000	2,343,472	2,604,472	1.301	1.389
6/30/12-13	301,541	748,452	4,089,902	3,869,490	3,869,000	4,090,000	3,120,548	3,341,548	1.283	1.356
Total	7,753,185	187,267,183	195,076,716	178,107,817	214,564,577	220,421,807	27,297,393	33,154,624		
Tot 6/30/84-13	7,753,185	154,270,214	180,203,751	178,107,817	174,717,000	177,662,000	20,446,786	23,391,786	2.253	2.291

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) Sum of Section 2, Exhibit 1, Page 2, Column 3 and Section 2, Exhibit 1, Page 9, Column 8

(4) From Section 2, Exhibit 1, Page 2, Column 8

(5) From Section 2, Exhibit 1, Page 3, Column 8

(6), (7) Selected based on (3), (4), and (5)

(8) = (6) - (3)

(9) = (7) - (3)

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Retardation - Cluster 1
Indemnity

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Accident Year	Payroll (000's)	Paid Loss Excluding Lump Sum	Paid LDF	Adjstmnt for Extra Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/11-12	Paid Counts 7/1/12-13	Average Outstanding Claim	Average Age
All Prior Yrs		19,039,398							10	10		75
6/30/82-83		4,273,198	1.012	1.100	4,757,869	390,400	5,148,269		1	1	484,672	85
6/30/83-84		7,479,325	1.022	1.200	9,175,545	549,150	9,724,695		4	3	565,407	67
6/30/84-85	181,560	5,655,860	1.033	1.000	5,839,938	1,154,851	6,994,789	3.853	1	1	184,078	62
6/30/85-86	195,247	9,334,452	1.043	1.000	9,734,637	937,644	10,672,281	5.466	0	0		
6/30/86-87	224,370	11,412,789	1.053	1.000	12,021,098	2,067,717	14,088,815	6.279	0	0		
6/30/87-88	262,864	16,410,714	1.064	1.100	19,204,096	2,797,162	22,001,258	8.370	4	3	931,127	70
6/30/88-89	283,884	16,239,237	1.074	1.000	17,448,605	3,645,076	21,093,681	7.430	3	3	403,123	82
6/30/89-90	285,078	11,617,685	1.086	1.000	12,620,188	3,360,976	15,981,164	5.606	1	1	1,002,503	59
6/30/90-91	267,732	8,298,631	1.099	1.000	9,122,906	2,582,861	11,705,767	4.372	1	1	824,275	81
6/30/91-92	261,442	5,685,342	1.114	1.000	6,331,298	1,826,367	8,157,665	3.120	2	2	322,978	62
6/30/92-93	259,992	3,210,473	1.121	1.000	3,599,359	994,371	4,593,730	1.767	0	0		
6/30/93-94	257,062	2,527,522	1.129	1.000	2,852,379	988,066	3,840,445	1.494	0	0		
6/30/94-95	255,854	1,526,329	1.131	1.000	1,726,703	568,255	2,294,958	0.897	0	0		
6/30/95-96	255,539	2,258,374	1.134	1.000	2,561,221	767,595	3,328,816	1.303	1	1	302,846	57
6/30/96-97	270,071	1,787,477	1.140	1.000	2,038,085	700,361	2,738,446	1.014	0	0		
6/30/97-98	245,367	2,047,330	1.148	1.000	2,350,883	557,528	2,908,411	1.185	1	1	303,553	53
6/30/98-99	251,453	1,758,227	1.156	1.000	2,033,187	615,794	2,648,981	1.053	1	1	274,960	39
6/30/99-00	255,641	1,960,546	1.164	1.000	2,282,072	375,204	2,657,276	1.039	1	1	321,526	69
6/30/00-01	263,918	2,911,077	1.176	1.000	3,422,472	300,561	3,723,033	1.411	3	4	127,849	56
6/30/01-02	267,598	1,946,268	1.190	1.000	2,315,763	326,203	2,641,966	0.987	2	1	369,495	54
6/30/02-03	274,465	2,599,103	1.205	1.000	3,131,946	391,249	3,523,195	1.284	2	2	266,421	62
6/30/03-04	272,384	2,714,242	1.218	1.000	3,307,178	355,404	3,662,582	1.345	2	2	296,468	59
6/30/04-05	273,647	2,315,265	1.238	1.000	2,865,571	428,188	3,293,758	1.204	1	0		
6/30/05-06	285,139	2,239,388	1.259	1.000	2,818,516	500,000	3,318,516	1.164	6	4	144,782	57
6/30/06-07	298,516	2,257,101	1.287	1.000	2,905,754	500,000	3,405,754	1.141	9	8	81,082	54
6/30/07-08	314,231	1,259,770	1.333	1.000	1,678,933	500,000	2,178,933	0.693	8	2	209,581	41
6/30/08-09	302,998	1,731,424	1.407	1.000	2,435,780	500,000	2,935,780	0.969	16	11	64,032	55
6/30/09-10	297,252	2,345,985	1.529	1.000	3,587,502	589,813	4,177,315	1.405	37	23	53,979	53
6/30/10-11	292,432	1,664,634	1.762	1.000	2,933,536	503,429	3,436,966	1.175	61	25	50,756	52
6/30/11-12	295,908	1,470,092	2.365	1.000	3,476,496	633,073	4,109,569	1.389	256	87	23,062	49
6/30/12-13	301,541	748,452	4.566	1.000	3,417,057	672,845	4,089,902	1.356		215	12,412	46
Total	7,753,185	158,725,713			163,996,572	31,080,143	195,076,716		434	413		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3), (4) From Section 2, Exhibit 1, Page 7

(5) Based on information from the MA WCIRB

(6) = (3) x (4) x (5)

(7) From Section 2, Exhibit 1, Page 9, Column 13

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10), (11) Provided by Commonwealth of Massachusetts

(12) = Maximum of [{(6) - (3)} / (11)] and 0

(13) Calculated for claimants that had an indemnity payment within the last calendar year.

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Retardation - Cluster 1
Indemnity

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident Year	Payroll (000's)	A Priori Loss Rate	Paid Loss Excluding Lump Sum	Paid LDF	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Ultimate Loss Cost Excluding Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	181,560	3.309	5,655,860	1.033	5,845,230	1,154,851	7,000,081	3.856	3.219
6/30/85-86	195,247	4.904	9,334,452	1.043	9,728,072	937,644	10,665,716	5.463	4.982
6/30/86-87	224,370	5.443	11,412,789	1.053	12,030,782	2,067,717	14,098,499	6.284	5.362
6/30/87-88	262,864	6.253	16,410,714	1.064	17,396,982	2,797,162	20,194,144	7.682	6.618
6/30/88-89	283,884	6.133	16,239,237	1.074	17,445,970	3,645,076	21,091,046	7.429	6.145
6/30/89-90	285,078	4.978	11,617,685	1.086	12,744,982	3,360,976	16,105,957	5.650	4.471
6/30/90-91	267,732	3.382	8,298,631	1.099	9,116,784	2,582,861	11,699,645	4.370	3.405
6/30/91-92	261,442	2.389	5,685,342	1.114	6,322,685	1,826,367	8,149,052	3.117	2.418
6/30/92-93	259,992	1.364	3,210,473	1.121	3,593,584	994,371	4,587,954	1.765	1.382
6/30/93-94	257,062	1.094	2,527,522	1.129	2,847,760	988,066	3,835,827	1.492	1.108
6/30/94-95	255,854	0.678	1,526,329	1.131	1,727,508	568,255	2,295,763	0.897	0.675
6/30/95-96	255,539	0.987	2,258,374	1.134	2,556,508	767,595	3,324,103	1.301	1.000
6/30/96-97	270,071	0.755	1,787,477	1.140	2,038,145	700,361	2,738,506	1.014	0.755
6/30/97-98	245,367	0.943	2,047,330	1.148	2,346,236	557,528	2,903,764	1.183	0.956
6/30/98-99	251,453	0.807	1,758,227	1.156	2,032,709	615,794	2,648,503	1.053	0.808
6/30/99-00	255,641	0.885	1,960,546	1.164	2,279,237	375,204	2,654,441	1.038	0.892
6/30/00-01	263,918	1.251	2,911,077	1.176	3,404,597	300,561	3,705,157	1.404	1.290
6/30/01-02	267,598	0.866	1,946,268	1.190	2,315,913	326,203	2,642,116	0.987	0.865
6/30/02-03	274,465	1.115	2,599,103	1.205	3,119,789	391,249	3,511,038	1.279	1.137
6/30/03-04	272,384	1.182	2,714,242	1.218	3,291,326	355,404	3,646,730	1.339	1.208
6/30/04-05	273,647	0.904	2,315,265	1.238	2,790,410	428,188	3,218,597	1.176	1.020
6/30/05-06	285,139	0.923	2,239,388	1.259	2,779,945	500,000	3,279,945	1.150	0.975
6/30/06-07	298,516	0.942	2,257,101	1.287	2,884,906	500,000	3,384,906	1.134	0.966
6/30/07-08	314,231	0.962	1,259,770	1.333	2,014,470	500,000	2,514,470	0.800	0.641
6/30/08-09	302,998	0.983	1,731,424	1.407	2,592,674	500,000	3,092,674	1.021	0.856
6/30/09-10	297,252	0.997	2,345,985	1.529	3,371,312	589,813	3,961,126	1.333	1.134
6/30/10-11	292,432	1.005	1,664,634	1.762	2,936,321	503,429	3,439,751	1.176	1.004
6/30/11-12	295,908	1.022	1,470,092	2.365	3,215,743	633,073	3,848,816	1.301	1.087
6/30/12-13	301,541	1.040	748,452	4.566	3,196,645	672,845	3,869,490	1.283	1.060
Total	7,753,185		127,933,791		147,967,224	30,140,593	178,107,817		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 2, Exhibit 1, Page 4, Column 11

(4) From Section 2, Exhibit 1, Page 2, Column 3

(5) From Section 2, Exhibit 1, Page 2, Column 4

(6) = (4) + [{1 - {1 / (5)}} x (3) x (2) x 10]

(7) From Section 2, Exhibit 1, Page 9, Column 13

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10) = (6) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Retardation - Cluster 1
Indemnity

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Exp Ult Loss Excluding Lump Sum	Unadjusted Loss Cost	Benefit Level Factor	Benefit Adjusted Loss Cost	Loss Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									3.309	3.309
6/30/85-86									4.904	4.904
6/30/86-87									5.443	5.443
6/30/87-88									6.253	6.253
6/30/88-89									6.133	6.133
6/30/89-90									4.978	4.978
6/30/90-91	267,732	9,122,906	3.407	0.953	3.246	1.257	4.081	0.877	3.394	3.382
6/30/91-92	261,442	6,331,298	2.422	1.045	2.531	1.245	3.150	0.807	2.365	2.389
6/30/92-93	259,992	3,599,359	1.384	1.219	1.687	1.232	2.079	0.699	1.361	1.364
6/30/93-94	257,062	2,852,379	1.110	1.203	1.335	1.220	1.629	0.715	1.088	1.094
6/30/94-95	255,854	1,726,703	0.675	1.192	0.804	1.208	0.972	0.729	0.675	0.678
6/30/95-96	255,539	2,561,221	1.002	1.183	1.185	1.196	1.418	0.742	0.973	0.987
6/30/96-97	270,071	2,038,085	0.755	1.171	0.884	1.184	1.046	0.757	0.754	0.755
6/30/97-98	245,367	2,350,883	0.958	1.156	1.107	1.173	1.298	0.775	0.931	0.943
6/30/98-99	251,453	2,033,187	0.809	1.141	0.922	1.161	1.071	0.793	0.800	0.807
6/30/99-00	255,641	2,282,072	0.893	1.122	1.002	1.149	1.152	0.814	0.868	0.885
6/30/00-01	263,918	3,422,472	1.297	1.094	1.418	1.138	1.614	0.844	1.225	1.251
6/30/01-02	267,598	2,315,763	0.865	1.072	0.928	1.127	1.046	0.869	0.864	0.866
6/30/02-03	274,465	3,131,946	1.141	1.069	1.219	1.116	1.360	0.881	1.104	1.115
6/30/03-04	272,384	3,307,178	1.214	1.069	1.297	1.105	1.433	0.890	1.155	1.182
6/30/04-05	273,647	2,865,571	1.047	1.062	1.112	1.094	1.216	0.904	0.920	0.904
6/30/05-06	285,139	2,818,516	0.988	1.051	1.039	1.083	1.125	0.923	0.938	0.923
6/30/06-07	298,516	2,905,754	0.973	1.040	1.012	1.072	1.085	0.942	0.958	0.942
6/30/07-08	314,231	1,678,933	0.534	1.028	0.549	1.062	0.583	0.962	0.978	0.962
6/30/08-09	302,998	2,435,780	0.804	1.016	0.817	1.051	0.859	0.983	1.000	0.983
6/30/09-10	297,252	3,587,502	1.207	1.012	1.222	1.041	1.271	0.997	1.014	0.997
6/30/10-11	292,432	2,933,536	1.003	1.014	1.017	1.030	1.048	1.005	1.023	1.005
6/30/11-12	295,908	3,476,496	1.175	1.007	1.183	1.020	1.207	1.022	1.040	1.022
6/30/12-13	301,541	3,417,057	1.133	1.000	1.133	1.010	1.145	1.040		1.040
Total	6,320,182	73,194,596								

Trend Last 4 (ex 12-13):	25.2%	Avg 3 (x12-13):	1.175
Trend Last 8 (ex 12-13):	-3.0%	Avg 5 (x12-13):	0.994
Trend Last 12 (ex 12-13):	-2.4%	Avg 10 (x12-13):	1.119
Prior Selected Trend:	1.0%	Prior Sel Avg:	1.050
Selected Trend:	1.0%	Sel. Loss Cost:	1.050

NOTES:
(2) Provided by Commonwealth of Massachusetts
(3) From Section 2, Exhibit 1, Page 2, Column 6
(4) = (3) / (2) / 10
(5) Based on information from the MA WCRIB
(6) = (4) x (5)
(7) Based on Selected Trend from (6)
(8) = (6) x (7)
(9) = Sel. Loss Cost / [(5) * (7)]
(10) From Aon analysis as of June 30, 2012
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Retardation - Cluster 1
Indemnity

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend		0.960	
(2)	Credibility		42%	
(3)	Average Pmt Trend Statewide		0.960	
(4)	Credibility Weighted Trend		0.960	
		(Low)		(High)
(5)	Selected Range	0.950		0.965
(6)	Incremental Paid for 2013	384,664		384,664
(7)	Estimated Reserve	7,308,620		10,543,297
(8)	Paid to Date (82 & Prior)	19,039,398		19,039,398
(9)	Est Ult Paid for 1982 & Prior	26,348,019		29,582,695

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	382,459	388,083
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	2,677,212	2,716,582
(13)	Paid to Date (82 & Prior)	19,039,398	18,654,734
(14)	Est Ult Paid for 1982 & Prior	21,716,611	21,371,317
(14a)	Paid Counts During Fiscal Year	10	10
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	24,032,315	26,298,144
(16)	Lump Sum Ultimates	1,265,498	1,265,498
(17)	Ult Loss Including Lump Sums	**25,297,813**	**27,563,642**
(18)	Implied Tail	1.262	1.381
(19)	Ult Loss Inc Lump Sums @ 6/12	24,817,827	27,008,015

NOTES:

(1) From Section 2, Exhibit 1, Page 6
(2) = (Average of Section 2, Exhibit 1, Page 6, Column 3 / 3,000,000) ^ 0.5
(3) Average Statewide Trend
(4) = (1) x (2) + (4) x {1 - (2)}
(5) Selected judgmentally based on (4)
(6), (14a) Provided by Commonwealth of Massachusetts
(7) = (6) x (5) / {1 - (5)}
(8), (16) From Section 2, Exhibit 1, Page 2, Column 3
(9) = (7) + (8)
(10) Avg of 3 latest years from Section 2, Exhibit 1, Page 6, Column 3
(11) Selected judgmentally
(12) = (10 x (11)
(14) = (12) + (13)
(15) = Average of (9) and (14)
(16) From Section 2, Exhibit 1, Page 9, Column 13
(17) = (15) + (16)
(18) = (15) / (8)
(19) From Aon analysis as of June 30, 2012

Department of Mental Retardation - Cluster 1

Indemnity

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paids	LN	Average Observed Trend		Trend Calculations
1992	1	689,918	13.444			
1993	2	793,381	13.584	1.150		
1994	3	677,152	13.426	0.854		
1995	4	616,229	13.331	0.910		
1996	5	581,038	13.273	0.943		
1997	6	667,765	13.412	1.149		
1998	7	676,041	13.424	1.012		
1999	8	626,143	13.347	0.926		
2000	9	638,144	13.366	1.019	n =	21
2001	10	586,837	13.283	0.920	S(x) =	42,042
2002	11	551,859	13.221	0.940	S(x-sq) =	84,168,854
2003	12	510,510	13.143	0.925	S(xy) =	554,152
2004	13	475,438	13.072	0.931	S(y) =	277
2005	14	461,151	13.041	0.970	D =	16,170
2006	15	476,801	13.075	1.034	slope =	-0.035
2007	16	429,059	12.969	0.900	Avg Trend =	0.965
2008	17	388,693	12.871	0.906		
2009	18	397,505	12.893	1.023		
2010	19	401,537	12.903	1.010		
2011	20	390,154	12.874	0.972		
2012	21	372,558	12.828	0.955		
2013	22	384,664	12.860	1.032		
					Selected Trend:	**0.960**

NOTES:

(3) 2013 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2012

(4) LN [(3)]

(5) Eg. 2013: 1.032 = 384664 / 372558

Commonwealth of Massachusetts Workers Compensation
Department of Mental Retardation - Cluster 1
INDEMNITY
Paid Loss Development
Paid Loss (Excluding Lump Sum)

Accident Yr End	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372
June-83	303,088	716,212	1,018,528	1,273,160	1,522,276	1,772,634	2,026,466	2,293,172	2,479,591	2,709,942	2,878,245	2,989,792	3,133,165	3,273,307	3,334,466	3,383,940	3,420,864	3,471,952	3,531,863	3,593,426	3,656,287	3,718,769	3,782,583	3,849,168	3,918,660	3,991,417	4,067,350	4,144,239	4,190,906	4,231,391	4,273,198
June-84	588,752	1,391,250	1,978,503	2,473,129	2,957,038	3,430,512	3,850,638	4,248,292	4,569,012	4,852,567	5,084,077	5,325,765	5,500,225	5,591,777	5,716,071	5,844,905	5,981,927	6,097,750	6,217,962	6,335,407	6,446,404	6,561,447	6,682,092	6,807,737	6,918,835	7,027,806	7,138,148	7,248,169	7,362,291	7,479,325	
June-85	722,238	1,706,685	2,427,085	3,021,356	3,575,162	4,153,362	4,555,210	4,859,145	5,067,185	5,195,242	5,289,258	5,335,046	5,422,572	5,464,010	5,505,997	5,522,923	5,523,036	5,580,502	5,609,877	5,639,252	5,659,166	5,650,202	5,650,202	5,650,202	5,650,202	5,650,202	5,650,202	5,652,195	5,655,860		
June-86	1,095,655	2,589,088	3,658,454	4,589,190	5,452,112	6,125,447	6,630,963	7,055,749	7,268,651	7,575,650	7,835,016	8,089,718	8,284,822	8,452,458	8,677,431	8,856,536	8,960,945	9,024,666	9,066,019	9,108,290	9,147,296	9,188,006	9,230,664	9,275,183	9,320,262	9,334,452	9,334,452	9,334,452			
June-87	1,432,565	3,348,783	4,705,173	6,001,822	7,077,490	7,800,986	8,402,000	9,027,460	9,393,871	9,735,307	10,048,389	10,319,413	10,602,871	10,771,580	10,933,614	11,088,267	11,148,911	11,204,986	11,255,712	11,281,293	11,313,500	11,347,192	11,382,355	11,412,789	11,412,789	11,412,789	11,412,789				
June-88	2,142,725	4,931,624	7,312,968	9,157,962	10,751,119	11,652,385	12,239,990	12,826,004	13,145,803	13,410,989	13,647,380	13,914,189	14,176,053	14,393,869	14,564,189	14,732,219	14,899,699	15,069,301	15,232,127	15,401,826	15,590,731	15,776,168	15,939,935	16,091,855	16,248,755	16,410,714					
June-89	2,139,859	5,737,843	8,345,508	10,235,005	11,538,085	12,380,476	13,056,104	13,607,875	13,950,193	14,223,676	14,460,790	14,677,503	14,820,152	14,959,611	15,088,991	15,215,644	15,354,762	15,504,713	15,612,328	15,710,703	15,815,015	15,923,590	16,033,593	16,140,651	16,239,237						
June-90	2,678,119	5,989,136	8,059,169	9,355,215	10,163,757	10,729,296	11,079,915	11,298,239	11,383,933	11,541,269	11,650,902	11,599,979	11,605,663	11,609,714	11,609,714	11,609,714	11,609,714	11,609,714	11,610,392	11,610,392	11,612,790	11,614,053	11,614,400	11,617,685							
June-91	2,055,995	4,525,519	5,956,270	6,809,892	7,377,934	7,700,162	7,848,119	7,941,980	8,070,661	8,111,443	8,150,308	8,195,730	8,243,748	8,275,457	8,287,806	8,289,633	8,289,633	8,289,927	8,295,115	8,296,069	8,296,953	8,297,667	8,298,631								
June-92	1,556,680	2,907,997	3,613,911	4,262,894	4,511,682	4,736,540	4,868,155	4,962,680	5,049,867	5,098,658	5,131,848	5,177,939	5,259,492	5,311,896	5,373,855	5,435,773	5,480,341	5,518,481	5,558,121	5,598,760	5,641,750	5,685,342									
June-93	931,603	1,916,981	2,439,817	2,755,036	2,906,872	3,136,998	3,162,217	3,209,301	3,219,019	3,198,001	3,197,828	3,197,728	3,197,728	3,197,728	3,204,287	3,210,473	3,210,473	3,210,473	3,210,473	3,210,473	3,210,473										
June-94	923,316	1,598,259	1,935,049	2,093,050	2,066,940	2,146,254	2,134,209	2,198,365	2,247,827	2,310,431	2,340,041	2,380,852	2,417,221	2,452,624	2,487,353	2,524,486	2,527,522	2,527,522	2,527,522	2,527,522											
June-95	684,696	1,108,550	1,371,127	1,495,864	1,512,391	1,513,346	1,516,782	1,516,872	1,519,087	1,525,732	1,525,732	1,526,329	1,526,329	1,526,329	1,526,329	1,526,329	1,526,329	1,526,329	1,526,329												
June-96	662,860	1,328,147	1,644,584	1,839,246	1,990,102	2,077,055	2,112,857	2,140,474	2,201,270	2,201,845	2,202,890	2,202,890	2,182,890	2,187,427	2,194,160	2,208,436	2,231,248	2,258,374													
June-97	698,135	1,214,849	1,461,845	1,657,511	1,722,983	1,773,677	1,788,438	1,787,621	1,785,332	1,785,117	1,785,270	1,787,627	1,787,477	1,787,477	1,787,477	1,787,477	1,787,477														
June-98	573,338	1,086,539	1,414,459	1,559,175	1,673,532	1,729,564	1,772,059	1,810,392	1,842,420	1,881,278	1,926,278	1,959,704	1,981,242	2,002,689	2,024,867	2,047,330															
June-99	474,980	1,002,186	1,286,380	1,461,855	1,602,851	1,676,266	1,728,806	1,734,926	1,734,926	1,735,176	1,735,217	1,735,938	1,735,938	1,745,975	1,758,227																
June-00	554,623	1,006,163	1,264,666	1,446,800	1,556,201	1,579,597	1,684,607	1,741,958	1,774,284	1,814,835	1,849,313	1,888,484	1,924,733	1,960,546																	
June-01	727,441	1,320,455	1,784,558	2,038,666	2,257,429	2,391,407	2,505,985	2,630,995	2,692,967	2,745,367	2,798,403	2,855,751	2,911,077																		
June-02	660,993	1,170,323	1,474,134	1,719,436	1,840,352	1,925,268	1,929,260	1,934,317	1,935,028	1,938,322	1,946,247	1,946,268																			
June-03	681,649	1,386,238	1,930,433	2,233,645	2,345,508	2,434,780	2,476,294	2,514,232	2,549,374	2,574,011	2,599,103																				
June-04	615,642	1,250,196	1,708,083	2,040,603	2,220,200	2,394,408	2,518,890	2,590,854	2,651,972	2,714,242																					
June-05	629,880	1,271,294	1,746,413	2,055,018	2,203,801	2,285,267	2,302,225	2,315,265	2,315,265																						
June-06	562,846	1,157,132	1,564,874	1,794,067	1,951,884	2,062,228	2,165,020	2,239,388																							
June-07	526,806	1,054,827	1,513,205	1,806,536	2,009,359	2,144,089	2,257,101																								
June-08	492,006	840,226	1,027,421	1,150,550	1,226,279	1,259,770																									
June-09	609,589	1,045,186	1,367,431	1,598,834	1,731,424																										
June-10	611,726	1,437,135	2,071,218	2,345,985																											
June-11	714,837	1,318,901	1,664,634																												
June-12	737,468	1,470,092																													
June-13	748,452																														

Age-to-Age Factors

Acc Yr Ending	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372
June-83	2.363	1.422	1.250	1.196	1.164	1.143	1.132	1.081	1.093	1.062	1.039	1.048	1.045	1.019	1.015	1.011	1.015	1.017	1.017	1.017	1.017	1.018	1.018	1.019	1.019	1.019	1.011	1.010	1.010	
June-84	2.363	1.422	1.250	1.196	1.160	1.122	1.103	1.075	1.062	1.048	1.048	1.033	1.017	1.022	1.023	1.023	1.019	1.020	1.019	1.018	1.018	1.018	1.019	1.016	1.016	1.016	1.015	1.016	1.016	
June-85	2.363	1.422	1.245	1.183	1.162	1.097	1.067	1.043	1.025	1.018	1.009	1.016	1.008	1.008	1.003	1.000	1.010	1.005	1.005	1.004	0.998	1.000	1.000	1.000	1.000	1.000	1.000	1.001		
June-86	2.363	1.413	1.254	1.188	1.123	1.083	1.064	1.030	1.042	1.034	1.033	1.024	1.020	1.027	1.021	1.012	1.007	1.005	1.005	1.004	1.004	1.005	1.005	1.005	1.002	1.000	1.000			
June-87	2.338	1.405	1.276	1.179	1.102	1.077	1.074	1.041	1.036	1.032	1.027	1.027	1.016	1.015	1.014	1.005	1.005	1.005	1.002	1.003	1.003	1.003	1.000	1.000	1.000	1.000				
June-88	2.302	1.483	1.252	1.174	1.084	1.050	1.048	1.025	1.020	1.018	1.020	1.019	1.015	1.012	1.012	1.011	1.011	1.011	1.011	1.012	1.012	1.010	1.010	1.010	1.010					
June-89	2.681	1.454	1.226	1.127	1.073	1.055	1.042	1.025	1.020	1.017	1.015	1.010	1.009	1.009	1.008	1.009	1.010	1.007	1.006	1.007	1.007	1.007	1.006							
June-90	2.236	1.346	1.161	1.086	1.056	1.033	1.020	1.008	1.014	1.009	0.996	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
June-91	2.201	1.316	1.143	1.083	1.044	1.019	1.012	1.016	1.005	1.005	1.006	1.006	1.004	1.001	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000								
June-92	1.868	1.243	1.180	1.058	1.050	1.028	1.019	1.018	1.010	1.007	1.009	1.016	1.010	1.012	1.012	1.008	1.007	1.007	1.007	1.008	1.008									
June-93	2.058	1.273	1.129	1.055	1.079	1.008	1.015	1.003	0.993	1.000	1.000	1.000	1.000	1.002	1.002	1.000	1.000	1.000	1.000	1.000										
June-94	1.731	1.211	1.082	0.988	1.038	0.994	1.030	1.022	1.028	1.013	1.017	1.015	1.015	1.014	1.015	1.001	1.000	1.000	1.000											
June-95	1.619	1.237	1.091	1.011	1.001	1.002	1.000	1.001	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000												
June-96	2.004	1.238	1.118	1.082	1.044	1.017	1.013	1.028	1.000	1.000	1.000	0.991	1.002	1.003	1.007	1.010	1.012													
June-97	1.740	1.203	1.134	1.040	1.029	1.008	1.000	0.999	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000														
June-98	1.895	1.302	1.102	1.073	1.033	1.025	1.022	1.018	1.021	1.024	1.017	1.011	1.011	1.011	1.011															
June-99	2.110	1.284	1.136	1.096	1.046	1.031	1.004	1.000	1.000	1.000	1.000	1.000	1.006	1.007																
June-00	1.814	1.257	1.144	1.076	1.015	1.066	1.034	1.019	1.023	1.019	1.021	1.019	1.019																	
June-01	1.815	1.351	1.142	1.107	1.059	1.048	1.050	1.024	1.019	1.019	1.020	1.019																		
June-02	1.771	1.260	1.166	1.070	1.046	1.002	1.003	1.000	1.002	1.004	1.000																			
June-03	2.034	1.393	1.157	1.050	1.038	1.017	1.015	1.014	1.010	1.010																				
June-04	2.031	1.366	1.195	1.088	1.078	1.052	1.029	1.024	1.023																					
June-05	2.018	1.374	1.177	1.072	1.037	1.007	1.006	1.000																						
June-06	2.056	1.352	1.146	1.088	1.057	1.050	1.034																							
June-07	2.002	1.435	1.194	1.112	1.067	1.053																								
June-08	1.708	1.223	1.120	1.066	1.027																									
June-09	1.715	1.308	1.169	1.083																										
June-10	2.349	1.441	1.133																											
June-11	1.845	1.262																												
June-12	1.993																													

Averages	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	To Ult
Simple Avg																															
All Yrs	2.046	1.334	1.170	1.097	1.066	1.044	1.035	1.022	1.021	1.016	1.014	1.013	1.011	1.009	1.009	1.006	1.007	1.006	1.006	1.007	1.007	1.007	1.008	1.008	1.008	1.007	1.009	1.009	1.013	1.010	
Latest 5	1.922	1.334	1.152	1.084	1.053	1.036	1.017	1.012	1.015	1.010	1.012	1.010	1.007	1.004	1.007	1.002	1.004	1.002	1.001	1.003	1.005	1.004	1.005	1.004	1.005	1.007					
Latest 3	2.063	1.337	1.141	1.087	1.050	1.037	1.023	1.013	1.012	1.011	1.014	1.013	1.012	1.006	1.006	1.003	1.004	1.000	1.002	1.003	1.003	1.002	1.005	1.005	1.004	1.000	1.005	1.009			
Volume Wtd																															
All Yrs	2.117	1.355	1.187	1.112	1.073	1.048	1.040	1.024	1.022	1.018	1.015	1.015	1.011	1.010	1.009	1.007	1.007	1.006	1.006	1.006	1.006	1.006	1.007	1.007	1.007	1.005	1.007	1.010	1.014		
Latest 5	1.931	1.342	1.153	1.085	1.056	1.035	1.018	1.013	1.016	1.011	1.013	1.011	1.007	1.004	1.007	1.002	1.004	1.002	1.001	1.003	1.006	1.005	1.005	1.005	1.006	1.005					
Latest 3	2.048	1.343	1.141	1.090	1.054	1.036	1.023	1.013	1.013	1.012	1.015	1.014	1.012	1.006	1.006	1.004	1.004	1.000	1.004	1.003	1.002	1.003	1.006	1.006	1.005	1.000	1.005	1.010			

Dev Factor Selection

Industry 1	2.781	1.499	1.187	1.084	1.039	1.019	1.012																								
Industry 2		1.746	1.300	1.126	1.062	1.029	1.020	1.009	1.008	1.005	1.006	1.010	1.003	1.002	1.004	1.003	1.001	1.001	1.001	1.001											
Prior	*1.928*	*1.363*	*1.161*	*1.089*	*1.055*	*1.026*	*1.017*	*1.019*	*1.011*	*1.014*	*1.013*	*1.009*	*1.007*	*1.007*	*1.005*	*1.007*	*1.004*	*1.003*	*1.002*	*1.007*	*1.007*	*1.013*	*1.012*	*1.011*	*1.010*	*1.010*	*1.010*	*1.010*	*1.010*	1.013	
Selected	1.931	1.342	1.152	1.087	1.056	1.035	1.023	1.017	1.016	1.011	1.013	1.012	1.010	1.007	1.007	1.007	1.005	1.002	1.002	1.007	1.007	1.007	1.013	1.012	1.011	1.010	1.010	1.010	1.010	1.010	1.012
FacToUlt	4.566	2.365	1.762	1.529	1.407	1.333	1.287	1.259	1.238	1.218	1.205	1.190	1.176	1.164	1.156	1.148	1.140	1.134	1.131	1.129	1.121	1.114	1.099	1.086	1.074	1.064	1.053	1.043	1.033	1.022	1.012
Percent of Ult	21.9%	42.3%	56.7%	65.4%	71.1%	75.0%	77.7%	79.5%	80.8%	82.1%	83.0%	84.0%	85.1%	85.9%	86.5%	87.1%	87.7%	88.2%	88.4%	88.6%	89.2%	89.8%	91.0%	92.1%	93.1%	94.0%	94.9%	95.9%	96.8%	97.8%	98.8%

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Retardation - Cluster 1
Indemnity

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Ultimate Loss		Ultimate Loss		Change in Ultimate Loss		Change in Ultimate Loss	
Accident	As of 6/12		As of 6/13		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	24,817,827	27,008,015	25,297,813	27,563,642	479,986	1.9%	555,627	2.1%
6/30/82-83	4,976,675	5,231,890	5,019,562	5,276,976	42,887	0.9%	45,086	0.9%
6/30/83-84	9,394,308	9,777,749	9,530,201	9,919,189	135,893	1.4%	141,440	1.4%
6/30/84-85	6,850,000	6,918,000	6,879,000	6,947,000	29,000	0.4%	29,000	0.4%
6/30/85-86	10,580,000	10,683,000	10,580,000	10,683,000	0	0.0%	0	0.0%
6/30/86-87	13,750,000	13,885,000	13,750,000	13,885,000	0	0.0%	0	0.0%
6/30/87-88	20,043,000	20,934,000	20,194,000	21,098,000	151,000	0.8%	164,000	0.8%
6/30/88-89	21,018,000	21,021,000	21,091,000	21,094,000	73,000	0.3%	73,000	0.3%
6/30/89-90	15,117,000	15,266,000	15,120,000	15,270,000	3,000	0.0%	4,000	0.0%
6/30/90-91	10,972,000	11,080,000	10,973,000	11,081,000	1,000	0.0%	1,000	0.0%
6/30/91-92	8,091,000	8,099,000	8,149,000	8,158,000	58,000	0.7%	59,000	0.7%
6/30/92-93	4,231,000	4,273,000	4,231,000	4,273,000	0	0.0%	0	0.0%
6/30/93-94	3,566,000	3,601,000	3,566,000	3,601,000	0	0.0%	0	0.0%
6/30/94-95	2,288,000	2,289,000	2,295,000	2,296,000	7,000	0.3%	7,000	0.3%
6/30/95-96	3,289,000	3,293,000	3,324,000	3,329,000	35,000	1.1%	36,000	1.1%
6/30/96-97	2,738,000	2,738,000	2,738,000	2,739,000	0	0.0%	1,000	0.0%
6/30/97-98	2,876,000	2,880,000	2,904,000	2,908,000	28,000	1.0%	28,000	1.0%
6/30/98-99	2,567,000	2,568,000	2,649,000	2,649,000	82,000	3.2%	81,000	3.2%
6/30/99-00	2,610,000	2,612,000	2,654,000	2,657,000	44,000	1.7%	45,000	1.7%
6/30/00-01	3,631,000	3,647,000	3,705,000	3,723,000	74,000	2.0%	76,000	2.1%
6/30/01-02	2,638,000	2,639,000	2,642,000	2,642,000	4,000	0.2%	3,000	0.1%
6/30/02-03	3,485,000	3,496,000	3,511,000	3,523,000	26,000	0.7%	27,000	0.8%
6/30/03-04	3,576,000	3,589,000	3,647,000	3,663,000	71,000	2.0%	74,000	2.1%
6/30/04-05	3,207,000	3,274,000	3,219,000	3,294,000	12,000	0.4%	20,000	0.6%
6/30/05-06	3,214,000	3,223,000	3,280,000	3,319,000	66,000	2.1%	96,000	3.0%
6/30/06-07	3,267,000	3,288,000	3,385,000	3,406,000	118,000	3.6%	118,000	3.6%
6/30/07-08	2,170,000	2,543,000	2,179,000	2,514,000	9,000	0.4%	(29,000)	-1.1%
6/30/08-09	2,870,000	3,085,000	2,936,000	3,093,000	66,000	2.3%	8,000	0.3%
6/30/09-10	3,918,000	4,149,000	3,961,000	4,177,000	43,000	1.1%	28,000	0.7%
6/30/10-11	3,597,000	3,657,000	3,437,000	3,440,000	(160,000)	-4.4%	(217,000)	-5.9%
6/30/11-12	3,793,000	3,995,000	3,849,000	4,110,000	56,000	1.5%	115,000	2.9%
6/30/12-13								
Total	209,140,810	214,742,654	210,695,577	216,331,807	1,554,767	0.7%	1,589,153	0.7%

NOTES:

(2), (3) From Aon analysis as of June 30, 2012

(4), (5) From Section 2, Exhibit 1, Page 1, Columns 6, 7

(6) = (4) - (2)

(7) = (4) / (2) - 1

(8) = (5) - (3)

(9) = (5) / (3) - 1

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Retardation - Cluster 1
Indemnity

Calculation of Ultimate Lump Sum Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Accident Year	Paid Loss Excluding Lump Sum	Implied Cumulative LDF	Ult Loss Excluding Lump Sum	Selected Incr Lump Sum % Outstdg	Cumulative Lump Sum % Outstdg	Total Lump Sum Outstdg	Paid Lump Sum to Date	Est Ult Lump Sum - Incr Method	Ultimate Lump Sum Percentage	Lump Sum LDF	Est Ult Lump Sum - Paid Method	Selected Est Ultimate Lump Sums	Prior Est Ultimate Lump Sums
All Prior Yrs	19,039,398	1.322	25,165,229	0.0%	0.0%	0	1,265,498	1,265,498	5.0%	1.000	1,265,498	1,265,498	1,265,498
6/30/82-83	4,273,198	1.113	4,757,869	0.0%	0.0%	0	390,400	390,400	8.2%	1.000	390,400	390,400	390,400
6/30/83-84	7,479,325	1.227	9,175,545	0.0%	0.0%	0	549,150	549,150	6.0%	1.000	549,150	549,150	549,150
6/30/84-85	5,655,860	1.033	5,839,938	0.0%	0.0%	0	1,154,851	1,154,851	19.8%	1.000	1,154,851	1,154,851	1,129,851
6/30/85-86	9,334,452	1.043	9,734,637	0.0%	0.0%	0	937,644	937,644	9.6%	1.000	937,644	937,644	937,644
6/30/86-87	11,412,789	1.053	12,021,098	0.0%	0.0%	0	2,067,717	2,067,717	17.2%	1.000	2,067,717	2,067,717	2,068,751
6/30/87-88	16,410,714	1.170	19,204,096	0.0%	0.0%	0	2,795,764	2,795,764	14.6%	1.001	2,798,560	2,797,162	2,799,960
6/30/88-89	16,239,237	1.074	17,448,605	0.0%	0.0%	0	3,639,613	3,639,613	20.9%	1.003	3,650,539	3,645,076	3,648,726
6/30/89-90	11,617,685	1.086	12,620,188	0.0%	0.0%	0	3,352,581	3,352,581	26.6%	1.005	3,369,371	3,360,976	3,375,724
6/30/90-91	8,298,631	1.099	9,122,906	0.1%	0.1%	9,123	2,565,430	2,574,553	28.2%	1.010	2,591,169	2,582,861	2,593,931
6/30/91-92	5,685,342	1.114	6,331,298	0.1%	0.2%	12,663	1,806,412	1,819,075	28.7%	1.015	1,833,658	1,826,367	1,834,017
6/30/92-93	3,210,473	1.121	3,599,359	0.1%	0.3%	10,798	979,103	989,901	27.5%	1.020	998,840	994,371	1,000,447
6/30/93-94	2,527,522	1.129	2,852,379	0.2%	0.5%	14,262	968,701	982,963	34.5%	1.025	993,170	988,066	992,122
6/30/94-95	1,526,329	1.131	1,726,703	0.2%	0.7%	12,087	555,200	567,287	32.9%	1.025	569,224	568,255	570,667
6/30/95-96	2,258,374	1.134	2,561,221	0.2%	0.9%	23,051	746,640	769,691	30.1%	1.025	765,500	767,595	772,170
6/30/96-97	1,787,477	1.140	2,038,085	0.3%	1.2%	24,457	679,550	704,007	34.5%	1.025	696,715	700,361	704,275
6/30/97-98	2,047,330	1.148	2,350,883	0.3%	1.5%	35,263	533,163	568,426	24.2%	1.025	546,630	557,528	564,177
6/30/98-99	1,758,227	1.156	2,033,187	0.3%	1.8%	36,597	587,071	623,668	30.7%	1.036	607,919	615,794	557,203
6/30/99-00	1,960,546	1.164	2,282,072	0.3%	2.1%	47,924	342,501	390,425	17.1%	1.051	359,984	375,204	381,175
6/30/00-01	2,911,077	1.176	3,422,472	0.3%	2.4%	82,139	251,103	333,242	9.7%	1.067	267,879	300,561	306,933
6/30/01-02	1,946,268	1.190	2,315,763	0.3%	2.7%	62,526	283,214	345,739	14.9%	1.083	306,667	326,203	332,229
6/30/02-03	2,599,103	1.205	3,131,946	0.3%	3.0%	93,958	328,024	421,982	13.5%	1.099	360,516	391,249	403,362
6/30/03-04	2,714,242	1.218	3,307,178	0.5%	3.5%	115,751	279,825	395,576	12.0%	1.127	315,232	355,404	367,112
6/30/04-05	2,315,265	1.238	2,865,571	0.5%	4.0%	114,623	343,352	457,975	16.0%	1.160	398,401	428,188	409,215
6/30/05-06	2,239,388	1.259	2,818,516	1.0%	5.0%	140,926	246,502	387,428	13.7%	1.195	294,604	500,000	500,000
6/30/06-07	2,257,101	1.287	2,905,754	1.0%	6.0%	174,345	267,250	441,595	15.2%	1.234	329,774	500,000	500,000
6/30/07-08	1,259,770	1.333	1,678,933	1.0%	7.0%	117,525	154,501	272,026	16.2%	1.270	196,268	500,000	500,000
6/30/08-09	1,731,424	1.407	2,435,780	1.4%	8.4%	204,605	155,500	360,105	14.8%	1.499	233,168	500,000	500,000
6/30/09-10	2,345,985	1.529	3,587,502	2.5%	10.9%	391,038	198,776	589,813	16.4%	2.138	425,081	589,813	583,814
6/30/10-11	1,664,634	1.762	2,933,536	3.5%	14.4%	422,429	81,000	503,429	17.2%	3.521	285,227	503,429	561,899
6/30/11-12	1,470,092	2.365	3,476,496	2.8%	17.2%	597,637	35,436	633,073	18.2%	9.325	330,436	633,073	659,390
6/30/12-13	748,452	4.566	3,417,057	2.5%	19.7%	672,845	0	672,845	19.7%	51.287	0	672,845	
Total	158,725,713		189,161,802			3,416,573	28,541,471	31,958,043	16.9%		29,889,790	32,345,641	31,759,841

NOTES:

(2) From Section 2, Exhibit 1, Page 2, Column 3
(3) = (4) / (2)
(4) From Section 2, Exhibit 1, Page 2, Column 6
(5) From Section 2, Exhibit 1, Page 11
(6) Downward sum of (5)
(7) = (6) x (4)
(8) From Section 2, Exhibit 1, Page 10
(9) = (7) + (8)
(10) = (9) / (4)
(11) From Section 2, Exhibit 1, Page 12
(12) = (8) x (11)
(13) Selected based on (9) and (12)
(14) From Aon analysis as of June 30, 2012

Commonwealth of Massachusetts Workers Compensation
Department of Mental Retardation - Cluster 1
INDEMNITY
Lump Sum Development
Incremental Lump Sum Payments

Acc Yr Ending	*0-12*	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*372-384*
All Prior Yrs	0	0	0	0	0	0	12,000	24,000	9,000	0	0	40,000	0	172,000	110,000	50,000	70,500	30,000	208,333	116,667	324,998	0	60,000	35,000	0	3,000	0	0	0	0	0	0
Jun-83	0	0	0	0	0	0	0	0	25,500	25,000	52,900	7,000	30,000	95,000	145,000	0	10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jun-84	0	0	0	0	0	32,500	19,000	0	45,000	108,650	69,000	145,000	0	45,000	0	30,000	10,000	0	45,000	0	0	0	0	0	0	0	0	0	0	0		
Jun-85	0	0	0	12,500	32,500	24,500	92,001	128,250	196,400	182,000	70,000	48,500	205,700	0	0	30,000	52,500	30,000	0	25,000	0	0	0	0	0	0	0	0	25,000			
Jun-86	0	0	23,500	19,200	19,100	93,844	174,500	476,000	95,500	0	0	0	36,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Jun-87	0	36,440	6,089	107,500	67,961	393,241	517,987	205,500	149,499	10,000	92,500	15,000	146,000	125,000	120,000	75,000	0	0	0	0	0	0	0	0	0	0	0					
Jun-88	0	9,000	98,700	314,201	299,750	663,711	365,000	263,001	345,000	230,400	71,500	91,500	40,000	0	0	0	0	0	0	0	0	1	0	0	4,000	0						
Jun-89	0	51,500	107,000	525,918	831,350	467,250	201,495	468,000	227,500	96,000	182,000	228,100	128,500	0	0	0	0	33,333	45,833	45,834	0	0	0	0	0							
Jun-90	0	83,875	561,509	740,856	246,000	295,600	525,500	290,000	127,241	77,000	235,834	135,833	33,333	0	0	0	0	0	0	0	0	0	0	0								
Jun-91	10,000	315,052	866,050	279,500	174,700	509,340	313,000	57,788	15,000	25,000	0	0	0	0	0	0	0	0	0	0	0	0	0									
Jun-92	54,000	344,161	128,250	87,501	545,500	236,500	52,500	15,000	30,000	60,000	88,000	0	0	0	0	0	165,000	0	0	0	0	0										
Jun-93	33,000	174,000	164,503	395,750	49,500	66,500	75,850	0	20,000	0	0	0	0	0	0	0	0	0	0	0	0											
Jun-94	20,500	90,701	289,500	222,500	110,000	82,500	118,000	0	35,000	0	0	0	0	0	0	0	0	0	0	0												
Jun-95	4,000	156,500	207,200	162,500	15,000	0	0	10,000	0	0	0	0	0	0	0	0	0	0	0													
Jun-96	52,000	212,180	221,000	48,960	42,000	0	48,667	18,833	43,000	35,000	25,000	0	0	0	0	0	0	0														
Jun-97	36,500	178,250	214,000	155,300	85,500	10,000	0	0	0	0	0	0	0	0	0	0	0															
Jun-98	10,000	108,163	240,000	120,000	30,000	0	0	0	0	0	0	25,000	0	0	0	0																
Jun-99	0	182,500	192,000	113,220	1,824	7,437	11,035	14,055	0	0	0	0	0	0	65,000																	
Jun-00	12,500	57,501	82,000	36,500	38,500	8,500	10,500	27,500	10,000	0	0	34,000	25,000	0																		
Jun-01	17,500	22,844	43,510	37,903	34,170	41,676	38,500	15,000	0	0	0	0	0																			
Jun-02	0	800	23,940	52,775	72,135	32,564	76,000	25,000	0	0	0	0																				
Jun-03	0	0	48,352	99,400	91,822	48,450	10,000	0	0	30,000	0																					
Jun-04	0	0	88,974	64,100	121,250	0	0	5,501	0	0																						
Jun-05	0	7,500	39,052	104,600	42,000	94,000	20,000	0	36,200																							
Jun-06	0	14,800	50,202	87,500	46,500	30,000	3,500	14,000																								
Jun-07	0	8,500	85,000	83,750	78,000	6,000	6,000																									
Jun-08	0	37,000	17,501	25,000	45,000	30,000																										
Jun-09	0	24,000	55,000	41,000	35,500																											
Jun-10	0	12,500	57,878	128,398																												
Jun-11	0	27,523	53,478																													
Jun-12	0	35,436																														
Jun-13	0																															

Cumulative Lump Sum Payments

Acc Yr Ending	*12*	*24*	*36*	*48*	*60*	*72*	*84*	*96*	*108*	*120*	*132*	*144*	*156*	*168*	*180*	*192*	*204*	*216*	*228*	*240*	*252*	*264*	*276*	*288*	*300*	*312*	*324*	*336*	*348*	*360*	*372*	*384*
All Prior Yrs	0	0	0	0	0	0	12,000	36,000	45,000	45,000	45,000	85,000	85,000	257,000	367,000	417,000	487,500	517,500	725,833	842,500	1,167,498	1,167,498	1,227,498	1,262,498	1,262,498	1,265,498	1,265,498	1,265,498	1,265,498	1,265,498	1,265,498	1,265,498
Jun-83	0	0	0	0	0	0	0	0	25,500	50,500	103,400	110,400	140,400	235,400	380,400	380,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	
Jun-84	0	0	0	0	0	32,500	51,500	51,500	96,500	205,150	274,150	419,150	419,150	464,150	464,150	494,150	504,150	504,150	549,150	549,150	549,150	549,150	549,150	549,150	549,150	549,150	549,150	549,150	549,150	549,150		
Jun-85	0	0	0	12,500	45,000	69,500	161,501	289,751	486,151	668,151	738,151	786,651	992,351	992,351	992,351	1,022,351	1,074,851	1,104,851	1,104,851	1,129,851	1,129,851	1,129,851	1,129,851	1,129,851	1,129,851	1,129,851	1,129,851	1,129,851	1,154,851			
Jun-86	0	0	23,500	42,700	61,800	155,644	330,144	806,144	901,644	901,644	901,644	901,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644				
Jun-87	0	36,440	42,529	150,029	217,990	611,231	1,129,218	1,334,718	1,484,217	1,494,217	1,586,717	1,601,717	1,747,717	1,872,717	1,992,717	2,067,717	2,067,717	2,067,717	2,067,717	2,067,717	2,067,717	2,067,717	2,067,717	2,067,717	2,067,717	2,067,717	2,067,717					
Jun-88	0	9,000	107,700	421,901	721,651	1,385,362	1,750,362	2,013,363	2,358,363	2,588,763	2,660,263	2,751,763	2,791,763	2,791,763	2,791,763	2,791,763	2,791,763	2,791,763	2,791,763	2,791,763	2,791,763	2,791,764	2,791,764	2,791,764	2,795,764	2,795,764						
Jun-89	0	51,500	158,500	684,418	1,515,768	1,983,018	2,184,513	2,652,513	2,880,013	2,976,013	3,158,013	3,386,113	3,514,613	3,514,613	3,514,613	3,514,613	3,514,613	3,547,946	3,593,779	3,639,613	3,639,613	3,639,613	3,639,613	3,639,613	3,639,613	3,639,613							
Jun-90	0	83,875	645,384	1,386,240	1,632,240	1,927,840	2,453,340	2,743,340	2,870,581	2,947,581	3,183,415	3,319,248	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581								
Jun-91	10,000	325,052	1,191,102	1,470,602	1,645,302	2,154,642	2,467,642	2,525,430	2,540,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430								
Jun-92	54,000	398,161	526,411	613,912	1,159,412	1,395,912	1,448,412	1,463,412	1,493,412	1,553,412	1,641,412	1,641,412	1,641,412	1,641,412	1,641,412	1,641,412	1,806,412	1,806,412	1,806,412	1,806,412	1,806,412	1,806,412										
Jun-93	33,000	207,000	371,503	767,253	816,753	883,253	959,103	959,103	979,103	979,103	979,103	979,103	979,103	979,103	979,103	979,103	979,103	979,103	979,103	979,103	979,103											
Jun-94	20,500	111,201	400,701	623,201	733,201	815,701	933,701	933,701	968,701	968,701	968,701	968,701	968,701	968,701	968,701	968,701	968,701	968,701	968,701	968,701												
Jun-95	4,000	160,500	367,700	530,200	545,200	545,200	545,200	555,200	555,200	555,200	555,200	555,200	555,200	555,200	555,200	555,200	555,200	555,200	555,200													
Jun-96	52,000	264,180	485,180	534,140	576,140	576,140	624,807	643,640	686,640	721,640	746,640	746,640	746,640	746,640	746,640	746,640	746,640	746,640														
Jun-97	36,500	214,750	428,750	584,050	669,550	679,550	679,550	679,550	679,550	679,550	679,550	679,550	679,550	679,550	679,550	679,550	679,550															
Jun-98	10,000	118,163	358,163	478,163	508,163	508,163	508,163	508,163	508,163	508,163	508,163	533,163	533,163	533,163	533,163	533,163																
Jun-99	0	182,500	374,500	487,720	489,544	496,981	508,016	522,071	522,071	522,071	522,071	522,071	522,071	522,071	522,071	587,071																
Jun-00	12,500	70,001	152,001	188,501	227,001	235,501	246,001	273,501	283,501	283,501	283,501	317,501	342,501	342,501																		
Jun-01	17,500	40,344	83,854	121,757	155,927	197,603	236,103	251,103	251,103	251,103	251,103	251,103	251,103																			
Jun-02	0	800	24,740	77,515	149,650	182,214	258,214	283,214	283,214	283,214	283,214	283,214																				
Jun-03	0	0	48,352	147,752	239,574	288,024	298,024	298,024	298,024	328,024	328,024																					
Jun-04	0	0	88,974	153,074	274,324	274,324	274,324	279,825	279,825	279,825																						
Jun-05	0	7,500	46,552	151,152	193,152	287,152	307,152	307,152	343,352																							
Jun-06	0	14,800	65,002	152,502	199,002	229,002	232,502	246,502																								
Jun-07	0	8,500	93,500	177,250	255,250	261,250	267,250																									
Jun-08	0	37,000	54,501	79,501	124,501	154,501																										
Jun-09	0	24,000	79,000	120,000	155,500																											
Jun-10	0	12,500	70,378	198,776																												
Jun-11	0	27,523	81,000																													
Jun-12	0	35,436																														
Jun-13	0																															

Commonwealth of Massachusetts Workers Compensation
Department of Mental Retardation - Cluster 1
INDEMNITY
Lump Sum Development
Incremental Lump Sums as a % of Ultimate Losses Excluding Lump Sums

Acc Yr Ending	*0-12*	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*372-384*
All Prior Yrs	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.002	0.000	0.007	0.004	0.002	0.003	0.001	0.008	0.005	0.013	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun-83	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.011	0.001	0.006	0.020	0.030	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-84	0.000	0.000	0.000	0.000	0.000	0.004	0.002	0.000	0.005	0.012	0.008	0.016	0.000	0.005	0.000	0.003	0.001	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Jun-85	0.000	0.000	0.000	0.002	0.006	0.004	0.016	0.022	0.034	0.031	0.012	0.008	0.035	0.000	0.000	0.005	0.009	0.005	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004			
Jun-86	0.000	0.000	0.002	0.002	0.002	0.010	0.018	0.049	0.010	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Jun-87	0.000	0.003	0.001	0.009	0.006	0.033	0.043	0.017	0.012	0.001	0.008	0.001	0.012	0.010	0.010	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
Jun-88	0.000	0.000	0.005	0.016	0.016	0.035	0.019	0.014	0.018	0.012	0.004	0.005	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000						
Jun-89	0.000	0.003	0.006	0.030	0.048	0.027	0.012	0.027	0.013	0.006	0.010	0.013	0.007	0.000	0.000	0.000	0.000	0.002	0.003	0.003	0.000	0.000	0.000	0.000	0.000							
Jun-90	0.000	0.007	0.044	0.059	0.019	0.023	0.042	0.023	0.010	0.006	0.019	0.011	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000								
Jun-91	0.001	0.035	0.095	0.031	0.019	0.056	0.034	0.006	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000									
Jun-92	0.009	0.054	0.020	0.014	0.086	0.037	0.008	0.002	0.005	0.009	0.014	0.000	0.000	0.000	0.000	0.000	0.026	0.000	0.000	0.000	0.000	0.000										
Jun-93	0.009	0.048	0.046	0.110	0.014	0.018	0.021	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000											
Jun-94	0.007	0.032	0.101	0.078	0.039	0.029	0.041	0.000	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000												
Jun-95	0.002	0.091	0.120	0.094	0.009	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000													
Jun-96	0.020	0.083	0.086	0.019	0.016	0.000	0.019	0.007	0.017	0.014	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000														
Jun-97	0.018	0.087	0.105	0.076	0.042	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000															
Jun-98	0.004	0.046	0.102	0.051	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.000	0.000	0.000	0.000																
Jun-99	0.000	0.090	0.094	0.056	0.001	0.004	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.032																	
Jun-00	0.005	0.025	0.036	0.016	0.017	0.004	0.005	0.012	0.004	0.000	0.000	0.015	0.011	0.000																		
Jun-01	0.005	0.007	0.013	0.011	0.010	0.012	0.011	0.004	0.000	0.000	0.000	0.000	0.000																			
Jun-02	0.000	0.000	0.010	0.023	0.031	0.014	0.033	0.011	0.000	0.000	0.000	0.000																				
Jun-03	0.000	0.000	0.015	0.032	0.029	0.015	0.003	0.000	0.000	0.010	0.000																					
Jun-04	0.000	0.000	0.027	0.019	0.037	0.000	0.000	0.002	0.000	0.000																						
Jun-05	0.000	0.003	0.014	0.037	0.015	0.033	0.007	0.000	0.013																							
Jun-06	0.000	0.005	0.018	0.031	0.016	0.011	0.001	0.005																								
Jun-07	0.000	0.003	0.029	0.029	0.027	0.002	0.002																									
Jun-08	0.000	0.022	0.010	0.015	0.027	0.018																										
Jun-09	0.000	0.010	0.023	0.017	0.015																											
Jun-10	0.000	0.003	0.016	0.036																												
Jun-11	0.000	0.009	0.018																													
Jun-12	0.000	0.010																														
Jun-13	0.000																															

Averages		*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*372-384*
Simple Avg																																
All Yrs (ex P)	0.003	0.023	0.036	0.033	0.021	0.015	0.014	0.009	0.007	0.005	0.005	0.004	0.004	0.002	0.004	0.001	0.003	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	
Latest 5	0.000	0.011	0.019	0.025	0.020	0.013	0.003	0.003	0.003	0.002	0.000	0.005	0.002	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Latest 3	0.000	0.008	0.019	0.023	0.023	0.010	0.003	0.002	0.004	0.003	0.000	0.005	0.004	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001			
Olympic Avg																																
All Yrs (ex P)	0.002	0.021	0.035	0.031	0.019	0.014	0.013	0.008	0.006	0.004	0.004	0.004	0.003	0.001	0.003	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
Latest 10	0.000	0.005	0.018	0.025	0.022	0.010	0.004	0.004	0.002	0.001	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000									
Latest 5	0.000	0.010	0.019	0.026	0.019	0.010	0.002	0.002	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					

Dev Factor Selection																																
Prior	*NA*	*0.025*	*0.029*	*0.035*	*0.025*	*0.014*	*0.010*	*0.010*	*0.010*	*0.005*	*0.005*	*0.003*	*0.003*	*0.003*	*0.003*	*0.003*	*0.003*	*0.003*	*0.002*	*0.002*	*0.002*	*0.001*	*0.001*	*0.001*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	
Selected	NA	0.025	0.028	0.035	0.025	0.014	0.010	0.010	0.010	0.005	0.005	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FacToUlt	NA	0.197	0.172	0.144	0.109	0.084	0.070	0.060	0.050	0.040	0.035	0.030	0.027	0.024	0.021	0.018	0.015	0.012	0.009	0.007	0.005	0.003	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Commonwealth of Massachusetts Workers Compensation
Department of Mental Retardation - Cluster 1
INDEMNITY
Paid Loss Development
Paid Loss - Lump Sum only

Acc Yr Ending	*12*	*24*	*36*	*48*	*60*	*72*	*84*	*96*	*108*	*120*	*132*	*144*	*156*	*168*	*180*	*192*	*204*	*216*	*228*	*240*	*252*	*264*	*276*	*288*	*300*	*312*	*324*	*336*	*348*	*360*	*372*	*384*
All Prior Yrs	0	0	0	0	0	0	12,000	36,000	45,000	45,000	45,000	85,000	85,000	257,000	367,000	417,000	487,500	517,500	725,833	842,500	1,167,498	1,167,498	1,227,498	1,262,498	1,262,498	1,265,498	1,265,498	1,265,498	1,265,498	1,265,498	1,265,498	1,265,498
Jun-83	0	0	0	0	0	0	0	0	25,500	50,500	103,400	110,400	140,400	235,400	380,400	380,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	390,400	
Jun-84	0	0	0	0	0	32,500	51,500	51,500	96,500	205,150	274,150	419,150	419,150	464,150	464,150	494,150	504,150	504,150	549,150	549,150	549,150	549,150	549,150	549,150	549,150	549,150	549,150	549,150	549,150	549,150		
Jun-85	0	0	0	12,500	45,000	69,500	161,501	289,751	486,151	668,151	738,151	786,651	992,351	992,351	992,351	1,022,351	1,074,851	1,104,851	1,104,851	1,129,851	1,129,851	1,129,851	1,129,851	1,129,851	1,129,851	1,129,851	1,129,851	1,129,851	1,154,851			
Jun-86	0	0	23,500	42,700	61,800	155,644	330,144	806,144	901,644	901,644	901,644	901,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644	937,644				
Jun-87	0	36,440	42,529	150,029	217,990	611,231	1,129,218	1,334,718	1,484,217	1,494,217	1,586,717	1,601,717	1,747,717	1,872,717	1,992,717	2,067,717	2,067,717	2,067,717	2,067,717	2,067,717	2,067,717	2,067,717	2,067,717	2,067,717	2,067,717	2,067,717	2,067,717					
Jun-88	0	9,000	107,700	421,901	721,651	1,385,362	1,750,362	2,013,363	2,358,363	2,588,763	2,660,263	2,751,763	2,791,763	2,791,763	2,791,763	2,791,763	2,791,763	2,791,763	2,791,763	2,791,763	2,791,763	2,791,764	2,791,764	2,791,764	2,795,764	2,795,764						
Jun-89	0	51,500	158,500	684,418	1,515,768	1,983,018	2,184,513	2,652,513	2,880,013	2,976,013	3,158,013	3,386,113	3,514,613	3,514,613	3,514,613	3,514,613	3,514,613	3,547,946	3,593,779	3,639,613	3,639,613	3,639,613	3,639,613	3,639,613	3,639,613	3,639,613						
Jun-90	0	83,875	645,384	1,386,240	1,632,240	1,927,840	2,453,340	2,743,340	2,870,581	2,947,581	3,183,415	3,319,248	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581	3,352,581							
Jun-91	10,000	325,052	1,191,102	1,470,602	1,645,302	2,154,642	2,467,642	2,525,430	2,540,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430	2,565,430								
Jun-92	54,000	398,161	526,411	613,912	1,159,412	1,395,912	1,448,412	1,463,412	1,493,412	1,553,412	1,641,412	1,641,412	1,641,412	1,641,412	1,641,412	1,641,412	1,806,412	1,806,412	1,806,412	1,806,412	1,806,412	1,806,412										
Jun-93	33,000	207,000	371,503	767,253	816,753	883,253	959,103	959,103	979,103	979,103	979,103	979,103	979,103	979,103	979,103	979,103	979,103	979,103	979,103	979,103	979,103											
Jun-94	20,500	111,201	400,701	623,201	733,201	815,701	933,701	933,701	968,701	968,701	968,701	968,701	968,701	968,701	968,701	968,701	968,701	968,701	968,701	968,701												
Jun-95	4,000	160,500	367,700	530,200	545,200	545,200	545,200	555,200	555,200	555,200	555,200	555,200	555,200	555,200	555,200	555,200	555,200	555,200	555,200													
Jun-96	52,000	264,180	485,180	534,140	576,140	576,140	624,807	643,640	686,640	721,640	746,640	746,640	746,640	746,640	746,640	746,640	746,640	746,640														
Jun-97	36,500	214,750	428,750	584,050	669,550	679,550	679,550	679,550	679,550	679,550	679,550	679,550	679,550	679,550	679,550	679,550	679,550															
Jun-98	10,000	118,163	358,163	478,163	508,163	508,163	508,163	508,163	508,163	508,163	508,163	533,163	533,163	533,163	533,163	533,163																
Jun-99	0	182,500	374,500	487,720	489,544	496,981	508,016	522,071	522,071	522,071	522,071	522,071	522,071	522,071	587,071																	
Jun-00	12,500	70,001	152,001	188,501	227,001	235,501	246,001	273,501	283,501	283,501	283,501	317,501	342,501	342,501																		
Jun-01	17,500	40,344	83,854	121,757	155,927	197,603	236,103	251,103	251,103	251,103	251,103	251,103	251,103																			
Jun-02	0	800	24,740	77,515	149,650	182,214	258,214	283,214	283,214	283,214	283,214	283,214																				
Jun-03	0	0	48,352	147,752	239,574	288,024	298,024	298,024	298,024	328,024	328,024																					
Jun-04	0	0	88,974	153,074	274,324	274,324	274,324	279,825	279,825	279,825																						
Jun-05	0	7,500	46,552	151,152	193,152	287,152	307,152	307,152	343,352																							
Jun-06	0	14,800	65,002	152,502	199,002	229,002	232,502	246,502																								
Jun-07	0	8,500	93,500	177,250	255,250	261,250	267,250																									
Jun-08	0	37,000	54,501	79,501	124,501	154,501																										
Jun-09	0	24,000	79,000	120,000	155,500																											
Jun-10	0	12,500	70,378	198,776																												
Jun-11	0	27,523	81,000																													
Jun-12	0	35,436																														
Jun-13	0																															

Age-to-Age Factors

Acc Yr Ending	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*372-384*	*To Ult*
All Prior Yrs							3.000	1.250	1.000	1.000	1.889	1.000	3.024	1.428	1.136	1.169	1.062	1.403	1.161	1.386	1.000	1.051	1.029	1.000	1.002	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-83									1.980	2.048	1.068	1.272	1.677	1.616	1.000	1.026	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
Jun-84						1.585	1.000	1.874	2.126	1.336	1.529	1.000	1.107	1.000	1.065	1.020	1.000	1.089	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Jun-85				3.600	1.544	2.324	1.794	1.678	1.374	1.105	1.066	1.261	1.000	1.000	1.030	1.051	1.028	1.000	1.023	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.022				
Jun-86			1.817	1.447	2.519	2.121	2.442	1.118	1.000	1.000	1.000	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
Jun-87		1.167	3.528	1.453	2.804	1.847	1.182	1.112	1.007	1.062	1.009	1.091	1.072	1.064	1.038	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
Jun-88		11.967	3.917	1.710	1.920	1.263	1.150	1.171	1.098	1.028	1.034	1.015	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.001	1.000						
Jun-89		3.078	4.318	2.215	1.308	1.102	1.214	1.086	1.033	1.061	1.072	1.038	1.000	1.000	1.000	1.000	1.009	1.013	1.013	1.000	1.000	1.000	1.000	1.000								
Jun-90		7.695	2.148	1.177	1.181	1.273	1.118	1.046	1.027	1.080	1.043	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
Jun-91	32.505	3.664	1.235	1.119	1.310	1.145	1.023	1.006	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
Jun-92	7.373	1.322	1.166	1.889	1.204	1.038	1.010	1.021	1.040	1.057	1.000	1.000	1.000	1.000	1.000	1.101	1.000	1.000	1.000	1.000	1.000											
Jun-93	6.273	1.795	2.065	1.065	1.081	1.086	1.000	1.021	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000												
Jun-94	5.424	3.603	1.555	1.177	1.113	1.145	1.000	1.037	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000													
Jun-95	40.125	2.291	1.442	1.028	1.000	1.000	1.018	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000														
Jun-96	5.080	1.837	1.101	1.079	1.000	1.084	1.030	1.067	1.051	1.035	1.000	1.000	1.000	1.000	1.000	1.000	1.000															
Jun-97	5.884	1.997	1.362	1.146	1.015	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000																
Jun-98	11.816	3.031	1.335	1.063	1.000	1.000	1.000	1.000	1.000	1.000	1.049	1.000	1.000	1.000	1.000																	
Jun-99		2.052	1.302	1.004	1.015	1.022	1.028	1.000	1.000	1.000	1.000	1.000	1.000	1.125																		
Jun-00	5.600	2.171	1.240	1.204	1.037	1.045	1.112	1.037	1.000	1.000	1.120	1.079	1.000																			
Jun-01	2.305	2.078	1.452	1.281	1.267	1.195	1.064	1.000	1.000	1.000	1.000	1.000																				
Jun-02		30.925	3.133	1.931	1.218	1.417	1.097	1.000	1.000	1.000	1.000																					
Jun-03			3.056	1.621	1.202	1.035	1.000	1.000	1.101	1.000																						
Jun-04			1.720	1.792	1.000	1.000	1.020	1.000	1.000																							
Jun-05		6.207	3.247	1.278	1.487	1.070	1.000	1.118																								
Jun-06		4.392	2.346	1.305	1.151	1.015	1.060																									
Jun-07		11.000	1.896	1.440	1.024	1.023																										
Jun-08		1.473	1.459	1.566	1.241																											
Jun-09		3.292	1.519	1.296																												
Jun-10		5.630	2.824																													
Jun-11		2.943																														
Jun-12																																

Averages	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*372-384*	*To Ult*
Simple Avg																																
All Yrs (ex P)	12.239	5.027	2.087	1.475	1.318	1.243	1.146	1.109	1.129	1.086	1.050	1.042	1.048	1.047	1.008	1.013	1.003	1.008	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.007	1.000	1.000		
Latest 5		4.868	2.009	1.377	1.180	1.029	1.035	1.024	1.020	1.000	1.034	1.016	1.000	1.025	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
Latest 3		3.955	1.934	1.434	1.138	1.036	1.027	1.039	1.034	1.000	1.040	1.026	1.000	1.042	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.007				
Volume Wtd																																
All Yrs (ex P)	9.763	2.648	1.647	1.311	1.241	1.166	1.109	1.069	1.041	1.040	1.032	1.028	1.011	1.014	1.006	1.010	1.003	1.004	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.012	1.000			
Latest 5		3.455	2.009	1.363	1.153	1.029	1.032	1.026	1.021	1.000	1.032	1.011	1.000	1.021	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
Latest 3		3.598	1.953	1.421	1.114	1.038	1.024	1.041	1.035	1.000	1.042	1.023	1.000	1.037	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.012				

Dev Factor Selection																																
Prior	*5.500*	*2.645*	*1.633*	*1.480*	*1.173*	*1.087*	*1.033*	*1.030*	*1.030*	*1.025*	*1.015*	*1.015*	*1.015*	*1.015*	*1.010*	*1.000*	*1.000*	*1.000*	*1.003*	*1.005*	*1.005*	*1.005*	*1.005*	*1.002*	*1.002*	*1.001*	*1.000*	*1.000*	*1.000*	*1.000*	1.000	
Selected	5.500	2.648	1.647	1.426	1.180	1.029	1.032	1.030	1.030	1.025	1.015	1.015	1.015	1.015	1.010	1.000	1.000	1.000	1.000	1.005	1.005	1.005	1.005	1.002	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000
FacToUlt	51.287	9.325	3.521	2.138	1.499	1.270	1.234	1.195	1.160	1.127	1.099	1.083	1.067	1.051	1.036	1.025	1.025	1.025	1.025	1.025	1.020	1.015	1.010	1.005	1.003	1.001	1.000	1.000	1.000	1.000	1.000	
Percent of Ult	1.9%	10.7%	28.4%	46.8%	66.7%	78.7%	81.0%	83.7%	86.2%	88.8%	91.0%	92.4%	93.7%	95.1%	96.6%	97.5%	97.5%	97.5%	97.5%	97.5%	98.0%	98.5%	99.0%	99.5%	99.7%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Department of Mental Retardation - Cluster 1

Indemnity

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At: 4%	6%
384	100.0%	1.2%	0.0%	0.4%	0.2%	1.000	1.000
372	98.8%	1.0%	1.2%	0.3%	0.2%	0.981	0.971
360	97.8%	1.0%	2.2%	0.3%	0.2%	0.960	0.941
348	96.8%	1.0%	3.2%	0.3%	0.2%	0.941	0.913
336	95.9%	0.9%	4.1%	0.3%	0.2%	0.922	0.887
324	94.9%	0.9%	5.1%	0.3%	0.2%	0.904	0.862
312	94.0%	0.9%	6.0%	0.3%	0.2%	0.887	0.838
300	93.1%	1.0%	6.9%	0.4%	0.2%	0.870	0.815
288	92.1%	1.1%	7.9%	0.4%	0.3%	0.855	0.795
276	91.0%	1.2%	9.0%	0.5%	0.3%	0.841	0.776
264	89.8%	0.6%	10.2%	0.3%	0.2%	0.828	0.760
252	89.2%	0.6%	10.8%	0.3%	0.2%	0.807	0.731
240	88.6%	0.2%	11.4%	0.1%	0.1%	0.786	0.704
228	88.4%	0.2%	11.6%	0.1%	0.1%	0.760	0.670
216	88.2%	0.5%	11.8%	0.2%	0.2%	0.736	0.638
204	87.7%	0.6%	12.3%	0.3%	0.2%	0.718	0.616
192	87.1%	0.6%	12.9%	0.3%	0.2%	0.704	0.600
180	86.5%	0.6%	13.5%	0.3%	0.2%	0.691	0.584
168	85.9%	0.9%	14.1%	0.5%	0.4%	0.677	0.568
156	85.1%	1.0%	14.9%	0.6%	0.5%	0.670	0.561
144	84.0%	1.1%	16.0%	0.7%	0.5%	0.665	0.557
132	83.0%	0.9%	17.0%	0.6%	0.5%	0.661	0.553
120	82.1%	1.3%	17.9%	0.9%	0.7%	0.653	0.545
108	80.8%	1.3%	19.2%	1.0%	0.8%	0.651	0.544
96	79.5%	1.8%	20.5%	1.3%	1.1%	0.649	0.544
84	77.7%	2.6%	22.3%	2.0%	1.8%	0.653	0.549
72	75.0%	4.0%	25.0%	3.2%	2.9%	0.665	0.566
60	71.1%	5.7%	28.9%	4.8%	4.4%	0.686	0.594
48	65.4%	8.6%	34.6%	7.5%	7.1%	0.712	0.628
36	56.7%	14.5%	43.3%	13.1%	12.5%	0.744	0.668
24	42.3%	20.4%	57.7%	19.2%	18.7%	0.782	0.716
12	21.9%	21.9%	78.1%	21.5%	21.3%	0.812	0.752
Total		100.0%					

NOTES:

(2) = 1 / Section 2, Exhibit 1, Page 2, Column 4

(3) Incremental % based on (2)

(4) = 1 - (2)

(5) = [(3) / 1.04] ^ {[(1) - 6] / 12}

(6) = [(3) / 1.06] ^ {[(1) - 6] / 12}

(7), (8) Discount factor based on (5), (6)

Department of Mental Retardation - Cluster 1
Indemnity

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	4,992,916	7,258,745		4,366,730	6,348,391
6/30/82-83	355,965	613,378	0.981	349,052	601,467
6/30/83-84	1,501,726	1,890,714	0.960	1,441,298	1,814,633
6/30/84-85	68,289	136,289	0.941	64,232	128,191
6/30/85-86	307,904	410,904	0.922	283,942	378,926
6/30/86-87	269,494	404,494	0.904	243,708	365,792
6/30/87-88	987,522	1,891,522	0.887	875,867	1,677,656
6/30/88-89	1,212,150	1,215,150	0.870	1,054,542	1,057,152
6/30/89-90	149,734	299,734	0.855	128,005	256,237
6/30/90-91	108,939	216,939	0.841	91,635	182,480
6/30/91-92	657,246	666,246	0.828	544,503	551,959
6/30/92-93	41,424	83,424	0.807	33,423	67,310
6/30/93-94	69,777	104,777	0.786	54,867	82,388
6/30/94-95	213,471	214,471	0.760	162,291	163,051
6/30/95-96	318,986	323,986	0.736	234,661	238,340
6/30/96-97	270,973	271,973	0.718	194,515	195,233
6/30/97-98	323,507	327,507	0.704	227,776	230,592
6/30/98-99	303,702	303,702	0.691	209,775	209,775
6/30/99-00	350,953	353,953	0.677	237,547	239,578
6/30/00-01	542,820	560,820	0.670	363,502	375,556
6/30/01-02	412,519	412,519	0.665	274,442	274,442
6/30/02-03	583,873	595,873	0.661	385,873	393,803
6/30/03-04	652,933	668,933	0.653	426,424	436,873
6/30/04-05	560,383	635,383	0.651	365,026	413,880
6/30/05-06	794,110	833,110	0.649	515,768	541,098
6/30/06-07	860,649	881,649	0.653	561,863	575,572
6/30/07-08	764,729	1,099,729	0.665	508,607	731,409
6/30/08-09	1,049,076	1,206,076	0.686	719,775	827,493
6/30/09-10	1,416,239	1,632,239	0.712	1,009,026	1,162,919
6/30/10-11	1,691,366	1,694,366	0.744	1,258,632	1,260,864
6/30/11-12	2,343,472	2,604,472	0.782	1,832,431	2,036,515
6/30/12-13	3,120,548	3,341,548	0.812	2,532,490	2,711,843
Total	27,297,393	33,154,624		21,552,229	26,531,421
			(7) Total Discount Factor:	0.790	0.800

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	4,992,916	7,258,745
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	713,274	1,036,964
(11) Discounted Value at 4%:	4,366,730	6,348,391

NOTES:
(2), (3) From Section 2, Exhibit 1, Page 1, Columns 8, 9
(4) From Section 2, Exhibit 1, Page 13, Column 7
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Retardation - Cluster 1
Indemnity

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	4,992,916	7,258,745		4,101,219	5,962,388
6/30/82-83	355,965	613,378	0.971	345,744	595,766
6/30/83-84	1,501,726	1,890,714	0.941	1,413,028	1,779,040
6/30/84-85	68,289	136,289	0.913	62,373	124,482
6/30/85-86	307,904	410,904	0.887	273,183	364,568
6/30/86-87	269,494	404,494	0.862	232,359	348,756
6/30/87-88	987,522	1,891,522	0.838	827,677	1,585,351
6/30/88-89	1,212,150	1,215,150	0.815	987,833	990,278
6/30/89-90	149,734	299,734	0.795	118,983	238,176
6/30/90-91	108,939	216,939	0.776	84,583	168,437
6/30/91-92	657,246	666,246	0.760	499,375	506,213
6/30/92-93	41,424	83,424	0.731	30,279	60,980
6/30/93-94	69,777	104,777	0.704	49,126	73,768
6/30/94-95	213,471	214,471	0.670	143,004	143,674
6/30/95-96	318,986	323,986	0.638	203,606	206,797
6/30/96-97	270,973	271,973	0.616	167,008	167,625
6/30/97-98	323,507	327,507	0.600	194,117	196,518
6/30/98-99	303,702	303,702	0.584	177,482	177,482
6/30/99-00	350,953	353,953	0.568	199,403	201,107
6/30/00-01	542,820	560,820	0.561	304,448	314,543
6/30/01-02	412,519	412,519	0.557	229,855	229,855
6/30/02-03	583,873	595,873	0.553	323,092	329,732
6/30/03-04	652,933	668,933	0.545	355,835	364,555
6/30/04-05	560,383	635,383	0.544	305,123	345,959
6/30/05-06	794,110	833,110	0.544	431,667	452,867
6/30/06-07	860,649	881,649	0.549	472,743	484,278
6/30/07-08	764,729	1,099,729	0.566	432,959	622,623
6/30/08-09	1,049,076	1,206,076	0.594	622,990	716,224
6/30/09-10	1,416,239	1,632,239	0.628	889,134	1,024,741
6/30/10-11	1,691,366	1,694,366	0.668	1,129,926	1,131,930
6/30/11-12	2,343,472	2,604,472	0.716	1,677,175	1,863,967
6/30/12-13	3,120,548	3,341,548	0.752	2,348,074	2,514,367
Total	27,297,393	33,154,624		19,633,401	24,287,047
			(7) Total Discount Factor:	0.719	0.733

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	4,992,916	7,258,745
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	713,274	1,036,964
(11) Discounted Value at 6%:	4,101,219	5,962,388

NOTES:
(2), (3) From Section 2, Exhibit 1, Page 1, Columns 8, 9
(4) From Section 2, Exhibit 1, Page 13, Column 8
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Retardation - Cluster 1
Total Indemnity (Including Lump Sums) + Medical

Calculation of Fiscal Year 7/1/13 - 14 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Cumulative	Incremental Paid		Estimated Payments from		FY 7/1/13 - 6/30/14	
Accident	Est Ult Losses	Est Ult Losses	Paid Losses	Reserves	Reserves	Percent	as a % of	as a % of	7/1/13 - 6/30/14		as a % of Reserves	
Year	(Low)	(High)	to Date	(Low)	(High)	Paid	Ultimates	Reserves	(Low)	(High)	(Low)	(High)
All Prior Yrs	26,510,466	28,781,955	21,515,229	4,995,237	7,266,725				369,278	406,205	7.4%	5.6%
6/30/82-83	5,283,141	5,547,976	4,924,567	358,575	623,409	90.9%	1.0%	11.0%	39,550	68,761	11.0%	11.0%
6/30/83-84	10,948,883	11,379,189	9,433,111	1,515,772	1,946,078	84.5%	1.0%	6.4%	97,764	125,517	6.4%	6.4%
6/30/84-85	7,650,555	7,726,194	7,574,627	75,928	151,567	98.5%	1.0%	67.6%	51,321	102,447	67.6%	67.6%
6/30/85-86	12,201,000	12,305,000	11,874,262	326,739	430,739	96.9%	1.0%	32.4%	105,707	139,353	32.4%	32.4%
6/30/86-87	15,665,316	15,819,280	15,376,859	288,457	442,421	97.7%	1.0%	43.1%	124,261	190,585	43.1%	43.1%
6/30/87-88	22,717,000	23,624,000	21,689,895	1,027,105	1,934,105	93.6%	1.0%	15.6%	160,735	302,675	15.6%	15.6%
6/30/88-89	25,044,000	25,048,000	23,761,396	1,282,604	1,286,604	94.9%	1.0%	19.5%	250,070	250,850	19.5%	19.5%
6/30/89-90	18,838,608	19,025,426	18,652,055	186,552	373,370	98.5%	1.0%	67.6%	126,154	252,487	67.6%	67.6%
6/30/90-91	13,934,000	14,042,000	13,761,288	172,712	280,712	98.4%	1.0%	61.7%	106,562	173,198	61.7%	61.7%
6/30/91-92	10,618,000	10,628,000	9,903,252	714,748	724,748	93.2%	1.0%	14.8%	105,492	106,968	14.8%	14.8%
6/30/92-93	6,031,000	6,074,000	5,944,602	86,398	129,398	98.2%	1.0%	56.1%	48,465	72,585	56.1%	56.1%
6/30/93-94	4,870,000	4,906,000	4,764,163	105,837	141,837	97.5%	1.0%	39.5%	41,775	55,985	39.5%	39.5%
6/30/94-95	3,251,000	3,252,000	3,009,043	241,957	242,957	92.5%	1.0%	13.4%	32,448	32,582	13.4%	13.4%
6/30/95-96	4,361,000	4,366,000	4,009,037	351,963	356,963	91.9%	0.7%	8.2%	28,883	29,293	8.2%	8.2%
6/30/96-97	3,651,000	3,652,000	3,349,599	301,401	302,401	91.7%	0.1%	1.7%	5,267	5,285	1.7%	1.7%
6/30/97-98	3,684,000	3,704,000	3,333,829	350,171	370,171	90.2%	1.5%	15.2%	53,236	56,276	15.2%	15.2%
6/30/98-99	3,307,000	3,320,000	2,979,048	327,952	340,952	89.9%	0.3%	3.4%	11,159	11,601	3.4%	3.4%
6/30/99-00	3,453,000	3,472,000	3,071,420	381,580	400,580	88.7%	1.2%	10.6%	40,578	42,599	10.6%	10.6%
6/30/00-01	5,065,000	5,113,000	4,468,567	596,433	644,433	87.8%	0.9%	7.4%	43,879	47,410	7.4%	7.4%
6/30/01-02	3,522,000	3,539,000	3,070,476	451,524	468,524	87.0%	0.8%	6.4%	29,051	30,144	6.4%	6.4%
6/30/02-03	4,399,000	4,429,000	3,772,766	626,234	656,234	85.5%	1.5%	10.3%	64,544	67,636	10.3%	10.3%
6/30/03-04	4,543,000	4,577,000	3,843,509	699,491	733,491	84.3%	1.2%	7.5%	52,765	55,329	7.5%	7.5%
6/30/04-05	4,246,000	4,375,000	3,664,797	581,203	710,203	85.0%	2.0%	13.4%	77,598	94,822	13.4%	13.4%
6/30/05-06	4,460,000	4,561,000	3,620,768	839,232	940,232	80.3%	4.7%	24.1%	201,920	226,220	24.1%	24.1%
6/30/06-07	4,562,000	4,645,000	3,638,855	923,145	1,006,145	79.0%	1.2%	5.9%	54,134	59,001	5.9%	5.9%
6/30/07-08	3,124,000	3,546,000	2,288,507	835,493	1,257,493	68.6%	2.0%	6.4%	53,252	80,148	6.4%	6.4%
6/30/08-09	4,125,000	4,480,000	3,006,108	1,118,892	1,473,892	69.9%	2.0%	6.6%	74,268	97,832	6.6%	6.6%
6/30/09-10	5,237,000	5,666,000	3,686,390	1,550,610	1,979,610	67.6%	2.2%	6.9%	107,623	137,399	6.9%	6.9%
6/30/10-11	4,575,000	4,798,000	2,647,412	1,927,588	2,150,588	56.5%	11.1%	25.6%	493,148	550,199	25.6%	25.6%
6/30/11-12	5,292,000	5,794,000	2,405,166	2,886,834	3,388,834	43.4%	13.1%	23.1%	668,004	784,165	23.1%	23.1%
6/30/12-13	4,898,000	5,556,000	1,066,263	3,831,737	4,489,737	20.4%	23.0%	28.9%	1,106,758	1,296,815	28.9%	28.9%
Total	260,066,969	267,752,019	230,106,865	29,960,104	37,645,154				4,825,648	5,952,374	16.1%	15.8%

NOTES:

(2) Exhibit 1, Page 1, Column (4) + Exhibit 2, Page 1, Column (4)
(3) Exhibit 1, Page 1, Column (5) + Exhibit 2, Page 1, Column (5)
(4) Exhibit 1, Page 1, Column (2) + Exhibit 2, Page 1, Column (2)
(5) = (2) - (4)
(6) = (3) - (4)
(7) = (4) / Average of Columns (2), (3)
(8) = (7) - Prior Year's (7)
(9) = (8) / (1.00 - (7))
(10) = (5) * (9)
(11) = (6) * (9)
(12) = (10) / (5)
(13) = (11) / (6)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Retardation - Cluster 1
Medical

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Paid Loss	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		1,210,333			1,212,653	1,218,313	2,320	7,980		
6/30/82-83		260,969	263,038		263,579	271,000	2,610	10,031		
6/30/83-84		1,404,636	1,417,188		1,418,682	1,460,000	14,046	55,364		
6/30/84-85	181,560	763,916	771,513	771,872	771,555	779,194	7,639	15,278	0.425	0.429
6/30/85-86	195,247	1,602,166	1,621,336	1,621,973	1,621,000	1,622,000	18,835	19,835	0.830	0.831
6/30/86-87	224,370	1,896,353	1,922,881	1,924,861	1,915,316	1,934,280	18,964	37,927	0.854	0.862
6/30/87-88	262,864	2,483,417	2,523,194	2,526,265	2,523,000	2,526,000	39,583	42,583	0.960	0.961
6/30/88-89	283,884	3,882,545	3,952,622	3,953,863	3,953,000	3,954,000	70,455	71,455	1.392	1.393
6/30/89-90	285,078	3,681,790	3,755,739	3,762,338	3,718,608	3,755,426	36,818	73,636	1.304	1.317
6/30/90-91	267,732	2,897,227	2,961,329	2,960,813	2,961,000	2,961,000	63,773	63,773	1.106	1.106
6/30/91-92	261,442	2,411,498	2,469,782	2,468,893	2,469,000	2,470,000	57,502	58,502	0.944	0.945
6/30/92-93	259,992	1,755,026	1,801,039	1,800,118	1,800,000	1,801,000	44,974	45,974	0.692	0.693
6/30/93-94	257,062	1,267,940	1,304,959	1,304,177	1,304,000	1,305,000	36,060	37,060	0.507	0.508
6/30/94-95	255,854	927,514	956,465	955,980	956,000	956,000	28,486	28,486	0.374	0.374
6/30/95-96	255,539	1,004,022	1,037,364	1,036,641	1,037,000	1,037,000	32,978	32,978	0.406	0.406
6/30/96-97	270,071	882,572	913,161	912,739	913,000	913,000	30,428	30,428	0.338	0.338
6/30/97-98	245,367	753,336	779,975	779,722	780,000	796,000	26,664	42,664	0.318	0.324
6/30/98-99	251,453	633,750	657,954	658,177	658,000	671,000	24,250	37,250	0.262	0.267
6/30/99-00	255,641	768,373	799,215	799,061	799,000	815,000	30,627	46,627	0.313	0.319
6/30/00-01	263,918	1,306,387	1,362,603	1,360,390	1,360,000	1,390,000	53,613	83,613	0.515	0.527
6/30/01-02	267,598	840,995	879,661	879,617	880,000	897,000	39,005	56,005	0.329	0.335
6/30/02-03	274,465	845,639	888,057	888,317	888,000	906,000	42,361	60,361	0.324	0.330
6/30/03-04	272,384	849,442	895,619	896,094	896,000	914,000	46,558	64,558	0.329	0.336
6/30/04-05	273,647	1,006,180	1,080,838	1,077,525	1,027,000	1,081,000	20,820	74,820	0.375	0.395
6/30/05-06	285,139	1,134,878	1,242,307	1,231,070	1,180,000	1,242,000	45,122	107,122	0.414	0.436
6/30/06-07	298,516	1,114,504	1,238,744	1,234,807	1,177,000	1,239,000	62,496	124,496	0.394	0.415
6/30/07-08	314,231	874,236	994,801	1,031,852	945,000	1,032,000	70,764	157,764	0.301	0.328
6/30/08-09	302,998	1,119,184	1,321,302	1,317,820	1,189,000	1,387,000	69,816	267,816	0.392	0.458
6/30/09-10	297,252	1,141,629	1,418,114	1,404,236	1,276,000	1,489,000	134,371	347,371	0.429	0.501
6/30/10-11	292,432	901,778	1,264,748	1,293,475	1,138,000	1,358,000	236,222	456,222	0.389	0.464
6/30/11-12	295,908	899,638	1,603,584	1,524,093	1,443,000	1,684,000	543,362	784,362	0.488	0.569
6/30/12-13	301,541	317,812	1,143,019	1,395,736	1,029,000	1,466,000	711,188	1,148,188	0.341	0.486
Total	7,753,185	42,839,682	45,242,151	43,772,525	45,502,393	47,330,212	2,662,711	4,490,531		
Tot 6/30/84-13	7,753,185	39,963,744	43,561,925	43,772,525	42,607,479	44,380,900	2,643,735	4,417,155	0.550	0.572

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 2, Exhibit 2, Page 2, Column 3

(4) From Section 2, Exhibit 2, Page 2, Column 8

(5) From Section 2, Exhibit 2, Page 3, Column 8

(6), (7) Selected based on (3), (4), and (5)

(8) = (6) - (3)

(9) = (7) - (3)

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Retardation - Cluster 1
Medical

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Accident Year	Payroll (000's)	Paid Loss	Paid LDF	Adjustment for Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/11-12	Paid Counts 7/1/12-13	Average Outstanding Claim
All Prior Yrs		1,210,333							1	1	
6/30/82-83		260,969	1.008	1.000	263,038	N/A	263,038		0	0	
6/30/83-84		1,404,636	1.009	1.000	1,417,188	N/A	1,417,188		2	1	12,552
6/30/84-85	181,560	763,916	1.010	1.000	771,513	N/A	771,513	0.425	1	1	7,597
6/30/85-86	195,247	1,602,166	1.012	1.000	1,621,336	N/A	1,621,336	0.830	0	0	
6/30/86-87	224,370	1,896,353	1.014	1.000	1,922,881	N/A	1,922,881	0.857	0	0	
6/30/87-88	262,864	2,483,417	1.016	1.000	2,523,194	N/A	2,523,194	0.960	1	1	39,777
6/30/88-89	283,884	3,882,545	1.018	1.000	3,952,622	N/A	3,952,622	1.392	4	5	14,015
6/30/89-90	285,078	3,681,790	1.020	1.000	3,755,739	N/A	3,755,739	1.317	1	2	36,975
6/30/90-91	267,732	2,897,227	1.022	1.000	2,961,329	N/A	2,961,329	1.106	1	1	64,102
6/30/91-92	261,442	2,411,498	1.024	1.000	2,469,782	N/A	2,469,782	0.945	2	2	29,142
6/30/92-93	259,992	1,755,026	1.026	1.000	1,801,039	N/A	1,801,039	0.693	1	1	46,013
6/30/93-94	257,062	1,267,940	1.029	1.000	1,304,959	N/A	1,304,959	0.508	2	2	18,509
6/30/94-95	255,854	927,514	1.031	1.000	956,465	N/A	956,465	0.374	0	0	
6/30/95-96	255,539	1,004,022	1.033	1.000	1,037,364	N/A	1,037,364	0.406	0	0	
6/30/96-97	270,071	882,572	1.035	1.000	913,161	N/A	913,161	0.338	0	0	
6/30/97-98	245,367	753,336	1.035	1.000	779,975	N/A	779,975	0.318	1	2	13,320
6/30/98-99	251,453	633,750	1.038	1.000	657,954	N/A	657,954	0.262	2	1	24,204
6/30/99-00	255,641	768,373	1.040	1.000	799,215	N/A	799,215	0.313	1	2	15,421
6/30/00-01	263,918	1,306,387	1.043	1.000	1,362,603	N/A	1,362,603	0.516	8	7	8,031
6/30/01-02	267,598	840,995	1.046	1.000	879,661	N/A	879,661	0.329	5	5	7,733
6/30/02-03	274,465	845,639	1.050	1.000	888,057	N/A	888,057	0.324	6	6	7,070
6/30/03-04	272,384	849,442	1.054	1.000	895,619	N/A	895,619	0.329	7	8	5,772
6/30/04-05	273,647	1,006,180	1.074	1.000	1,080,838	N/A	1,080,838	0.395	2	1	74,659
6/30/05-06	285,139	1,134,878	1.095	1.000	1,242,307	N/A	1,242,307	0.436	6	6	17,905
6/30/06-07	298,516	1,114,504	1.111	1.000	1,238,744	N/A	1,238,744	0.415	13	12	10,353
6/30/07-08	314,231	874,236	1.138	1.000	994,801	N/A	994,801	0.317	14	10	12,057
6/30/08-09	302,998	1,119,184	1.181	1.000	1,321,302	N/A	1,321,302	0.436	20	16	12,632
6/30/09-10	297,252	1,141,629	1.242	1.000	1,418,114	N/A	1,418,114	0.477	54	32	8,640
6/30/10-11	292,432	901,778	1.403	1.000	1,264,748	N/A	1,264,748	0.432	185	43	8,441
6/30/11-12	295,908	899,638	1.782	1.000	1,603,584	N/A	1,603,584	0.542	317	202	3,485
6/30/12-13	301,541	317,812	3.597	1.000	1,143,019	N/A	1,143,019	0.379		266	3,102
Total	7,753,185	42,839,682			45,242,151		45,242,151		657	636	

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3), (4) From Section 2, Exhibit 2, Page 7

(5) Based on information from the MA WCRIB 9/1/12 filing. Consideration for development beyond 252 months made in selection of LDF's.

(6) = (3) x (4) x (5)

(7) Lump Sum Payments are considered in the Indemnity analysis (Section 1)

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10), (11) Provided by Commonwealth of Massachusetts

(12) = Maximum of [{(6) - (3)} / (11)] and 0

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Retardation - Cluster 1
Medical

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident Year	Payroll (000's)	A Priori Loss Rate	Paid Loss	Paid LDF	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Ultimate Loss Cost Excluding Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	181,560	0.445	763,916	1.010	771,872	N/A	771,872	0.425	0.425
6/30/85-86	195,247	0.858	1,602,166	1.012	1,621,973	N/A	1,621,973	0.831	0.831
6/30/86-87	224,370	0.921	1,896,353	1.014	1,924,861	N/A	1,924,861	0.858	0.858
6/30/87-88	262,864	1.034	2,483,417	1.016	2,526,265	N/A	2,526,265	0.961	0.961
6/30/88-89	283,884	1.417	3,882,545	1.018	3,953,863	N/A	3,953,863	1.393	1.393
6/30/89-90	285,078	1.435	3,681,790	1.020	3,762,338	N/A	3,762,338	1.320	1.320
6/30/90-91	267,732	1.097	2,897,227	1.022	2,960,813	N/A	2,960,813	1.106	1.106
6/30/91-92	261,442	0.930	2,411,498	1.024	2,468,893	N/A	2,468,893	0.944	0.944
6/30/92-93	259,992	0.679	1,755,026	1.026	1,800,118	N/A	1,800,118	0.692	0.692
6/30/93-94	257,062	0.497	1,267,940	1.029	1,304,177	N/A	1,304,177	0.507	0.507
6/30/94-95	255,854	0.368	927,514	1.031	955,980	N/A	955,980	0.374	0.374
6/30/95-96	255,539	0.397	1,004,022	1.033	1,036,641	N/A	1,036,641	0.406	0.406
6/30/96-97	270,071	0.333	882,572	1.035	912,739	N/A	912,739	0.338	0.338
6/30/97-98	245,367	0.315	753,336	1.035	779,722	N/A	779,722	0.318	0.318
6/30/98-99	251,453	0.264	633,750	1.038	658,177	N/A	658,177	0.262	0.262
6/30/99-00	255,641	0.311	768,373	1.040	799,061	N/A	799,061	0.313	0.313
6/30/00-01	263,918	0.496	1,306,387	1.043	1,360,390	N/A	1,360,390	0.515	0.515
6/30/01-02	267,598	0.328	840,995	1.046	879,617	N/A	879,617	0.329	0.329
6/30/02-03	274,465	0.326	845,639	1.050	888,317	N/A	888,317	0.324	0.324
6/30/03-04	272,384	0.332	849,442	1.054	896,094	N/A	896,094	0.329	0.329
6/30/04-05	273,647	0.377	1,006,180	1.074	1,077,525	N/A	1,077,525	0.394	0.394
6/30/05-06	285,139	0.390	1,134,878	1.095	1,231,070	N/A	1,231,070	0.432	0.432
6/30/06-07	298,516	0.402	1,114,504	1.111	1,234,807	N/A	1,234,807	0.414	0.414
6/30/07-08	314,231	0.414	874,236	1.138	1,031,852	N/A	1,031,852	0.328	0.328
6/30/08-09	302,998	0.429	1,119,184	1.181	1,317,820	N/A	1,317,820	0.435	0.435
6/30/09-10	297,252	0.453	1,141,629	1.242	1,404,236	N/A	1,404,236	0.472	0.472
6/30/10-11	292,432	0.467	901,778	1.403	1,293,475	N/A	1,293,475	0.442	0.442
6/30/11-12	295,908	0.481	899,638	1.782	1,524,093	N/A	1,524,093	0.515	0.515
6/30/12-13	301,541	0.495	317,812	3.597	1,395,736	N/A	1,395,736	0.463	0.463
Total	7,753,185		39,963,744		43,772,525		43,772,525		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 2, Exhibit 2, Page 4, Column 11

(4) From Section 2, Exhibit 2, Page 2, Column 3

(5) From Section 2, Exhibit 2, Page 2, Column 4

(6) = (4) + [{1 - {1 / (5)}} x (3) x (2) x 10]

(7) Lump Sum Payments are considered in the Indemnity analysis (Section 1)

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10) = (6) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Retardation - Cluster 1
Medical

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Expected Ult Loss	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									0.445	0.445
6/30/85-86									0.858	0.858
6/30/86-87									0.921	0.921
6/30/87-88									1.034	1.034
6/30/88-89									1.417	1.417
6/30/89-90									1.435	1.435
6/30/90-91	267,732	2,961,329	1.106	1.194	1.321	1.974	2.606	0.216	1.098	1.097
6/30/91-92	261,442	2,469,782	0.945	1.189	1.123	1.916	2.151	0.224	0.930	0.930
6/30/92-93	259,992	1,801,039	0.693	1.189	0.824	1.860	1.532	0.231	0.681	0.679
6/30/93-94	257,062	1,304,959	0.508	1.178	0.598	1.806	1.080	0.240	0.497	0.497
6/30/94-95	255,854	956,465	0.374	1.170	0.437	1.754	0.767	0.249	0.369	0.368
6/30/95-96	255,539	1,037,364	0.406	1.155	0.469	1.702	0.799	0.259	0.399	0.397
6/30/96-97	270,071	913,161	0.338	1.137	0.384	1.653	0.635	0.271	0.335	0.333
6/30/97-98	245,367	779,975	0.318	1.135	0.361	1.605	0.579	0.280	0.316	0.315
6/30/98-99	251,453	657,954	0.262	1.135	0.297	1.558	0.463	0.288	0.266	0.264
6/30/99-00	255,641	799,215	0.313	1.135	0.355	1.513	0.537	0.297	0.310	0.311
6/30/00-01	263,918	1,362,603	0.516	1.109	0.573	1.469	0.841	0.313	0.486	0.496
6/30/01-02	267,598	879,661	0.329	1.101	0.362	1.426	0.516	0.325	0.324	0.328
6/30/02-03	274,465	888,057	0.324	1.073	0.347	1.384	0.481	0.343	0.326	0.326
6/30/03-04	272,384	895,619	0.329	1.046	0.344	1.344	0.462	0.363	0.337	0.332
6/30/04-05	273,647	1,080,838	0.395	1.036	0.409	1.305	0.534	0.377	0.389	0.377
6/30/05-06	285,139	1,242,307	0.436	1.032	0.450	1.267	0.570	0.390	0.402	0.390
6/30/06-07	298,516	1,238,744	0.415	1.032	0.428	1.230	0.527	0.402	0.414	0.402
6/30/07-08	314,231	994,801	0.317	1.032	0.327	1.194	0.390	0.414	0.426	0.414
6/30/08-09	302,998	1,321,302	0.436	1.027	0.448	1.159	0.519	0.429	0.441	0.429
6/30/09-10	297,252	1,418,114	0.477	1.000	0.477	1.126	0.537	0.453	0.467	0.453
6/30/10-11	292,432	1,264,748	0.432	1.000	0.432	1.093	0.473	0.467	0.481	0.467
6/30/11-12	295,908	1,603,584	0.542	1.000	0.542	1.061	0.575	0.481		0.481
6/30/12-13	301,541	1,143,019	0.379	1.000	0.379	1.030	0.390	0.495		0.495
Total	6,320,182	29,014,641								

Trend Last 4 (ex 12-13):	4.9%	Avg 3 (x12-13):	0.509
Trend Last 8 (ex 12-13):	2.9%	Avg 5 (x12-13):	0.489
Trend Last 12 (ex 12-13):	1.3%	Avg 10 (x12-13):	0.501
Prior Selected Trend:	3.0%	Prior Sel Avg:	0.510
Selected Trend:	3.0%	Sel. Loss Cost:	0.510

NOTES:
(2) Provided by Commonwealth of Massachusetts
(3) From Section 2, Exhibit 2, Page 2, Column 6
(4) = (3) / (2) / 10
(5) Based on information from the MA WCIRB
(6) = (4) x (5)
(7) Based on Selected Trend from (6)
(8) = (6) x (7)
(9) = Sel. Loss Cost / [(5) * (7)]
(10) From Aon analysis as of June 30, 2012
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Retardation - Cluster 1
Medical

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend	0.800	
(2)	Credibility	34%	
(3)	Average Pmt Trend Statewide	0.950	
(4)	Credibility Weighted Trend	0.899	
		(Low)	(High)
(5)	Selected Range	0.850	0.944
(6)	Incremental Paid for 2013	179	179
(7)	Estimated Reserve	1,016	3,026
(8)	Paid to Date (82 & Prior)	1,210,333	1,210,333
(9)	Est Ult Paid for 1982 & Prior	1,211,349	1,213,358

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	518	1,873
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	3,625	13,114
(13)	Paid to Date (82 & Prior)	1,210,333	1,210,153
(14)	Est Ult Paid for 1982 & Prior	1,213,957	1,223,267
(14a)	Paid Counts During Fiscal Year	1	1
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	1,212,653	1,218,313
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	**1,212,653**	**1,218,313**
(18)	Implied Tail	1.002	1.007
(19)	Ult Loss Inc Lump Sums @ 6/12	1,217,218	1,220,439

NOTES:

(1) From Section 2, Exhibit 2, Page 6
(2) = (Average of Section 2, Exhibit 2, Page 6, Column 3 / 175,000) ^ 0.5
(3) Average Statewide Trend
(4) = (1) x (2) + (4) x {1 - (2)}
(5) Selected judgmentally based on (4)
(6), (14a) Provided by Commonwealth of Massachusetts
(7) = (6) x (5) / {1 - (5)}
(8), (16) From Section 2, Exhibit 2, Page 2, Column 3
(9) = (7) + (8)
(10) Avg of 3 latest years from Section 2, Exhibit 2, Page 6, Column 3
(11) Selected judgmentally
(12) = (10 x (11)
(14) = (12) + (13)
(15) = Average of (9) and (14)
(16) Lump Sums are considered in Indemnity analysis (Section 1)
(17) = (15) + (16)
(18) = (15) / (8)
(19) From Prior Aon Analysis as of June 30, 2012

Department of Mental Retardation - Cluster 1
Medical

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Year	X	Incremental Paids	LN	Average Observed Trend		Trend Calculations
1992	1	76,171	11.241			
1993	2	75,723	11.235	0.994		
1994	3	63,040	11.052	0.833		
1995	4	28,227	10.248	0.448		
1996	5	63,291	11.055	2.242		
1997	6	29,585	10.295	0.467		
1998	7	13,039	9.476	0.441		
1999	8	13,407	9.504	1.028		
2000	9	11,930	9.387	0.890	n =	22
2001	10	9,078	9.114	0.761	S(x) =	44,055
2002	11	5,110	8.539	0.563	S(x-sq) =	88,221,023
2003	12	6,295	8.748	1.232	S(xy) =	395,349
2004	13	4,115	8.322	0.654	S(y) =	198
2005	14	17,494	9.770	4.251	D =	19,481
2006	15	5,802	8.666	0.332	slope =	-0.233
2007	16	8,975	9.102	1.547	Avg Trend =	0.767
2008	17	3,912	8.272	0.436		
2009	18	2,186	7.690	0.559		
2010	19	4,246	8.354	1.943		
2011	20	1,195	7.086	0.281		
2012	21	179	5.189	0.150		
2013	22	179	5.189	1.000		
					Selected Trend:	**0.800**

NOTES:

(3) 2013 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2012

(4) LN [(3)]

(5) Eg. 2013: 1 = 179 / 179

Commonwealth of Massachusetts Workers Compensation
Department of Mental Retardation - Cluster 1
MEDICAL
Paid Loss Development
Paid Loss (Excluding Lump Sum)

Acc Yr Ending	*12*	*24*	*36*	*48*	*60*	*72*	*84*	*96*	*108*	*120*	*132*	*144*	*156*	*168*	*180*	*192*	*204*	*216*	*228*	*240*	*252*	*264*	*276*	*288*	*300*	*312*	*324*	*336*	*348*	*360*	*372*
June-83	21,006	49,638	70,591	88,239	105,504	122,855	138,893	160,692	180,838	198,763	206,648	244,385	249,094	254,712	256,363	256,876	257,735	258,257	258,537	258,637	259,334	259,869	260,265	260,719	260,969	260,969	260,969	260,969	260,969	260,969	260,969
June-84	130,216	307,707	437,592	546,990	654,018	741,928	857,012	959,232	1,050,170	1,118,632	1,160,913	1,192,447	1,199,268	1,203,920	1,225,075	1,249,653	1,268,798	1,290,858	1,296,673	1,300,275	1,316,793	1,333,199	1,342,906	1,349,107	1,358,330	1,363,288	1,375,051	1,401,444	1,403,198	1,404,636	
June-85	89,170	210,713	299,656	374,570	455,180	522,720	582,177	634,207	685,633	702,603	713,358	717,026	720,062	720,920	726,880	729,520	730,301	731,081	731,204	731,204	731,218	731,218	731,218	731,218	731,218	731,218	731,218	739,645	763,916		
June-86	189,273	447,261	636,052	765,617	939,707	1,103,818	1,243,019	1,358,130	1,444,684	1,485,929	1,499,042	1,514,132	1,520,647	1,537,037	1,547,606	1,553,176	1,564,852	1,567,432	1,573,496	1,575,982	1,582,467	1,586,081	1,593,552	1,596,723	1,600,637	1,602,166	1,602,166	1,602,166				
June-87	243,465	575,319	884,604	1,135,085	1,272,135	1,441,924	1,619,831	1,685,111	1,741,279	1,772,270	1,801,621	1,842,953	1,884,775	1,889,603	1,894,366	1,894,597	1,895,476	1,895,651	1,895,651	1,895,651	1,896,140	1,896,353	1,896,353	1,896,353	1,896,353	1,896,353	1,896,353					
June-88	363,164	980,917	1,485,789	1,802,447	2,044,603	2,209,730	2,337,274	2,381,902	2,440,826	2,450,413	2,453,714	2,458,155	2,468,582	2,469,709	2,470,273	2,472,242	2,472,926	2,474,120	2,475,679	2,476,698	2,479,622	2,480,422	2,482,560	2,482,824	2,483,087	2,483,417						
June-89	524,148	1,718,544	2,367,574	2,805,123	3,095,247	3,298,078	3,424,849	3,485,100	3,510,635	3,573,650	3,625,589	3,649,159	3,663,581	3,699,511	3,725,869	3,746,061	3,765,157	3,783,602	3,796,379	3,809,734	3,820,868	3,838,465	3,852,950	3,867,441	3,882,545							
June-90	721,216	2,076,487	2,697,946	3,042,168	3,365,956	3,509,844	3,547,356	3,618,254	3,660,798	3,669,321	3,673,294	3,674,043	3,675,267	3,676,903	3,676,903	3,676,975	3,676,975	3,677,208	3,677,264	3,677,264	3,677,264	3,677,264	3,680,769	3,681,790								
June-91	573,775	1,832,452	2,336,684	2,570,536	2,690,503	2,737,602	2,767,093	2,783,177	2,796,096	2,807,853	2,815,389	2,817,526	2,821,013	2,824,311	2,824,746	2,835,316	2,844,386	2,852,912	2,862,970	2,871,036	2,880,572	2,890,850	2,897,227									
June-92	682,252	1,646,809	2,002,754	2,139,991	2,195,456	2,229,059	2,250,251	2,258,976	2,271,388	2,282,222	2,299,759	2,312,696	2,324,613	2,341,522	2,353,263	2,361,934	2,370,332	2,377,427	2,385,401	2,392,636	2,402,525	2,411,498										
June-93	530,227	1,313,078	1,537,374	1,593,966	1,619,013	1,650,226	1,662,183	1,669,637	1,672,913	1,676,324	1,679,743	1,683,745	1,688,008	1,694,444	1,700,344	1,735,033	1,740,584	1,747,278	1,750,189	1,752,832	1,755,026											
June-94	507,386	988,866	1,093,334	1,170,915	1,212,098	1,230,432	1,235,833	1,243,122	1,247,382	1,251,645	1,252,686	1,255,338	1,260,284	1,261,941	1,262,624	1,262,948	1,263,197	1,263,431	1,264,853	1,267,940												
June-95	419,212	715,818	815,621	863,086	890,307	917,113	922,985	923,881	924,606	926,605	926,605	926,605	926,605	926,605	926,779	927,514	927,514	927,514	927,514												
June-96	382,658	780,302	879,753	927,773	959,109	977,572	986,429	994,587	997,113	999,835	999,878	999,878	1,002,373	1,003,880	1,003,880	1,004,022	1,004,022	1,004,022													
June-97	375,777	680,288	796,380	819,630	848,942	854,522	862,163	870,431	872,306	876,115	878,979	880,535	881,313	882,123	882,572	882,572	882,572														
June-98	271,043	554,887	629,610	674,301	694,718	711,568	723,173	728,434	739,218	743,949	744,590	744,993	744,993	746,349	751,655	753,336															
June-99	200,054	434,499	509,933	556,932	596,752	611,737	618,749	622,442	625,193	627,351	628,383	630,351	632,095	633,627	633,750																
June-00	278,690	480,160	554,610	607,363	639,042	681,279	703,362	725,333	730,593	734,009	743,547	751,052	758,824	768,373																	
June-01	312,280	500,976	665,683	751,467	818,710	893,280	968,370	1,062,045	1,117,446	1,168,471	1,217,356	1,269,474	1,306,387																		
June-02	197,389	476,132	547,189	630,575	673,854	722,281	746,769	768,857	788,866	810,710	820,868	840,995																			
June-03	163,049	459,264	666,927	739,223	775,337	800,620	814,827	825,961	832,962	839,586	845,639																				
June-04	79,919	361,725	544,497	684,486	731,761	788,111	824,704	835,702	842,619	849,442																					
June-05	394,825	766,546	887,167	942,140	987,834	999,094	1,003,380	1,005,881	1,006,180																						
June-06	318,539	662,581	842,645	941,494	1,038,675	1,080,705	1,115,105	1,134,878																							
June-07	310,954	746,618	936,091	1,034,943	1,071,013	1,094,137	1,114,504																								
June-08	418,873	692,272	777,557	805,740	842,963	874,236																									
June-09	491,289	882,544	982,774	1,088,621	1,119,184																										
June-10	412,961	823,720	1,038,592	1,141,629																											
June-11	434,256	781,068	901,778																												
June-12	463,779	899,638																													
June-13	317,812																														

Age-to-Age Factors

Acc Yr Ending	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*
June-83	2.363	1.422	1.250	1.196	1.164	1.131	1.157	1.125	1.099	1.040	1.183	1.019	1.023	1.006	1.002	1.003	1.002	1.001	1.000	1.003	1.002	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000
June-84	2.363	1.422	1.250	1.196	1.134	1.155	1.119	1.095	1.065	1.038	1.027	1.006	1.004	1.018	1.020	1.015	1.017	1.005	1.003	1.013	1.012	1.007	1.005	1.007	1.004	1.009	1.019	1.001	1.001	
June-85	2.363	1.422	1.250	1.215	1.148	1.114	1.089	1.081	1.025	1.015	1.005	1.004	1.001	1.008	1.004	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.012	1.033		
June-86	2.363	1.422	1.204	1.227	1.175	1.126	1.093	1.064	1.029	1.009	1.010	1.004	1.011	1.007	1.004	1.008	1.002	1.004	1.002	1.004	1.002	1.005	1.002	1.002	1.001	1.000	1.000			
June-87	2.363	1.538	1.283	1.121	1.133	1.123	1.040	1.033	1.018	1.017	1.023	1.023	1.003	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
June-88	2.701	1.515	1.213	1.134	1.081	1.058	1.019	1.025	1.004	1.001	1.002	1.004	1.000	1.000	1.001	1.000	1.000	1.001	1.000	1.001	1.000	1.001	1.000	1.000	1.000					
June-89	3.279	1.378	1.185	1.103	1.066	1.038	1.018	1.007	1.018	1.015	1.007	1.004	1.010	1.007	1.005	1.005	1.005	1.003	1.004	1.003	1.005	1.004	1.004	1.004						
June-90	2.879	1.299	1.128	1.106	1.043	1.011	1.020	1.012	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.001	1.000							
June-91	3.194	1.275	1.100	1.047	1.018	1.011	1.006	1.005	1.004	1.003	1.001	1.001	1.001	1.000	1.004	1.003	1.003	1.004	1.003	1.003	1.004	1.002								
June-92	2.414	1.216	1.069	1.026	1.015	1.010	1.004	1.005	1.005	1.008	1.006	1.005	1.007	1.005	1.004	1.004	1.003	1.003	1.003	1.004	1.004									
June-93	2.476	1.171	1.037	1.016	1.019	1.007	1.004	1.002	1.002	1.002	1.002	1.003	1.004	1.003	1.020	1.003	1.004	1.002	1.002	1.001										
June-94	1.949	1.106	1.071	1.035	1.015	1.004	1.006	1.003	1.003	1.001	1.002	1.004	1.001	1.001	1.000	1.000	1.000	1.001	1.002											
June-95	1.708	1.139	1.058	1.032	1.030	1.006	1.001	1.001	1.002	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000												
June-96	2.039	1.127	1.055	1.034	1.019	1.009	1.008	1.003	1.003	1.000	1.000	1.002	1.002	1.000	1.000	1.000	1.000													
June-97	1.810	1.171	1.029	1.036	1.007	1.009	1.010	1.002	1.004	1.003	1.002	1.001	1.001	1.001	1.000	1.000														
June-98	2.047	1.135	1.071	1.030	1.024	1.016	1.007	1.015	1.006	1.001	1.001	1.000	1.002	1.007	1.002															
June-99	2.172	1.174	1.092	1.071	1.025	1.011	1.006	1.004	1.003	1.002	1.003	1.003	1.002	1.000																
June-00	1.723	1.155	1.095	1.052	1.066	1.032	1.031	1.007	1.005	1.013	1.010	1.010	1.013																	
June-01	1.604	1.329	1.129	1.089	1.091	1.084	1.097	1.052	1.046	1.042	1.043	1.029																		
June-02	2.412	1.149	1.152	1.069	1.072	1.034	1.030	1.026	1.028	1.013	1.025																			
June-03	2.817	1.452	1.108	1.049	1.033	1.018	1.014	1.008	1.008	1.007																				
June-04	4.526	1.505	1.257	1.069	1.077	1.046	1.013	1.008	1.008																					
June-05	1.941	1.157	1.062	1.049	1.011	1.004	1.002	1.000																						
June-06	2.080	1.272	1.117	1.103	1.040	1.032	1.018																							
June-07	2.401	1.254	1.106	1.035	1.022	1.019																								
June-08	1.653	1.123	1.036	1.046	1.037																									
June-09	1.796	1.114	1.108	1.028																										
June-10	1.995	1.261	1.099																											
June-11	1.799	1.155																												
June-12	1.940																													

Averages	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*To Ult*
Simple Avg																															
All Yrs	2.306	1.271	1.129	1.082	1.060	1.044	1.034	1.025	1.018	1.011	1.018	1.006	1.005	1.004	1.004	1.003	1.003	1.002	1.002	1.003	1.003	1.002	1.002	1.002	1.001	1.002	1.008	1.011	1.001	1.000	
Latest 5	1.836	1.181	1.093	1.052	1.038	1.024	1.015	1.019	1.019	1.015	1.016	1.009	1.004	1.002	1.001	1.001	1.001	1.002	1.002	1.002	1.002	1.002	1.001	1.001	1.001	1.002					
Latest 3	1.911	1.176	1.081	1.036	1.033	1.018	1.011	1.006	1.015	1.021	1.026	1.014	1.006	1.003	1.001	1.000	1.000	1.001	1.002	1.003	1.002	1.002	1.001	1.001	1.000	1.000	1.010	1.011			
Volume Wtd																															
All Yrs	2.271	1.256	1.119	1.074	1.051	1.036	1.024	1.018	1.013	1.009	1.009	1.006	1.004	1.003	1.004	1.003	1.003	1.002	1.002	1.003	1.003	1.002	1.002	1.002	1.001	1.002	1.009	1.011	1.001		
Latest 5	1.837	1.181	1.095	1.051	1.035	1.023	1.015	1.020	1.021	1.018	1.020	1.011	1.004	1.001	1.001	1.001	1.002	1.002	1.002	1.002	1.002	1.002	1.001	1.002	1.001	1.002					
Latest 3	1.910	1.175	1.085	1.035	1.033	1.019	1.011	1.005	1.014	1.023	1.029	1.018	1.006	1.003	1.001	1.000	1.000	1.001	1.002	1.003	1.002	1.002	1.002	1.002	1.000	1.000	1.009	1.011			

Dev Factor Selection

Industry 1	1.968	1.143	1.054	1.030	1.018	1.014	1.012																								
Industry 2		1.266	1.074	1.040	1.013	1.011	1.010	1.015	1.008	1.013	1.013	1.009	1.008	1.008	1.008	1.005	1.004	1.002	1.004	1.005											
Prior	*2.037*	*1.275*	*1.130*	*1.060*	*1.037*	*1.027*	*1.031*	*1.020*	*1.018*	*1.004*	*1.004*	*1.003*	*1.003*	*1.002*	*1.003*	*1.001*	*1.002*	*1.002*	*1.002*	*1.002*	*1.002*	*1.002*	*1.002*	*1.002*	*1.002*	*1.002*	*1.002*	*1.002*	*1.002*	*1.009*	
Selected	2.018	1.271	1.129	1.052	1.038	1.024	1.015	1.019	1.019	1.004	1.004	1.003	1.003	1.002	1.003	1.001	1.001	1.002	1.002	1.003	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.001	1.001	1.008
FacToUlt	3.597	1.782	1.403	1.242	1.181	1.138	1.111	1.095	1.074	1.054	1.050	1.046	1.043	1.040	1.038	1.035	1.035	1.033	1.031	1.029	1.026	1.024	1.022	1.020	1.018	1.016	1.014	1.012	1.010	1.009	1.008
Percent of Ult	27.8%	56.1%	71.3%	80.5%	84.7%	87.9%	90.0%	91.4%	93.1%	94.8%	95.2%	95.6%	95.9%	96.1%	96.3%	96.6%	96.7%	96.8%	97.0%	97.2%	97.4%	97.6%	97.8%	98.0%	98.2%	98.4%	98.6%	98.8%	99.0%	99.1%	99.2%

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Retardation - Cluster 1
Medical

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Ultimate Loss		Ultimate Loss		Change in Ultimate Loss		Change in Ultimate Loss	
Accident	As of 6/12		As of 6/13		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	1,217,218	1,220,439	1,212,653	1,218,313	(4,565)	-0.4%	(2,127)	-0.2%
6/30/82-83	263,579	272,000	263,579	271,000	0	0.0%	(1,000)	-0.4%
6/30/83-84	1,417,230	1,462,000	1,418,682	1,460,000	1,452	0.1%	(2,000)	-0.1%
6/30/84-85	747,041	754,438	771,555	779,194	24,514	3.3%	24,757	3.3%
6/30/85-86	1,626,000	1,627,000	1,621,000	1,622,000	(5,000)	-0.3%	(5,000)	-0.3%
6/30/86-87	1,915,316	1,934,280	1,915,316	1,934,280	0	0.0%	0	0.0%
6/30/87-88	2,530,000	2,534,000	2,523,000	2,526,000	(7,000)	-0.3%	(8,000)	-0.3%
6/30/88-89	3,949,000	3,950,000	3,953,000	3,954,000	4,000	0.1%	4,000	0.1%
6/30/89-90	3,717,576	3,754,384	3,718,608	3,755,426	1,032	0.0%	1,042	0.0%
6/30/90-91	2,963,000	2,964,000	2,961,000	2,961,000	(2,000)	-0.1%	(3,000)	-0.1%
6/30/91-92	2,467,000	2,468,000	2,469,000	2,470,000	2,000	0.1%	2,000	0.1%
6/30/92-93	1,804,000	1,805,000	1,800,000	1,801,000	(4,000)	-0.2%	(4,000)	-0.2%
6/30/93-94	1,305,000	1,305,000	1,304,000	1,305,000	(1,000)	-0.1%	0	0.0%
6/30/94-95	959,000	959,000	956,000	956,000	(3,000)	-0.3%	(3,000)	-0.3%
6/30/95-96	1,039,000	1,040,000	1,037,000	1,037,000	(2,000)	-0.2%	(3,000)	-0.3%
6/30/96-97	915,000	916,000	913,000	913,000	(2,000)	-0.2%	(3,000)	-0.3%
6/30/97-98	782,000	798,000	780,000	796,000	(2,000)	-0.3%	(2,000)	-0.3%
6/30/98-99	660,000	674,000	658,000	671,000	(2,000)	-0.3%	(3,000)	-0.4%
6/30/99-00	793,000	809,000	799,000	815,000	6,000	0.8%	6,000	0.7%
6/30/00-01	1,328,000	1,357,000	1,360,000	1,390,000	32,000	2.4%	33,000	2.4%
6/30/01-02	864,000	881,000	880,000	897,000	16,000	1.9%	16,000	1.8%
6/30/02-03	887,000	905,000	888,000	906,000	1,000	0.1%	1,000	0.1%
6/30/03-04	906,000	925,000	896,000	914,000	(10,000)	-1.1%	(11,000)	-1.2%
6/30/04-05	1,049,000	1,104,000	1,027,000	1,081,000	(22,000)	-2.1%	(23,000)	-2.1%
6/30/05-06	1,199,000	1,262,000	1,180,000	1,242,000	(19,000)	-1.6%	(20,000)	-1.6%
6/30/06-07	1,208,000	1,271,000	1,177,000	1,239,000	(31,000)	-2.6%	(32,000)	-2.5%
6/30/07-08	965,000	1,070,000	945,000	1,032,000	(20,000)	-2.1%	(38,000)	-3.6%
6/30/08-09	1,251,000	1,460,000	1,189,000	1,387,000	(62,000)	-5.0%	(73,000)	-5.0%
6/30/09-10	1,349,000	1,574,000	1,276,000	1,489,000	(73,000)	-5.4%	(85,000)	-5.4%
6/30/10-11	1,294,000	1,510,000	1,138,000	1,358,000	(156,000)	-12.1%	(152,000)	-10.1%
6/30/11-12	1,565,000	1,826,000	1,443,000	1,684,000	(122,000)	-7.8%	(142,000)	-7.8%
6/30/12-13								
Total	44,934,961	46,391,540	44,473,393	45,864,212	(461,568)	-1.0%	(527,328)	-1.1%

NOTES:

(2), (3) From Aon analysis as of June 30, 2012

(4), (5) From Section 2, Exhibit 2, Page 1, Columns 6, 7

(6) = (4) - (2)

(7) = (4) / (2) - 1

(8) = (5) - (3)

(9) = (5) / (3) - 1

Department of Mental Retardation - Cluster 1
Medical

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At: 4%	6%
384	100.0%	0.8%	0.0%	0.2%	0.1%	1.000	1.000
372	99.2%	0.1%	0.8%	0.0%	0.0%	0.981	0.971
360	99.1%	0.1%	0.9%	0.0%	0.0%	0.947	0.922
348	99.0%	0.2%	1.0%	0.1%	0.0%	0.918	0.880
336	98.8%	0.2%	1.2%	0.1%	0.0%	0.899	0.854
324	98.6%	0.2%	1.4%	0.1%	0.0%	0.881	0.829
312	98.4%	0.2%	1.6%	0.1%	0.0%	0.864	0.806
300	98.2%	0.2%	1.8%	0.1%	0.0%	0.847	0.784
288	98.0%	0.2%	2.0%	0.1%	0.0%	0.831	0.763
276	97.8%	0.2%	2.2%	0.1%	0.1%	0.815	0.742
264	97.6%	0.2%	2.4%	0.1%	0.1%	0.800	0.723
252	97.4%	0.3%	2.6%	0.1%	0.1%	0.786	0.704
240	97.2%	0.2%	2.8%	0.1%	0.1%	0.778	0.694
228	97.0%	0.2%	3.0%	0.1%	0.1%	0.763	0.675
216	96.8%	0.1%	3.2%	0.1%	0.0%	0.748	0.656
204	96.7%	0.1%	3.3%	0.0%	0.0%	0.729	0.633
192	96.6%	0.3%	3.4%	0.1%	0.1%	0.707	0.605
180	96.3%	0.2%	3.7%	0.1%	0.1%	0.701	0.599
168	96.1%	0.3%	3.9%	0.2%	0.1%	0.688	0.584
156	95.9%	0.3%	4.1%	0.2%	0.1%	0.683	0.578
144	95.6%	0.4%	4.4%	0.2%	0.2%	0.676	0.572
132	95.2%	0.4%	4.8%	0.3%	0.2%	0.677	0.574
120	94.8%	1.8%	5.2%	1.2%	1.0%	0.675	0.573
108	93.1%	1.7%	6.9%	1.2%	1.1%	0.733	0.650
96	91.4%	1.4%	8.6%	1.0%	0.9%	0.760	0.685
84	90.0%	2.1%	10.0%	1.6%	1.4%	0.765	0.691
72	87.9%	3.2%	12.1%	2.6%	2.3%	0.778	0.707
60	84.7%	4.2%	15.3%	3.5%	3.2%	0.797	0.730
48	80.5%	9.2%	19.5%	8.0%	7.5%	0.812	0.750
36	71.3%	15.2%	28.7%	13.8%	13.1%	0.845	0.792
24	56.1%	28.3%	43.9%	26.7%	25.9%	0.871	0.825
12	27.8%	27.8%	72.2%	27.3%	27.0%	0.893	0.854
Total		100.0%					

NOTES:

(2) = 1 / Section 2, Exhibit 2, Page 2, Column 4

(3) Incremental % based on (2)

(4) = 1 - (2)

(5) = [(3) / 1.04] ^ {[(1) - 6] / 12}

(6) = [(3) / 1.06] ^ {[(1) - 6] / 12}

(7), (8) Discount factor based on (5), (6)

Commonwealth of Massachusetts
Workers Compensation
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Department of Mental Retardation - Cluster 1
Medical

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	2,320	7,980		2,029	6,979
6/30/82-83	2,610	10,031	0.981	2,559	9,836
6/30/83-84	14,046	55,364	0.947	13,303	52,435
6/30/84-85	7,639	15,278	0.918	7,010	14,021
6/30/85-86	18,835	19,835	0.899	16,929	17,827
6/30/86-87	18,964	37,927	0.881	16,704	33,409
6/30/87-88	39,583	42,583	0.864	34,187	36,778
6/30/88-89	70,455	71,455	0.847	59,681	60,528
6/30/89-90	36,818	73,636	0.831	30,597	61,195
6/30/90-91	63,773	63,773	0.815	52,006	52,006
6/30/91-92	57,502	58,502	0.800	46,024	46,824
6/30/92-93	44,974	45,974	0.786	35,336	36,122
6/30/93-94	36,060	37,060	0.778	28,049	28,827
6/30/94-95	28,486	28,486	0.763	21,721	21,721
6/30/95-96	32,978	32,978	0.748	24,655	24,655
6/30/96-97	30,428	30,428	0.729	22,197	22,197
6/30/97-98	26,664	42,664	0.707	18,846	30,154
6/30/98-99	24,250	37,250	0.701	17,002	26,117
6/30/99-00	30,627	46,627	0.688	21,086	32,102
6/30/00-01	53,613	83,613	0.683	36,596	57,074
6/30/01-02	39,005	56,005	0.676	26,378	37,874
6/30/02-03	42,361	60,361	0.677	28,661	40,839
6/30/03-04	46,558	64,558	0.675	31,420	43,567
6/30/04-05	20,820	74,820	0.733	15,261	54,843
6/30/05-06	45,122	107,122	0.760	34,307	81,445
6/30/06-07	62,496	124,496	0.765	47,837	95,294
6/30/07-08	70,764	157,764	0.778	55,067	122,769
6/30/08-09	69,816	267,816	0.797	55,609	213,317
6/30/09-10	134,371	347,371	0.812	109,125	282,107
6/30/10-11	236,222	456,222	0.845	199,588	385,470
6/30/11-12	543,362	784,362	0.871	473,075	682,901
6/30/12-13	711,188	1,148,188	0.893	635,356	1,025,760
Total	2,662,711	4,490,531		2,218,203	3,736,995
			(7) Total Discount Factor:	0.833	0.832

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	2,320	7,980
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	331	1,140
(11) Discounted Value at 4%:	2,029	6,979

NOTES:
(2), (3) From Section 2, Exhibit 2, Page 1, Columns 8, 9
(4) From Section 2, Exhibit 2, Page 9, Column 7
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

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Department of Mental Retardation - Cluster 1
Medical

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	2,320	7,980		1,906	6,555
6/30/82-83	2,610	10,031	0.971	2,535	9,743
6/30/83-84	14,046	55,364	0.922	12,957	51,071
6/30/84-85	7,639	15,278	0.880	6,726	13,451
6/30/85-86	18,835	19,835	0.854	16,086	16,940
6/30/86-87	18,964	37,927	0.829	15,729	31,457
6/30/87-88	39,583	42,583	0.806	31,906	34,324
6/30/88-89	70,455	71,455	0.784	55,221	56,005
6/30/89-90	36,818	73,636	0.763	28,074	56,148
6/30/90-91	63,773	63,773	0.742	47,327	47,327
6/30/91-92	57,502	58,502	0.723	41,548	42,271
6/30/92-93	44,974	45,974	0.704	31,651	32,354
6/30/93-94	36,060	37,060	0.694	25,043	25,737
6/30/94-95	28,486	28,486	0.675	19,228	19,228
6/30/95-96	32,978	32,978	0.656	21,643	21,643
6/30/96-97	30,428	30,428	0.633	19,274	19,274
6/30/97-98	26,664	42,664	0.605	16,125	25,801
6/30/98-99	24,250	37,250	0.599	14,530	22,319
6/30/99-00	30,627	46,627	0.584	17,894	27,241
6/30/00-01	53,613	83,613	0.578	31,006	48,355
6/30/01-02	39,005	56,005	0.572	22,301	32,020
6/30/02-03	42,361	60,361	0.574	24,307	34,636
6/30/03-04	46,558	64,558	0.573	26,676	36,990
6/30/04-05	20,820	74,820	0.650	13,528	48,616
6/30/05-06	45,122	107,122	0.685	30,913	73,388
6/30/06-07	62,496	124,496	0.691	43,190	86,037
6/30/07-08	70,764	157,764	0.707	50,033	111,545
6/30/08-09	69,816	267,816	0.730	50,981	195,563
6/30/09-10	134,371	347,371	0.750	100,740	260,429
6/30/10-11	236,222	456,222	0.792	187,072	361,297
6/30/11-12	543,362	784,362	0.825	448,124	646,883
6/30/12-13	711,188	1,148,188	0.854	607,202	980,306
Total	2,662,711	4,490,531		2,061,472	3,474,953
			(7) Total Discount Factor:	0.774	0.774

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	2,320	7,980
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	331	1,140
(11) Discounted Value at 6%:	1,906	6,555

NOTES:
(2), (3) From Section 2, Exhibit 2, Page 1, Columns 8, 9
(4) From Section 2, Exhibit 2, Page 9, Column 8
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Indemnity

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Pd Loss Including Lump Sum	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		19,382,246			23,021,097	24,399,262	3,638,851	5,017,016		
6/30/82-83		2,561,791	2,641,961		2,575,912	2,708,010	14,122	146,220		
6/30/83-84		2,655,007	2,870,570		2,798,806	2,942,334	143,799	287,328		
6/30/84-85	142,561	4,121,571	4,690,710	4,273,740	4,274,000	4,691,000	152,429	569,429	2.998	3.291
6/30/85-86	153,298	4,634,091	4,895,454	4,883,162	4,883,000	4,895,000	248,909	260,909	3.185	3.193
6/30/86-87	176,136	6,208,413	6,613,087	6,622,031	6,333,000	6,457,000	124,587	248,587	3.596	3.666
6/30/87-88	206,319	11,457,359	12,829,294	12,233,146	12,590,835	12,829,000	1,133,476	1,371,641	6.103	6.218
6/30/88-89	222,806	12,059,647	13,591,980	12,979,382	13,346,941	13,592,000	1,287,294	1,532,353	5.990	6.100
6/30/89-90	223,751	11,469,688	13,012,890	12,444,181	12,444,000	13,013,000	974,312	1,543,312	5.562	5.816
6/30/90-91	210,162	7,775,631	8,848,922	8,538,356	8,009,000	8,164,000	233,369	388,369	3.811	3.885
6/30/91-92	205,241	4,260,079	4,684,276	4,680,810	4,388,000	4,473,000	127,921	212,921	2.138	2.179
6/30/92-93	176,705	3,539,419	3,915,815	3,910,367	3,910,000	3,916,000	370,581	376,581	2.213	2.216
6/30/93-94	173,075	2,396,621	2,696,172	2,692,392	2,692,000	2,696,000	295,379	299,379	1.555	1.558
6/30/94-95	178,317	2,817,550	3,332,874	3,207,648	3,208,000	3,333,000	390,450	515,450	1.799	1.869
6/30/95-96	175,996	1,924,351	2,178,507	2,178,443	1,963,000	2,002,000	38,649	77,649	1.115	1.138
6/30/96-97	190,083	1,571,537	1,773,723	1,780,179	1,774,000	1,780,000	202,463	208,463	0.933	0.936
6/30/97-98	177,278	2,912,109	3,315,255	3,306,440	3,306,000	3,315,000	393,891	402,891	1.865	1.870
6/30/98-99	189,080	1,674,660	1,918,982	1,925,186	1,919,000	1,925,000	244,340	250,340	1.015	1.018
6/30/99-00	194,494	2,313,702	2,665,266	2,666,455	2,665,000	2,666,000	351,298	352,298	1.370	1.371
6/30/00-01	201,568	3,289,151	3,840,174	3,826,078	3,826,000	3,840,000	536,849	550,849	1.898	1.905
6/30/01-02	203,105	2,606,204	3,079,494	3,074,792	3,075,000	3,079,000	468,796	472,796	1.514	1.516
6/30/02-03	202,515	1,901,724	2,272,778	2,283,450	2,273,000	2,283,000	371,276	381,276	1.122	1.127
6/30/03-04	189,588	3,242,897	4,037,689	4,011,474	4,011,000	4,038,000	768,103	795,103	2.116	2.130
6/30/04-05	186,990	2,718,828	3,410,730	3,290,731	3,291,000	3,411,000	572,172	692,172	1.760	1.824
6/30/05-06	193,254	1,857,197	2,371,387	2,493,562	2,371,000	2,494,000	513,803	636,803	1.227	1.291
6/30/06-07	203,359	2,053,155	2,772,218	2,786,867	2,772,000	2,787,000	718,845	733,845	1.363	1.370
6/30/07-08	212,083	1,530,078	2,129,734	2,381,875	2,130,000	2,382,000	599,922	851,922	1.004	1.123
6/30/08-09	204,679	1,719,444	2,505,455	2,655,328	2,505,000	2,655,000	785,556	935,556	1.224	1.297
6/30/09-10	184,688	1,171,770	1,890,939	2,165,160	2,029,000	2,165,000	857,230	993,230	1.099	1.172
6/30/10-11	169,689	1,469,654	2,723,520	2,618,548	2,619,000	2,860,000	1,149,346	1,390,346	1.543	1.685
6/30/11-12	177,399	1,207,131	2,804,838	2,672,244	2,672,000	2,945,000	1,464,870	1,737,870	1.506	1.660
6/30/12-13	189,252	652,867	3,048,541	3,007,897	3,008,000	3,201,000	2,355,133	2,548,133	1.589	1.691
Total	5,513,472	131,155,570	133,363,237	125,589,922	152,683,591	157,936,607	21,528,021	26,781,037		
Tot 6/30/84-13	5,513,472	106,556,526	127,850,705	125,589,922	124,287,776	127,887,000	17,731,249	21,330,474	2.254	2.320

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) Sum of Section 3, Exhibit 1, Page 2, Column 3 and Section 3, Exhibit 1, Page 9, Column 8

(4) From Section 3, Exhibit 1, Page 2, Column 8

(5) From Section 3, Exhibit 1, Page 3, Column 8

(6), (7) Selected based on (3), (4), and (5)

(8) = (6) - (3)

(9) = (7) - (3)

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Indemnity

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Accident Year	Payroll (000's)	Paid Loss Excluding Lump Sum	Paid LDF	Adjstmnt for Extra Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/11-12	Paid Counts 7/1/12-13	Average Outstanding Claim	Average Age
All Prior Yrs		18,716,566							10	10		86
6/30/82-83		2,467,791	1.032	1.000	2,547,256	94,705	2,641,961		1	1	79,466	87
6/30/83-84		2,245,006	1.043	1.050	2,457,494	413,076	2,870,570		0	0		
6/30/84-85	142,561	3,570,488	1.053	1.100	4,135,494	555,216	4,690,710	3.290	2	2	282,503	69
6/30/85-86	153,298	4,048,163	1.063	1.000	4,305,132	590,322	4,895,454	3.193	0	0		
6/30/86-87	176,136	5,376,022	1.074	1.000	5,774,453	838,634	6,613,087	3.755	0	0		
6/30/87-88	206,319	9,772,337	1.085	1.050	11,131,635	1,697,660	12,829,294	6.218	2	2	679,649	73
6/30/88-89	222,806	10,084,005	1.096	1.050	11,601,521	1,990,459	13,591,980	6.100	4	3	505,839	76
6/30/89-90	223,751	9,432,048	1.107	1.050	10,959,967	2,052,922	13,012,890	5.816	2	2	763,960	73
6/30/90-91	210,162	6,110,167	1.118	1.050	7,170,967	1,677,955	8,848,922	4.211	1	1	1,060,800	85
6/30/91-92	205,241	3,230,938	1.129	1.000	3,647,417	1,036,860	4,684,276	2.282	0	0		
6/30/92-93	176,705	2,745,340	1.135	1.000	3,115,781	800,035	3,915,815	2.216	2	2	185,220	61
6/30/93-94	173,075	2,038,037	1.146	1.000	2,334,899	361,273	2,696,172	1.558	1	1	296,862	63
6/30/94-95	178,317	2,341,126	1.161	1.050	2,852,854	480,020	3,332,874	1.869	1	1	511,728	69
6/30/95-96	175,996	1,440,291	1.171	1.000	1,686,987	491,520	2,178,507	1.238	1	1	246,696	56
6/30/96-97	190,083	1,057,037	1.181	1.000	1,248,057	525,666	1,773,723	0.933	0	0		
6/30/97-98	177,278	2,101,308	1.182	1.000	2,482,896	832,359	3,315,255	1.870	0	0		
6/30/98-99	189,080	1,254,410	1.185	1.000	1,486,993	431,989	1,918,982	1.015	0	0		
6/30/99-00	194,494	1,634,502	1.202	1.000	1,964,684	700,582	2,665,266	1.370	0	0		
6/30/00-01	201,568	2,492,651	1.207	1.000	3,008,338	831,836	3,840,174	1.905	2	1	515,687	78
6/30/01-02	203,105	2,097,298	1.211	1.000	2,539,203	540,291	3,079,494	1.516	0	0		
6/30/02-03	202,515	1,404,724	1.240	1.000	1,741,681	531,097	2,272,778	1.122	2	1	336,957	43
6/30/03-04	189,588	2,661,897	1.273	1.000	3,389,527	648,161	4,037,689	2.130	0	0		
6/30/04-05	186,990	2,083,828	1.296	1.000	2,699,732	710,997	3,410,730	1.824	2	0		
6/30/05-06	193,254	1,354,447	1.324	1.000	1,792,786	578,602	2,371,387	1.227	2	1	438,339	50
6/30/06-07	203,359	1,772,404	1.358	1.000	2,407,756	364,462	2,772,218	1.363	2	2	317,676	57
6/30/07-08	212,083	1,245,348	1.410	1.000	1,755,416	374,318	2,129,734	1.004	4	6	85,011	52
6/30/08-09	204,679	1,449,944	1.452	1.000	2,105,257	400,198	2,505,455	1.224	4	4	163,828	52
6/30/09-10	184,688	1,025,770	1.575	1.000	1,615,971	274,968	1,890,939	1.024	9	8	73,775	54
6/30/10-11	169,689	1,404,624	1.738	1.000	2,440,685	282,836	2,723,520	1.605	42	12	86,338	54
6/30/11-12	177,399	1,201,631	2.147	1.000	2,579,630	225,207	2,804,838	1.581	146	45	30,622	50
6/30/12-13	189,252	652,867	3.958	1.000	2,583,986	464,554	3,048,541	1.611		156	12,379	46
Total	5,513,472	110,513,012			111,564,454	21,798,782	133,363,237		242	262		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3), (4) From Section 3, Exhibit 1, Page 7

(5) Based on information from the MA WCRIB

(6) = (3) x (4) x (5)

(7) From Section 3, Exhibit 1, Page 9, Column 13

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10), (11) Provided by Commonwealth of Massachusetts

(12) = Maximum of [{(6) - (3)} / (11)] and 0

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Indemnity

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident Year	Payroll (000's)	A Priori Loss Rate	Paid Loss Excluding Lump Sum	Paid LDF	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Ultimate Loss Cost Excluding Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	142,561	2.065	3,570,488	1.053	3,718,524	555,216	4,273,740	2.998	2.608
6/30/85-86	153,298	2.674	4,048,163	1.063	4,292,839	590,322	4,883,162	3.185	2.800
6/30/86-87	176,136	3.352	5,376,022	1.074	5,783,397	838,634	6,622,031	3.760	3.283
6/30/87-88	206,319	4.729	9,772,337	1.085	10,535,486	1,697,660	12,233,146	5.929	5.106
6/30/88-89	222,806	4.650	10,084,005	1.096	10,988,922	1,990,459	12,979,382	5.825	4.932
6/30/89-90	223,751	4.448	9,432,048	1.107	10,391,258	2,052,922	12,444,181	5.562	4.644
6/30/90-91	210,162	3.389	6,110,167	1.118	6,860,401	1,677,955	8,538,356	4.063	3.264
6/30/91-92	205,241	1.762	3,230,938	1.129	3,643,951	1,036,860	4,680,810	2.281	1.775
6/30/92-93	176,705	1.737	2,745,340	1.135	3,110,332	800,035	3,910,367	2.213	1.760
6/30/93-94	173,075	1.332	2,038,037	1.146	2,331,118	361,273	2,692,392	1.556	1.347
6/30/94-95	178,317	1.567	2,341,126	1.161	2,727,627	480,020	3,207,648	1.799	1.530
6/30/95-96	175,996	0.958	1,440,291	1.171	1,686,923	491,520	2,178,443	1.238	0.958
6/30/96-97	190,083	0.679	1,057,037	1.181	1,254,513	525,666	1,780,179	0.937	0.660
6/30/97-98	177,278	1.368	2,101,308	1.182	2,474,080	832,359	3,306,440	1.865	1.396
6/30/98-99	189,080	0.807	1,254,410	1.185	1,493,196	431,989	1,925,186	1.018	0.790
6/30/99-00	194,494	1.014	1,634,502	1.202	1,965,873	700,582	2,666,455	1.371	1.011
6/30/00-01	201,568	1.452	2,492,651	1.207	2,994,242	831,836	3,826,078	1.898	1.485
6/30/01-02	203,105	1.237	2,097,298	1.211	2,534,501	540,291	3,074,792	1.514	1.248
6/30/02-03	202,515	0.887	1,404,724	1.240	1,752,353	531,097	2,283,450	1.128	0.865
6/30/03-04	189,588	1.723	2,661,897	1.273	3,363,313	648,161	4,011,474	2.116	1.774
6/30/04-05	186,990	1.162	2,083,828	1.296	2,579,734	710,997	3,290,731	1.760	1.380
6/30/05-06	193,254	1.186	1,354,447	1.324	1,914,960	578,602	2,493,562	1.290	0.991
6/30/06-07	203,359	1.211	1,772,404	1.358	2,422,405	364,462	2,786,867	1.370	1.191
6/30/07-08	212,083	1.237	1,245,348	1.410	2,007,557	374,318	2,381,875	1.123	0.947
6/30/08-09	204,679	1.264	1,449,944	1.452	2,255,130	400,198	2,655,328	1.297	1.102
6/30/09-10	184,688	1.282	1,025,770	1.575	1,890,192	274,968	2,165,160	1.172	1.023
6/30/10-11	169,689	1.293	1,404,624	1.738	2,335,713	282,836	2,618,548	1.543	1.376
6/30/11-12	177,399	1.314	1,201,631	2.147	2,447,037	225,207	2,672,244	1.506	1.379
6/30/12-13	189,252	1.337	652,867	3.958	2,543,343	464,554	3,007,897	1.589	1.344
Total	5,513,472		87,083,650		104,298,920	21,291,001	125,589,922		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 3, Exhibit 1, Page 4, Column 11

(4) From Section 3, Exhibit 1, Page 2, Column 3

(5) From Section 3, Exhibit 1, Page 2, Column 4

(6) = (4) + [{1 - {1 / (5)}} x (3) x (2) x 10]

(7) From Section 3, Exhibit 1, Page 9, Column 13

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10) = (6) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Indemnity

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Exp Ult Loss Excluding Lump Sum	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									2.065	2.065
6/30/85-86									2.674	2.674
6/30/86-87									3.352	3.352
6/30/87-88									4.729	4.729
6/30/88-89									4.650	4.650
6/30/89-90									4.448	4.448
6/30/90-91	210,162	7,170,967	3.412	0.953	3.251	1.257	4.087	1.127	3.375	3.389
6/30/91-92	205,241	3,647,417	1.777	1.045	1.857	1.245	2.312	1.038	1.764	1.762
6/30/92-93	176,705	3,115,781	1.763	1.219	2.149	1.232	2.648	0.899	1.724	1.737
6/30/93-94	173,075	2,334,899	1.349	1.203	1.623	1.220	1.980	0.920	1.324	1.332
6/30/94-95	178,317	2,852,854	1.600	1.192	1.907	1.208	2.304	0.937	1.576	1.567
6/30/95-96	175,996	1,686,987	0.959	1.183	1.134	1.196	1.356	0.954	0.963	0.958
6/30/96-97	190,083	1,248,057	0.657	1.171	0.769	1.184	0.910	0.974	0.683	0.679
6/30/97-98	177,278	2,482,896	1.401	1.156	1.619	1.173	1.898	0.996	1.379	1.368
6/30/98-99	189,080	1,486,993	0.786	1.141	0.897	1.161	1.041	1.019	0.824	0.807
6/30/99-00	194,494	1,964,684	1.010	1.122	1.134	1.149	1.303	1.047	1.029	1.014
6/30/00-01	201,568	3,008,338	1.492	1.094	1.632	1.138	1.858	1.085	1.466	1.452
6/30/01-02	203,105	2,539,203	1.250	1.072	1.341	1.127	1.511	1.117	1.286	1.237
6/30/02-03	202,515	1,741,681	0.860	1.069	0.919	1.116	1.025	1.132	0.925	0.887
6/30/03-04	189,588	3,389,527	1.788	1.069	1.910	1.105	2.110	1.144	1.782	1.723
6/30/04-05	186,990	2,699,732	1.444	1.062	1.533	1.094	1.677	1.162	1.226	1.162
6/30/05-06	193,254	1,792,786	0.928	1.051	0.975	1.083	1.056	1.186	1.251	1.186
6/30/06-07	203,359	2,407,756	1.184	1.040	1.231	1.072	1.320	1.211	1.278	1.211
6/30/07-08	212,083	1,755,416	0.828	1.028	0.851	1.062	0.903	1.237	1.305	1.237
6/30/08-09	204,679	2,105,257	1.029	1.016	1.045	1.051	1.099	1.264	1.333	1.264
6/30/09-10	184,688	1,615,971	0.875	1.012	0.886	1.041	0.922	1.282	1.352	1.282
6/30/10-11	169,689	2,440,685	1.438	1.014	1.458	1.030	1.502	1.293	1.363	1.293
6/30/11-12	177,399	2,579,630	1.454	1.007	1.464	1.020	1.494	1.314	1.386	1.314
6/30/12-13	189,252	2,583,986	1.365	1.000	1.365	1.010	1.379	1.337		1.337
Total	4,388,602	58,651,502								

Trend Last 4 (ex 12-13):	16.3%	Avg 3 (x12-13):	1.306
Trend Last 8 (ex 12-13):	1.1%	Avg 5 (x12-13):	1.184
Trend Last 12 (ex 12-13):	-1.8%	Avg 10 (x12-13):	1.311
Prior Selected Trend:	1.0%	Prior Sel Avg:	1.400
Selected Trend:	1.0%	Sel. Loss Cost:	1.350

NOTES:
(2) Provided by Commonwealth of Massachusetts
(3) From Section 3, Exhibit 1, Page 2, Column 6
(4) = (3) / (2) / 10
(5) Based on information from the MA WCRIB
(6) = (4) x (5)
(7) Based on Selected Trend from (6)
(8) = (6) x (7)
(9) = Sel. Loss Cost / [(5) * (7)]
(10) From Aon analysis as of June 30, 2012
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Indemnity

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend		0.960	
(2)	Credibility		43%	
(3)	Average Pmt Trend Statewide		0.960	
(4)	Credibility Weighted Trend		0.960	
		(Low)		(High)
(5)	Selected Range	0.930		0.960
(6)	Incremental Paid for 2013	354,524		354,524
(7)	Estimated Reserve	4,710,101		8,508,570
(8)	Paid to Date (82 & Prior)	18,716,566		18,716,566
(9)	Est Ult Paid for 1982 & Prior	23,426,668		27,225,136

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	365,374	379,439
(11)	Projected Number of Years	7	8
(12)	Estimated Reserve	2,557,615	3,035,516
(13)	Paid to Date (82 & Prior)	18,716,566	18,362,043
(14)	Est Ult Paid for 1982 & Prior	21,274,182	21,397,559
(14a)	Paid Counts During Fiscal Year	10	10
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	22,350,425	23,728,590
(16)	Lump Sum Ultimates	670,673	670,673
(17)	Ult Loss Including Lump Sums	**23,021,097**	**24,399,262**
(18)	Implied Tail	1.194	1.268
(19)	Ult Loss Inc Lump Sums @ 6/12	22,819,387	24,223,911

NOTES:

(1) From Section 3, Exhibit 1, Page 6
(2) = (Average of Section 3, Exhibit 1, Page 6, Column 3 / 3,000,000) ^ 0.5
(3) Average Statewide Trend
(4) = (1) x (2) + (4) x {1 - (2)}
(5) Selected judgmentally based on (4)
(6), (14a) Provided by Commonwealth of Massachusetts
(7) = (6) x (5) / {1 - (5)}
(8), (16) From Section 3, Exhibit 1, Page 2, Column 3
(9) = (7) + (8)
(10) Avg of 3 latest years from Section 3, Exhibit 1, Page 6, Column 3
(11) Selected judgmentally
(12) = (10 x (11)
(14) = (12) + (13)
(15) = Average of (9) and (14)
(16) From Section 3, Exhibit 1, Page 9, Column 13
(17) = (15) + (16)
(18) = (15) / (8)
(19) From Aon analysis as of June 30, 2012

Department of Mental Health - Cluster 2

Indemnity

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paids	LN	Average Observed Trend		Trend Calculations
1992	1	750,775	13.529			
1993	2	716,997	13.483	0.955		
1994	3	790,631	13.581	1.103		
1995	4	675,209	13.423	0.854		
1996	5	721,864	13.490	1.069		
1997	6	762,764	13.545	1.057		
1998	7	718,856	13.485	0.942		
1999	8	630,481	13.354	0.877		
2000	9	625,893	13.347	0.993	n =	22
2001	10	614,002	13.328	0.981	S(x) =	44,055
2002	11	594,569	13.296	0.968	S(x-sq) =	88,221,023
2003	12	551,328	13.220	0.927	S(xy) =	581,898
2004	13	536,825	13.193	0.974	S(y) =	291
2005	14	518,060	13.158	0.965	D =	19,481
2006	15	465,230	13.050	0.898	slope =	-0.041
2007	16	463,442	13.046	0.996	Avg Trend =	0.959
2008	17	390,409	12.875	0.842		
2009	18	394,388	12.885	1.010		
2010	19	396,721	12.891	1.006		
2011	20	371,480	12.825	0.936		
2012	21	370,117	12.822	0.996		
2013	22	354,524	12.779	0.958		
					Selected Trend:	**0.960**

NOTES:

(3) 2012 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2012

(4) LN [(3)]

(5) Eg. 2013: 0.958 = 354524 / 370117

Commonwealth of Massachusetts Workers Compensation
Department of Mental Health - Cluster 2
INDEMNITY
Paid Loss Development
Paid Loss (Excluding Lump Sum)

Acc Yr Ending	*12*	*24*	*36*	*48*	*60*	*72*	*84*	*96*	*108*	*120*	*132*	*144*	*156*	*168*	*180*	*192*	*204*	*216*	*228*	*240*	*252*	*264*	*276*	*288*	*300*	*312*	*324*	*336*	*348*	*360*	*372*
June-83	79,308	192,487	287,043	366,841	453,896	544,549	640,359	749,442	914,819	1,077,281	1,197,004	1,318,238	1,411,761	1,487,347	1,551,200	1,663,300	1,725,578	1,794,915	1,844,320	1,889,378	1,935,146	1,980,854	2,027,803	2,076,694	2,127,762	2,181,186	2,236,941	2,293,398	2,349,618	2,407,755	2,467,791
June-84	140,777	341,678	509,522	651,169	805,697	966,187	1,136,616	1,274,005	1,376,021	1,469,295	1,531,586	1,571,197	1,574,113	1,632,297	1,648,271	1,715,119	1,788,667	1,866,433	1,948,603	2,027,969	2,039,380	2,061,132	2,116,425	2,146,711	2,178,653	2,211,990	2,245,006	2,245,006	2,245,006	2,245,006	
June-85	229,548	557,132	830,815	1,036,782	1,282,444	1,536,673	1,759,380	1,967,113	2,201,587	2,336,765	2,327,938	2,488,898	2,562,953	2,635,303	2,683,281	2,681,236	2,703,322	2,765,472	2,829,392	2,893,225	2,958,066	3,025,906	3,097,014	3,171,404	3,249,041	3,327,655	3,405,939	3,486,893	3,570,488		
June-86	424,946	1,031,378	1,515,527	1,911,756	2,265,456	2,545,075	2,747,857	2,913,298	3,035,997	3,203,939	3,246,126	3,354,664	3,430,712	3,506,894	3,646,690	3,769,482	3,845,436	3,884,426	3,884,426	3,901,838	3,936,022	3,971,963	4,009,622	4,048,163	4,048,163	4,048,163	4,048,163	4,048,163	4,048,163		
June-87	556,509	1,350,692	1,993,369	2,579,183	3,116,291	3,554,448	3,811,881	4,007,455	4,213,271	4,383,210	4,532,492	4,672,974	4,887,827	5,019,452	5,138,398	5,229,397	5,303,153	5,343,074	5,369,509	5,376,022	5,376,022	5,376,022	5,376,022	5,376,022	5,376,022	5,376,022	5,376,022				
June-88	996,188	2,332,317	3,514,867	4,556,262	5,500,101	6,017,634	6,366,291	6,722,900	7,030,156	7,360,513	7,651,811	7,905,775	8,097,655	8,296,173	8,504,343	8,714,431	8,884,786	9,012,909	9,145,701	9,284,112	9,391,001	9,490,888	9,559,720	9,628,264	9,699,144	9,772,337					
June-89	974,368	2,808,156	4,300,397	5,491,438	6,395,798	6,912,277	7,273,583	7,577,849	7,816,082	8,040,709	8,232,999	8,388,997	8,540,736	8,681,850	8,813,773	8,957,148	9,087,424	9,215,619	9,374,489	9,492,897	9,614,904	9,738,023	9,864,181	9,984,126	10,084,005						
June-90	1,353,410	3,008,842	4,338,167	5,277,757	5,970,429	6,408,269	6,735,493	6,970,610	7,237,879	7,548,184	7,808,304	7,989,794	8,127,173	8,265,835	8,400,915	8,532,029	8,676,814	8,783,514	8,912,207	9,013,337	9,115,739	9,217,710	9,323,158	9,432,048							
June-91	1,118,653	2,593,016	3,552,946	4,081,060	4,371,249	4,603,681	4,879,272	5,042,637	5,246,506	5,361,660	5,458,410	5,545,863	5,634,530	5,719,796	5,801,980	5,891,283	5,939,454	5,965,760	5,993,853	6,022,299	6,050,626	6,079,918	6,110,167								
June-92	779,443	1,600,490	2,051,414	2,363,890	2,560,991	2,732,954	2,816,302	2,946,286	2,972,351	3,048,807	3,074,042	3,100,183	3,111,601	3,122,928	3,137,949	3,150,571	3,201,317	3,230,938	3,230,938	3,230,938	3,230,938	3,230,938									
June-93	508,042	1,139,423	1,618,359	1,905,411	2,126,599	2,257,595	2,393,075	2,425,099	2,385,748	2,412,183	2,438,986	2,465,788	2,494,233	2,522,478	2,551,473	2,581,602	2,612,495	2,644,362	2,676,330	2,710,104	2,745,340										
June-94	377,925	709,441	935,174	1,117,965	1,249,550	1,323,162	1,417,563	1,481,985	1,569,098	1,629,814	1,690,715	1,751,099	1,818,321	1,857,805	1,886,745	1,916,420	1,946,311	1,976,077	2,006,857	2,038,037											
June-95	574,439	1,025,079	1,426,023	1,674,484	1,757,816	1,829,216	1,892,841	1,966,438	2,053,313	2,075,609	2,139,480	2,201,203	2,270,427	2,322,083	2,335,644	2,336,631	2,340,671	2,340,974	2,341,126												
June-96	465,550	766,030	964,996	1,197,748	1,382,594	1,418,297	1,422,506	1,435,178	1,435,753	1,438,193	1,438,193	1,438,193	1,438,193	1,438,193	1,438,193	1,438,193	1,438,931	1,440,291													
June-97	368,317	714,320	867,272	851,009	922,681	963,841	1,008,538	1,037,840	1,056,559	1,056,947	1,057,037	1,057,037	1,057,037	1,057,037	1,057,037	1,057,037	1,057,037														
June-98	492,131	922,570	1,176,288	1,346,558	1,538,911	1,686,620	1,733,801	1,756,573	1,858,553	1,897,738	1,938,454	2,001,913	2,059,542	2,101,308	2,101,308	2,101,308															
June-99	519,180	827,646	1,011,258	1,112,460	1,171,394	1,215,503	1,243,288	1,247,060	1,247,060	1,249,270	1,249,270	1,254,410	1,254,410	1,254,410	1,254,410																
June-00	421,812	853,733	1,204,737	1,330,009	1,450,814	1,536,528	1,585,725	1,622,250	1,634,502	1,634,502	1,634,502	1,634,502	1,634,502	1,634,502																	
June-01	729,752	1,342,599	1,726,067	1,967,587	2,098,934	2,195,511	2,276,106	2,353,436	2,394,597	2,417,073	2,440,162	2,469,209	2,492,651																		
June-02	623,060	1,199,282	1,469,081	1,634,403	1,755,795	1,921,999	2,013,718	2,051,869	2,088,811	2,097,298	2,097,298	2,097,298																			
June-03	598,151	1,030,113	1,208,133	1,287,181	1,329,302	1,354,993	1,378,440	1,386,422	1,396,038	1,404,611	1,404,724																				
June-04	770,179	1,494,135	1,959,406	2,261,994	2,448,308	2,553,905	2,614,936	2,661,897	2,661,897	2,661,897																					
June-05	665,795	1,274,934	1,639,401	1,834,908	1,949,257	2,006,584	2,055,842	2,083,828	2,083,828																						
June-06	602,391	1,043,862	1,212,582	1,295,959	1,330,737	1,350,327	1,353,060	1,354,447																							
June-07	589,461	977,401	1,280,907	1,496,099	1,629,703	1,702,117	1,772,404																								
June-08	619,287	959,312	1,100,546	1,186,728	1,222,576	1,245,348																									
June-09	633,064	1,071,264	1,269,944	1,347,802	1,449,944																										
June-10	415,006	709,896	895,282	1,025,770																											
June-11	652,304	1,099,134	1,404,624																												
June-12	603,523	1,201,631																													
June-13	652,867																														

Age-to-Age Factors

Acc Yr Ending	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*
June-83	2.427	1.491	1.278	1.237	1.200	1.176	1.170	1.221	1.178	1.111	1.101	1.071	1.054	1.043	1.072	1.037	1.040	1.028	1.024	1.024	1.024	1.024	1.024	1.025	1.025	1.026	1.025	1.025	1.025	1.025
June-84	2.427	1.491	1.278	1.237	1.199	1.176	1.121	1.080	1.068	1.042	1.026	1.002	1.037	1.010	1.041	1.043	1.043	1.044	1.041	1.006	1.011	1.027	1.014	1.015	1.015	1.015	1.000	1.000	1.000	
June-85	2.427	1.491	1.248	1.237	1.198	1.145	1.118	1.119	1.061	0.996	1.069	1.030	1.028	1.018	0.999	1.008	1.023	1.023	1.023	1.022	1.023	1.023	1.024	1.024	1.024	1.024	1.024	1.024		
June-86	2.427	1.469	1.261	1.185	1.123	1.080	1.060	1.042	1.055	1.013	1.033	1.023	1.022	1.040	1.034	1.020	1.010	1.000	1.004	1.009	1.009	1.009	1.010	1.000	1.000	1.000	1.000	1.000		
June-87	2.427	1.476	1.294	1.208	1.141	1.072	1.051	1.051	1.040	1.034	1.031	1.046	1.027	1.024	1.018	1.014	1.008	1.005	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
June-88	2.341	1.507	1.296	1.207	1.094	1.058	1.056	1.046	1.047	1.040	1.033	1.024	1.025	1.025	1.025	1.020	1.014	1.015	1.015	1.012	1.011	1.007	1.007	1.007	1.008					
June-89	2.882	1.531	1.277	1.165	1.081	1.052	1.042	1.031	1.029	1.024	1.019	1.018	1.017	1.015	1.016	1.015	1.014	1.017	1.013	1.013	1.013	1.013	1.012	1.010						
June-90	2.223	1.442	1.217	1.131	1.073	1.051	1.035	1.038	1.043	1.034	1.023	1.017	1.017	1.016	1.016	1.017	1.012	1.015	1.011	1.011	1.011	1.011	1.012							
June-91	2.318	1.370	1.149	1.071	1.053	1.060	1.033	1.040	1.022	1.018	1.016	1.016	1.015	1.014	1.015	1.008	1.004	1.005	1.005	1.005	1.005	1.005								
June-92	2.053	1.282	1.152	1.083	1.067	1.030	1.046	1.009	1.026	1.008	1.009	1.004	1.004	1.005	1.004	1.016	1.009	1.000	1.000	1.000	1.000									
June-93	2.243	1.420	1.177	1.116	1.062	1.060	1.013	0.984	1.011	1.011	1.011	1.012	1.011	1.011	1.012	1.012	1.012	1.012	1.013	1.013										
June-94	1.877	1.318	1.195	1.118	1.059	1.071	1.045	1.059	1.039	1.037	1.036	1.038	1.022	1.016	1.016	1.016	1.015	1.016	1.016											
June-95	1.784	1.391	1.174	1.050	1.041	1.035	1.039	1.044	1.011	1.031	1.029	1.031	1.023	1.006	1.000	1.002	1.000	1.000												
June-96	1.645	1.260	1.241	1.154	1.026	1.003	1.009	1.000	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.001	1.001													
June-97	1.939	1.214	0.981	1.084	1.045	1.046	1.029	1.018	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000														
June-98	1.875	1.275	1.145	1.143	1.096	1.028	1.013	1.058	1.021	1.021	1.033	1.029	1.020	1.000	1.000															
June-99	1.594	1.222	1.100	1.053	1.038	1.023	1.003	1.000	1.002	1.000	1.004	1.000	1.000	1.000																
June-00	2.024	1.411	1.104	1.091	1.059	1.032	1.023	1.008	1.000	1.000	1.000	1.000	1.000																	
June-01	1.840	1.286	1.140	1.067	1.046	1.037	1.034	1.017	1.009	1.010	1.012	1.009																		
June-02	1.925	1.225	1.113	1.074	1.095	1.048	1.019	1.018	1.004	1.000	1.000																			
June-03	1.722	1.173	1.065	1.033	1.019	1.017	1.006	1.007	1.006	1.000																				
June-04	1.940	1.311	1.154	1.082	1.043	1.024	1.018	1.000	1.000																					
June-05	1.915	1.286	1.119	1.062	1.029	1.025	1.014	1.000																						
June-06	1.733	1.162	1.069	1.027	1.015	1.002	1.001																							
June-07	1.658	1.311	1.168	1.089	1.044	1.041																								
June-08	1.549	1.147	1.078	1.030	1.019																									
June-09	1.692	1.185	1.061	1.076																										
June-10	1.711	1.261	1.146																											
June-11	1.685	1.278																												
June-12	1.991																													

Averages	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*To Ult*
Simple Avg																															
All Yrs	2.010	1.334	1.167	1.115	1.076	1.056	1.042	1.039	1.031	1.021	1.024	1.019	1.018	1.014	1.017	1.015	1.015	1.014	1.014	1.010	1.011	1.013	1.013	1.012	1.012	1.013	1.012	1.016	1.012	1.025	
Latest 5	1.726	1.236	1.104	1.057	1.030	1.022	1.011	1.008	1.004	1.002	1.010	1.008	1.004	1.001	1.003	1.006	1.008	1.006	1.009	1.008	1.008	1.007	1.008	1.008	1.009	1.013					
Latest 3	1.796	1.242	1.095	1.065	1.026	1.023	1.011	1.002	1.003	1.003	1.004	1.003	1.007	1.000	1.000	1.001	1.005	1.009	1.009	1.006	1.005	1.010	1.010	1.006	1.003	1.008	1.008	1.016			
Volume Wtd																															
All Yrs	2.023	1.351	1.182	1.120	1.074	1.052	1.040	1.035	1.031	1.023	1.024	1.021	1.019	1.017	1.017	1.015	1.013	1.012	1.012	1.010	1.010	1.011	1.011	1.009	1.009	1.010	1.012	1.017	1.013		
Latest 5	1.725	1.235	1.103	1.059	1.032	1.023	1.013	1.008	1.004	1.003	1.010	1.010	1.006	1.002	1.003	1.007	1.008	1.006	1.009	1.009	1.009	1.008	1.009	1.008	1.008	1.010					
Latest 3	1.802	1.239	1.090	1.067	1.027	1.024	1.013	1.002	1.003	1.004	1.005	1.004	1.008	1.000	1.000	1.001	1.005	1.009	1.008	1.005	1.007	1.010	1.010	1.007	1.004	1.006	1.008	1.017			

Dev Factor Selection																															
Industry 1	2.781	1.499	1.187	1.084	1.039	1.019	1.012																								
Industry 2		1.746	1.300	1.126	1.062	1.029	1.020	1.009	1.008	1.005	1.006	1.010	1.003	1.002	1.004	1.003	1.001	1.001	1.001	1.001											
Prior	*1.788*	*1.209*	*1.101*	*1.085*	*1.030*	*1.039*	*1.030*	*1.023*	*1.019*	*1.027*	*1.025*	*1.010*	*1.009*	*1.014*	*1.006*	*1.006*	*1.007*	*1.009*	*1.013*	*1.010*	*1.010*	*1.010*	*1.010*	*1.010*	*1.010*	*1.010*	*1.010*	*1.010*	*1.010*	*1.033*	
Selected	1.844	1.235	1.103	1.085	1.030	1.038	1.026	1.022	1.017	1.027	1.024	1.003	1.004	1.014	1.003	1.001	1.008	1.009	1.013	1.009	1.005	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.032
FacToUlt	3.958	2.147	1.738	1.575	1.452	1.410	1.358	1.324	1.296	1.273	1.240	1.211	1.207	1.202	1.185	1.182	1.181	1.171	1.161	1.146	1.135	1.129	1.118	1.107	1.096	1.085	1.074	1.063	1.053	1.043	1.032
Percent of Ult	25.3%	46.6%	57.6%	63.5%	68.9%	70.9%	73.6%	75.5%	77.2%	78.5%	80.7%	82.6%	82.9%	83.2%	84.4%	84.6%	84.7%	85.4%	86.2%	87.3%	88.1%	88.6%	89.5%	90.4%	91.3%	92.2%	93.1%	94.0%	95.0%	95.9%	96.9%

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Indemnity

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Ultimate Loss		Ultimate Loss		Change in Ultimate Loss		Change in Ultimate Loss	
Accident	As of 6/12		As of 6/13		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	22,819,387	24,223,911	23,021,097	24,399,262	201,710	0.9%	175,351	0.7%
6/30/82-83	2,516,785	2,645,851	2,575,912	2,708,010	59,127	2.3%	62,160	2.3%
6/30/83-84	2,800,083	2,943,677	2,798,806	2,942,334	(1,277)	0.0%	(1,343)	0.0%
6/30/84-85	4,192,000	4,596,000	4,274,000	4,691,000	82,000	2.0%	95,000	2.1%
6/30/85-86	4,885,000	4,898,000	4,883,000	4,895,000	(2,000)	0.0%	(3,000)	-0.1%
6/30/86-87	6,333,000	6,457,000	6,333,000	6,457,000	0	0.0%	0	0.0%
6/30/87-88	12,516,985	12,752,000	12,590,835	12,829,000	73,850	0.6%	77,000	0.6%
6/30/88-89	13,243,733	13,483,000	13,346,941	13,592,000	103,208	0.8%	109,000	0.8%
6/30/89-90	12,340,000	12,892,000	12,444,000	13,013,000	104,000	0.8%	121,000	0.9%
6/30/90-91	7,978,000	8,133,000	8,009,000	8,164,000	31,000	0.4%	31,000	0.4%
6/30/91-92	4,388,000	4,473,000	4,388,000	4,473,000	0	0.0%	0	0.0%
6/30/92-93	3,884,000	3,890,000	3,910,000	3,916,000	26,000	0.7%	26,000	0.7%
6/30/93-94	2,676,000	2,679,000	2,692,000	2,696,000	16,000	0.6%	17,000	0.6%
6/30/94-95	3,225,000	3,350,000	3,208,000	3,333,000	(17,000)	-0.5%	(17,000)	-0.5%
6/30/95-96	1,962,000	2,000,000	1,963,000	2,002,000	1,000	0.1%	2,000	0.1%
6/30/96-97	1,776,000	1,783,000	1,774,000	1,780,000	(2,000)	-0.1%	(3,000)	-0.2%
6/30/97-98	3,320,000	3,328,000	3,306,000	3,315,000	(14,000)	-0.4%	(13,000)	-0.4%
6/30/98-99	1,946,000	1,954,000	1,919,000	1,925,000	(27,000)	-1.4%	(29,000)	-1.5%
6/30/99-00	2,692,000	2,695,000	2,665,000	2,666,000	(27,000)	-1.0%	(29,000)	-1.1%
6/30/00-01	3,857,000	3,870,000	3,826,000	3,840,000	(31,000)	-0.8%	(30,000)	-0.8%
6/30/01-02	3,182,000	3,186,000	3,075,000	3,079,000	(107,000)	-3.4%	(107,000)	-3.4%
6/30/02-03	2,359,000	2,372,000	2,273,000	2,283,000	(86,000)	-3.6%	(89,000)	-3.8%
6/30/03-04	4,133,000	4,162,000	4,011,000	4,038,000	(122,000)	-3.0%	(124,000)	-3.0%
6/30/04-05	3,411,000	3,542,000	3,291,000	3,411,000	(120,000)	-3.5%	(131,000)	-3.7%
6/30/05-06	2,491,000	2,642,000	2,371,000	2,494,000	(120,000)	-4.8%	(148,000)	-5.6%
6/30/06-07	2,840,000	2,885,000	2,772,000	2,787,000	(68,000)	-2.4%	(98,000)	-3.4%
6/30/07-08	2,231,000	2,542,000	2,130,000	2,382,000	(101,000)	-4.5%	(160,000)	-6.3%
6/30/08-09	2,670,000	2,882,000	2,505,000	2,655,000	(165,000)	-6.2%	(227,000)	-7.9%
6/30/09-10	1,964,000	2,161,000	2,029,000	2,165,000	65,000	3.3%	4,000	0.2%
6/30/10-11	2,746,000	2,906,000	2,619,000	2,860,000	(127,000)	-4.6%	(46,000)	-1.6%
6/30/11-12	2,799,000	3,053,000	2,672,000	2,945,000	(127,000)	-4.5%	(108,000)	-3.5%
6/30/12-13								
Total	150,176,973	155,379,439	149,675,591	154,735,607	(501,382)	-0.3%	(643,832)	-0.4%

NOTES:

(2), (3) From Aon analysis as of June 30, 2012

(4), (5) From Section 3, Exhibit 1, Page 1, Columns 6, 7

(6) = (4) - (2)

(7) = (4) / (2) - 1

(8) = (5) - (3)

(9) = (5) / (3) - 1

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Indemnity

Calculation of Ultimate Lump Sum Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Accident Year	Paid Loss Excluding Lump Sum	Implied Cumulative LDF	Ult Loss Excluding Lump Sum	Selected Incr Lump Sum % Outstdg	Cumulative Lump Sum % Outstdg	Total Lump Sum Outstdg	Paid Lump Sum to Date	Est Ult Lump Sum - Incr Method	Ultimate Lump Sum Percentage	Lump Sum LDF	Est Ult Lump Sum - Paid Method	Selected Est Ultimate Lump Sums	Prior Est Ultimate Lump Sums
All Prior Yrs	18,716,566	1.231	23,039,507	0.0%	0.0%	0	665,680	665,680	2.9%	1.015	675,665	670,673	670,673
6/30/82-83	2,467,791	1.032	2,547,256	0.0%	0.0%	0	94,000	94,000	3.7%	1.015	95,410	94,705	94,705
6/30/83-84	2,245,006	1.095	2,457,494	0.0%	0.0%	0	410,001	410,001	16.7%	1.015	416,151	413,076	413,076
6/30/84-85	3,570,488	1.158	4,135,494	0.0%	0.0%	0	551,083	551,083	13.3%	1.015	559,349	555,216	555,216
6/30/85-86	4,048,163	1.063	4,305,132	0.0%	0.0%	0	585,928	585,928	13.6%	1.015	594,717	590,322	590,322
6/30/86-87	5,376,022	1.074	5,774,453	0.0%	0.0%	0	832,391	832,391	14.4%	1.015	844,877	838,634	838,634
6/30/87-88	9,772,337	1.139	11,131,635	0.0%	0.0%	0	1,685,022	1,685,022	15.1%	1.015	1,710,297	1,697,660	1,697,660
6/30/88-89	10,084,005	1.150	11,601,521	0.0%	0.0%	0	1,975,642	1,975,642	17.0%	1.015	2,005,277	1,990,459	1,990,459
6/30/89-90	9,432,048	1.162	10,959,967	0.0%	0.0%	0	2,037,640	2,037,640	18.6%	1.015	2,068,205	2,052,922	2,052,922
6/30/90-91	6,110,167	1.174	7,170,967	0.0%	0.0%	0	1,665,464	1,665,464	23.2%	1.015	1,690,446	1,677,955	1,677,955
6/30/91-92	3,230,938	1.129	3,647,417	0.0%	0.0%	0	1,029,141	1,029,141	28.2%	1.015	1,044,578	1,036,860	1,036,860
6/30/92-93	2,745,340	1.135	3,115,781	0.0%	0.0%	0	794,079	794,079	25.5%	1.015	805,990	800,035	800,035
6/30/93-94	2,038,037	1.146	2,334,899	0.0%	0.0%	0	358,584	358,584	15.4%	1.015	363,963	361,273	361,323
6/30/94-95	2,341,126	1.219	2,852,854	0.0%	0.0%	0	476,424	476,424	16.7%	1.015	483,617	480,020	485,233
6/30/95-96	1,440,291	1.171	1,686,987	0.2%	0.2%	3,517	484,060	487,577	28.9%	1.024	495,462	491,520	496,237
6/30/96-97	1,057,037	1.181	1,248,057	0.4%	0.6%	7,052	514,500	521,552	41.8%	1.030	529,779	525,666	527,487
6/30/97-98	2,101,308	1.182	2,482,896	0.0%	0.6%	14,029	810,801	824,830	33.2%	1.036	839,889	832,359	832,760
6/30/98-99	1,254,410	1.185	1,486,993	0.0%	0.6%	8,402	420,250	428,652	28.8%	1.036	435,327	431,989	435,050
6/30/99-00	1,634,502	1.202	1,964,684	0.4%	0.9%	18,398	679,200	697,598	35.5%	1.036	703,567	700,582	706,903
6/30/00-01	2,492,651	1.207	3,008,338	0.1%	1.1%	32,197	796,500	828,697	27.5%	1.048	834,976	831,836	842,166
6/30/01-02	2,097,298	1.211	2,539,203	0.0%	1.1%	27,176	508,906	536,082	21.1%	1.070	544,500	540,291	550,472
6/30/02-03	1,404,724	1.240	1,741,681	0.2%	1.2%	21,734	497,000	518,734	29.8%	1.093	543,459	531,097	545,708
6/30/03-04	2,661,897	1.273	3,389,527	0.6%	1.9%	64,128	581,000	645,128	19.0%	1.121	651,194	648,161	662,738
6/30/04-05	2,083,828	1.296	2,699,732	0.0%	1.9%	51,078	635,000	686,078	25.4%	1.159	735,917	710,997	739,475
6/30/05-06	1,354,447	1.324	1,792,786	0.5%	2.4%	42,672	502,750	545,422	30.4%	1.217	611,782	578,602	616,872
6/30/06-07	1,772,404	1.358	2,407,756	0.9%	3.3%	79,264	280,751	360,015	15.0%	1.314	368,910	364,462	390,588
6/30/07-08	1,245,348	1.410	1,755,416	1.3%	4.6%	80,156	284,730	364,886	20.8%	1.348	383,751	374,318	419,135
6/30/08-09	1,449,944	1.452	2,105,257	1.0%	5.5%	116,603	269,500	386,103	18.3%	1.537	414,293	400,198	502,770
6/30/09-10	1,025,770	1.575	1,615,971	3.1%	8.6%	139,076	146,000	285,076	17.6%	1.814	264,860	274,968	179,456
6/30/10-11	1,404,624	1.738	2,440,685	4.4%	13.0%	318,061	65,030	383,092	15.7%	2.808	182,580	282,836	413,175
6/30/11-12	1,201,631	2.147	2,579,630	2.3%	15.3%	395,322	5,500	400,822	15.5%	9.017	49,592	225,207	487,093
6/30/12-13	652,867	3.958	2,583,986	2.7%	18.0%	464,554	0	464,554	18.0%	42.154	0	464,554	
Total	110,513,012		134,603,961			1,883,419	20,642,558	22,525,977	16.7%		21,948,379	22,469,455	22,613,157

NOTES:

(2) From Section 3, Exhibit 1, Page 2, Column 3
(3) = (4) / (2)
(4) From Section 3, Exhibit 1, Page 2, Column 6
(5) From Section 3, Exhibit 1, Page 11
(6) Downward sum of (5)
(7) = (6) x (4)
(8) From Section 3, Exhibit 1, Page 10
(9) = (7) + (8)
(10) = (9) / (4)
(11) From Section 3, Exhibit 1, Page 12
(12) = (8) x (11)
(13) Selected based on (9) and (12)
(14) From Aon analysis as of June 30, 2012

Commonwealth of Massachusetts Workers Compensation
Department of Mental Health - Cluster 2
INDEMNITY
Lump Sum Development
Incremental Lump Sum Payments

Acc Yr Ending	0-12	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384
All Prior Yrs	0	0	0	0	0	0	0	0	0	20,000	46,500	35,000	0	73,500	50,000	69,180	0	0	97,000	198,000	0	0	0	26,500	25,000	25,000	0	0	0	0	0	0
Jun-83	0	0	0	0	0	0	0	15,000	0	20,000	24,000	35,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jun-84	0	0	0	0	0	0	0	42,000	0	70,000	40,000	10,001	48,000	0	50,000	0	0	0	0	0	0	0	0	0	0	0	150,000	0	0	0		
Jun-85	0	0	0	25,000	0	28,000	0	31,500	45,000	116,583	190,000	25,000	0	0	0	54,500	35,500	0	0	0	0	0	0	0	0	0	0	0	0			
Jun-86	0	0	22,500	27,000	52,500	10,000	24,428	133,500	166,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150,000	0	0	0	0				
Jun-87	0	0	14,910	16,000	12,500	60,000	255,275	85,000	106,206	0	27,500	25,000	30,000	90,000	70,000	0	0	40,000	0	0	0	0	0	0	0	0	0					
Jun-88	0	17,171	21,420	31,841	231,000	272,884	239,000	113,000	90,000	20,000	53,826	87,507	227,463	0	19,910	0	36,667	25,000	48,333	0	0	150,000	0	0	0	0						
Jun-89	0	79,840	44,000	108,000	417,491	668,500	334,500	165,000	6,500	16,500	57,811	0	0	52,500	0	0	0	0	20,550	4,450	0	0	0	0	0							
Jun-90	0	39,218	184,450	480,000	338,500	235,500	155,000	60,000	65,793	0	128,678	106,000	7,500	31,000	31,000	0	0	50,125	124,876	0	0	0	0	0								
Jun-91	0	23,609	651,500	370,355	182,000	135,000	97,000	6,000	0	75,000	90,000	0	0	0	35,000	0	0	0	0	0	0	0	0	0								
Jun-92	0	341,000	83,230	201,910	88,000	23,000	125,000	55,000	75,000	0	0	0	0	0	0	0	0	37,000	1	0	0	0										
Jun-93	23,000	109,000	142,400	120,500	84,000	161,300	42,879	0	93,000	0	0	0	0	0	0	0	0	18,000	0	0	0											
Jun-94	5,000	85,000	44,300	28,284	37,000	0	46,000	63,000	0	0	0	0	0	25,000	25,000	0	0	0	0													
Jun-95	12,000	35,000	45,000	142,024	68,400	16,500	40,000	0	50,000	25,000	0	0	0	0	42,500	0	0	0	0													
Jun-96	0	90,000	144,500	10,000	77,560	27,000	0	100,000	0	15,000	20,000	0	0	0	0	0	0	0														
Jun-97	0	76,500	124,000	215,000	0	0	0	15,000	0	0	84,000	0	0	0	0	0	0															
Jun-98	53,300	122,501	318,000	16,000	33,091	127,909	20,000	20,000	0	0	0	0	50,000	50,000	0	0																
Jun-99	48,000	52,250	115,000	130,000	0	7,459	37,541	30,000	0	0	0	0	0	0	0																	
Jun-00	20,500	255,500	125,500	82,000	65,200	27,500	62,000	26,000	15,000	0	0	0	0	0																		
Jun-01	45,000	221,500	170,000	132,500	67,500	77,500	12,500	20,000	50,000	0	0	0	0																			
Jun-02	0	75,000	68,000	62,100	52,950	32,000	144,721	35,000	20,135	19,000	0	0																				
Jun-03	20,000	30,000	107,000	142,500	137,500	0	0	0	0	60,000	0																					
Jun-04	0	28,000	54,000	106,000	132,000	215,000	0	46,000	0	0																						
Jun-05	0	50,787	151,713	171,500	107,000	25,000	39,000	90,000	0																							
Jun-06	0	18,000	261,750	170,500	32,500	20,000	0	0																								
Jun-07	10,000	58,500	66,250	51,001	95,000	0	0																									
Jun-08	17,730	170,000	22,500	34,500	40,000	0																										
Jun-09	35,000	85,000	124,500	25,000	0																											
Jun-10	0	30,000	6,000	110,000																												
Jun-11	8,500	28,530	28,000																													
Jun-12	0	5,500																														
Jun-13	0																															

Cumulative Lump Sum Payments

Acc Yr Ending	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384
All Prior Yrs	0	0	0	0	0	0	0	0	0	20,000	66,500	101,500	101,500	175,000	225,000	294,180	294,180	294,180	391,180	589,180	589,180	589,180	589,180	615,680	640,680	665,680	665,680	665,680	665,680	665,680	665,680	665,680
Jun-83	0	0	0	0	0	0	0	15,000	15,000	35,000	59,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	
Jun-84	0	0	0	0	0	0	0	42,000	42,000	112,000	152,000	162,001	210,001	210,001	260,001	260,001	260,001	260,001	260,001	260,001	260,001	260,001	260,001	260,001	260,001	260,001	410,001	410,001	410,001	410,001		
Jun-85	0	0	0	25,000	25,000	53,000	53,000	84,500	129,500	246,083	436,083	461,083	461,083	461,083	461,083	515,583	551,083	551,083	551,083	551,083	551,083	551,083	551,083	551,083	551,083	551,083	551,083	551,083	551,083	551,083		
Jun-86	0	0	22,500	49,500	102,000	112,000	136,428	269,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	585,928	585,928	585,928	585,928	585,928				
Jun-87	0	0	14,910	30,910	43,410	103,410	358,685	443,685	549,891	549,891	577,391	602,391	632,391	722,391	792,391	792,391	792,391	832,391	832,391	832,391	832,391	832,391	832,391	832,391	832,391	832,391	832,391					
Jun-88	0	17,171	38,591	70,432	301,432	574,316	813,316	926,316	1,016,316	1,036,316	1,090,142	1,177,649	1,405,112	1,405,112	1,425,022	1,425,022	1,461,689	1,486,689	1,535,022	1,535,022	1,535,022	1,685,022	1,685,022	1,685,022	1,685,022	1,685,022							
Jun-89	0	79,840	123,840	231,840	649,331	1,317,831	1,652,331	1,817,331	1,823,831	1,840,331	1,898,142	1,898,142	1,898,142	1,950,642	1,950,642	1,950,642	1,950,642	1,950,642	1,971,192	1,975,642	1,975,642	1,975,642	1,975,642	1,975,642	1,975,642								
Jun-90	0	39,218	223,668	703,668	1,042,168	1,277,668	1,432,668	1,492,668	1,558,461	1,558,461	1,687,139	1,793,139	1,800,639	1,831,639	1,862,639	1,862,639	1,862,639	1,912,764	2,037,640	2,037,640	2,037,640	2,037,640	2,037,640	2,037,640	2,037,640								
Jun-91	0	23,609	675,109	1,045,464	1,227,464	1,362,464	1,459,464	1,465,464	1,465,464	1,540,464	1,630,464	1,630,464	1,630,464	1,630,464	1,665,464	1,665,464	1,665,464	1,665,464	1,665,464	1,665,464	1,665,464	1,665,464	1,665,464	1,665,464									
Jun-92	0	341,000	424,230	626,140	714,140	737,140	862,140	917,140	992,140	992,140	992,140	992,140	992,140	992,140	992,140	992,140	992,140	1,029,140	1,029,141	1,029,141	1,029,141	1,029,141										
Jun-93	23,000	132,000	274,400	394,900	478,900	640,200	683,079	683,079	776,079	776,079	776,079	776,079	776,079	776,079	776,079	776,079	776,079	794,079	794,079	794,079	794,079											
Jun-94	5,000	90,000	134,300	162,584	199,584	199,584	245,584	308,584	308,584	308,584	308,584	308,584	308,584	333,584	358,584	358,584	358,584	358,584	358,584	358,584												
Jun-95	12,000	47,000	92,000	234,024	302,424	318,924	358,924	358,924	408,924	433,924	433,924	433,924	433,924	433,924	476,424	476,424	476,424	476,424	476,424													
Jun-96	0	90,000	234,500	244,500	322,060	349,060	349,060	449,060	449,060	464,060	484,060	484,060	484,060	484,060	484,060	484,060	484,060	484,060														
Jun-97	0	76,500	200,500	415,500	415,500	415,500	415,500	430,500	430,500	430,500	514,500	514,500	514,500	514,500	514,500	514,500	514,500															
Jun-98	53,300	175,801	493,801	509,801	542,892	670,801	690,801	710,801	710,801	710,801	710,801	710,801	760,801	810,801	810,801	810,801																
Jun-99	48,000	100,250	215,250	345,250	345,250	352,709	390,250	420,250	420,250	420,250	420,250	420,250	420,250	420,250	420,250																	
Jun-00	20,500	276,000	401,500	483,500	548,700	576,200	638,200	664,200	679,200	679,200	679,200	679,200	679,200	679,200																		
Jun-01	45,000	266,500	436,500	569,000	636,500	714,000	726,500	746,500	796,500	796,500	796,500	796,500	796,500																			
Jun-02	0	75,000	143,000	205,100	258,050	290,050	434,771	469,771	489,906	508,906	508,906	508,906																				
Jun-03	20,000	50,000	157,000	299,500	437,000	437,000	437,000	437,000	437,000	497,000	497,000																					
Jun-04	0	28,000	82,000	188,000	320,000	535,000	535,000	581,000	581,000	581,000																						
Jun-05	0	50,787	202,500	374,000	481,000	506,000	545,000	635,000	635,000																							
Jun-06	0	18,000	279,750	450,250	482,750	502,750	502,750	502,750																								
Jun-07	10,000	68,500	134,750	185,751	280,751	280,751	280,751																									
Jun-08	17,730	187,730	210,230	244,730	284,730	284,730																										
Jun-09	35,000	120,000	244,500	269,500	269,500																											
Jun-10	0	30,000	36,000	146,000																												
Jun-11	8,500	37,030	65,030																													
Jun-12	0	5,500																														
Jun-13	0																															

Commonwealth of Massachusetts Workers Compensation
Department of Mental Health - Cluster 2
INDEMNITY
Lump Sum Development
Incremental Lump Sums as a % of Ultimate Losses Excluding Lump Sums

Acc Yr Ending	*0-12*	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*372-384*
All Prior Yrs	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.002	0.000	0.003	0.002	0.003	0.000	0.000	0.004	0.009	0.000	0.000	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Jun-83	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.008	0.009	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-84	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.017	0.000	0.028	0.016	0.004	0.020	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.061	0.000	0.000	0.000		
Jun-85	0.000	0.000	0.000	0.006	0.000	0.007	0.000	0.008	0.011	0.028	0.046	0.006	0.000	0.000	0.000	0.013	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
Jun-86	0.000	0.000	0.005	0.006	0.012	0.002	0.006	0.031	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.035	0.000	0.000	0.000	0.000				
Jun-87	0.000	0.000	0.003	0.003	0.002	0.010	0.044	0.015	0.018	0.000	0.005	0.004	0.005	0.016	0.012	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
Jun-88	0.000	0.002	0.002	0.003	0.021	0.025	0.021	0.010	0.008	0.002	0.005	0.008	0.020	0.000	0.002	0.000	0.003	0.002	0.004	0.000	0.000	0.013	0.000	0.000	0.000	0.000						
Jun-89	0.000	0.007	0.004	0.009	0.036	0.058	0.029	0.014	0.001	0.001	0.005	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000							
Jun-90	0.000	0.004	0.017	0.044	0.031	0.021	0.014	0.005	0.006	0.000	0.012	0.010	0.001	0.003	0.003	0.000	0.000	0.005	0.011	0.000	0.000	0.000	0.000	0.000								
Jun-91	0.000	0.003	0.091	0.052	0.025	0.019	0.014	0.001	0.000	0.010	0.013	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000									
Jun-92	0.000	0.093	0.023	0.055	0.024	0.006	0.034	0.015	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000										
Jun-93	0.007	0.035	0.046	0.039	0.027	0.052	0.014	0.000	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000											
Jun-94	0.002	0.036	0.019	0.012	0.016	0.000	0.020	0.027	0.000	0.000	0.000	0.000	0.000	0.011	0.011	0.000	0.000	0.000	0.000	0.000												
Jun-95	0.004	0.012	0.016	0.050	0.024	0.006	0.014	0.000	0.018	0.009	0.000	0.000	0.000	0.000	0.015	0.000	0.000	0.000	0.000													
Jun-96	0.000	0.053	0.086	0.006	0.046	0.016	0.000	0.059	0.000	0.009	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000														
Jun-97	0.000	0.061	0.099	0.172	0.000	0.000	0.000	0.012	0.000	0.000	0.067	0.000	0.000	0.000	0.000	0.000	0.000															
Jun-98	0.021	0.049	0.128	0.006	0.013	0.052	0.008	0.008	0.000	0.000	0.000	0.000	0.020	0.020	0.000	0.000																
Jun-99	0.032	0.035	0.077	0.087	0.000	0.005	0.025	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000																	
Jun-00	0.010	0.130	0.064	0.042	0.033	0.014	0.032	0.013	0.008	0.000	0.000	0.000	0.000	0.000																		
Jun-01	0.015	0.074	0.057	0.044	0.022	0.026	0.004	0.007	0.017	0.000	0.000	0.000	0.000																			
Jun-02	0.000	0.030	0.027	0.024	0.021	0.013	0.057	0.014	0.008	0.007	0.000	0.000																				
Jun-03	0.011	0.017	0.061	0.082	0.079	0.000	0.000	0.000	0.000	0.034	0.000																					
Jun-04	0.000	0.008	0.016	0.031	0.039	0.063	0.000	0.014	0.000	0.000																						
Jun-05	0.000	0.019	0.056	0.064	0.040	0.009	0.014	0.033	0.000																							
Jun-06	0.000	0.010	0.146	0.095	0.018	0.011	0.000	0.000																								
Jun-07	0.004	0.024	0.028	0.021	0.039	0.000	0.000																									
Jun-08	0.010	0.097	0.013	0.020	0.023	0.000																										
Jun-09	0.017	0.040	0.059	0.012	0.000																											
Jun-10	0.000	0.019	0.004	0.068																												
Jun-11	0.003	0.012	0.011																													
Jun-12	0.000	0.002																														
Jun-13	0.000																															

Averages		*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*372-384*
Simple Avg																																
All Yrs (ex P)	0.004	0.029	0.040	0.038	0.022	0.016	0.014	0.014	0.008	0.006	0.009	0.002	0.003	0.003	0.004	0.001	0.001	0.002	0.001	0.000	0.000	0.001	0.000	0.004	0.000	0.000	0.012	0.000	0.000	0.000	0.000	
Latest 5	0.004	0.034	0.023	0.043	0.024	0.017	0.003	0.012	0.005	0.008	0.000	0.000	0.004	0.004	0.003	0.000	0.000	0.003	0.000	0.000	0.000	0.003	0.000	0.007	0.000	0.000	0.012					
Latest 3	0.001	0.011	0.025	0.033	0.021	0.004	0.005	0.016	0.000	0.014	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
Olympic Avg																																
All Yrs (ex P)	0.004	0.027	0.037	0.034	0.021	0.015	0.013	0.012	0.007	0.005	0.006	0.002	0.003	0.002	0.003	0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
Latest 10	0.002	0.019	0.034	0.044	0.029	0.010	0.010	0.011	0.002	0.003	0.001	0.000	0.000	0.001	0.002	0.000	0.000	0.002	0.001	0.000	0.000	0.000										
Latest 5	0.001	0.024	0.017	0.036	0.027	0.007	0.000	0.009	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					

Dev Factor Selection																																
Prior	*0.003*	*0.027*	*0.048*	*0.040*	*0.031*	*0.016*	*0.013*	*0.011*	*0.005*	*0.000*	*0.007*	*0.002*	*0.000*	*0.002*	*0.004*	*0.000*	*0.000*	*0.004*	*0.002*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	
Selected	0.003	0.027	0.023	0.044	0.031	0.010	0.013	0.009	0.005	0.000	0.006	0.002	0.000	0.001	0.004	0.000	0.000	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FacToUlt	NA	0.180	0.153	0.130	0.086	0.055	0.046	0.033	0.024	0.019	0.019	0.012	0.011	0.011	0.009	0.006	0.006	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Commonwealth of Massachusetts Workers Compensation
Department of Mental Health - Cluster 2
INDEMNITY
Paid Loss Development
Paid Loss - Lump Sum only

Acc Yr Ending	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384
All Prior Yrs	0	0	0	0	0	0	0	0	0	20,000	66,500	101,500	101,500	175,000	225,000	294,180	294,180	294,180	391,180	589,180	589,180	589,180	589,180	615,680	640,680	665,680	665,680	665,680	665,680	665,680	665,680	665,680
Jun-83	0	0	0	0	0	0	0	15,000	15,000	35,000	59,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	
Jun-84	0	0	0	0	0	0	0	42,000	42,000	112,000	152,000	162,001	210,001	210,001	260,001	260,001	260,001	260,001	260,001	260,001	260,001	260,001	260,001	260,001	260,001	260,001	260,001	410,001	410,001	410,001	410,001	
Jun-85	0	0	0	25,000	25,000	53,000	53,000	84,500	129,500	246,083	436,083	461,083	461,083	461,083	461,083	515,583	551,083	551,083	551,083	551,083	551,083	551,083	551,083	551,083	551,083	551,083	551,083	551,083	551,083	551,083		
Jun-86	0	0	22,500	49,500	102,000	112,000	136,428	269,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	435,928	585,928	585,928	585,928	585,928				
Jun-87	0	0	14,910	30,910	43,410	103,410	358,685	443,685	549,891	549,891	577,391	602,391	632,391	722,391	792,391	792,391	792,391	832,391	832,391	832,391	832,391	832,391	832,391	832,391	832,391	832,391	832,391					
Jun-88	0	17,171	38,591	70,432	301,432	574,316	813,316	926,316	1,016,316	1,036,316	1,090,142	1,177,649	1,405,112	1,405,112	1,425,022	1,425,022	1,461,689	1,486,689	1,535,022	1,535,022	1,535,022	1,685,022	1,685,022	1,685,022	1,685,022	1,685,022	1,685,022						
Jun-89	0	79,840	123,840	231,840	649,331	1,317,831	1,652,331	1,817,331	1,823,831	1,840,331	1,898,142	1,898,142	1,898,142	1,950,642	1,950,642	1,950,642	1,950,642	1,950,642	1,971,192	1,975,642	1,975,642	1,975,642	1,975,642	1,975,642	1,975,642	1,975,642							
Jun-90	0	39,218	223,668	703,668	1,042,168	1,277,668	1,432,668	1,492,668	1,558,461	1,558,461	1,687,139	1,793,139	1,800,639	1,831,639	1,862,639	1,862,639	1,862,639	1,912,764	2,037,640	2,037,640	2,037,640	2,037,640	2,037,640	2,037,640									
Jun-91	0	23,609	675,109	1,045,464	1,227,464	1,362,464	1,459,464	1,465,464	1,465,464	1,540,464	1,630,464	1,630,464	1,630,464	1,630,464	1,665,464	1,665,464	1,665,464	1,665,464	1,665,464	1,665,464	1,665,464	1,665,464	1,665,464										
Jun-92	0	341,000	424,230	626,140	714,140	737,140	862,140	917,140	992,140	992,140	992,140	992,140	992,140	992,140	992,140	992,140	992,140	1,029,140	1,029,141	1,029,141	1,029,141	1,029,141										
Jun-93	23,000	132,000	274,400	394,900	478,900	640,200	683,079	683,079	776,079	776,079	776,079	776,079	776,079	776,079	776,079	776,079	776,079	794,079	794,079	794,079	794,079											
Jun-94	5,000	90,000	134,300	162,584	199,584	199,584	245,584	308,584	308,584	308,584	308,584	308,584	308,584	308,584	333,584	358,584	358,584	358,584	358,584	358,584												
Jun-95	12,000	47,000	92,000	234,024	302,424	318,924	358,924	358,924	408,924	433,924	433,924	433,924	433,924	433,924	476,424	476,424	476,424	476,424	476,424													
Jun-96	0	90,000	234,500	244,500	322,060	349,060	349,060	449,060	449,060	464,060	484,060	484,060	484,060	484,060	484,060	484,060	484,060	484,060														
Jun-97	0	76,500	200,500	415,500	415,500	415,500	415,500	430,500	430,500	430,500	514,500	514,500	514,500	514,500	514,500	514,500	514,500															
Jun-98	53,300	175,801	493,801	509,801	542,892	670,801	690,801	710,801	710,801	710,801	710,801	710,801	760,801	810,801	810,801	810,801																
Jun-99	48,000	100,250	215,250	345,250	345,250	352,709	390,250	420,250	420,250	420,250	420,250	420,250	420,250	420,250	420,250																	
Jun-00	20,500	276,000	401,500	483,500	548,700	576,200	638,200	664,200	679,200	679,200	679,200	679,200	679,200	679,200																		
Jun-01	45,000	266,500	436,500	569,000	636,500	714,000	726,500	746,500	796,500	796,500	796,500	796,500	796,500																			
Jun-02	0	75,000	143,000	205,100	258,050	290,050	434,771	469,771	489,906	508,906	508,906	508,906																				
Jun-03	20,000	50,000	157,000	299,500	437,000	437,000	437,000	437,000	437,000	497,000	497,000																					
Jun-04	0	28,000	82,000	188,000	320,000	535,000	535,000	581,000	581,000	581,000																						
Jun-05	0	50,787	202,500	374,000	481,000	506,000	545,000	635,000	635,000																							
Jun-06	0	18,000	279,750	450,250	482,750	502,750	502,750	502,750																								
Jun-07	10,000	68,500	134,750	185,751	280,751	280,751	280,751																									
Jun-08	17,730	187,730	210,230	244,730	284,730	284,730																										
Jun-09	35,000	120,000	244,500	269,500	269,500																											
Jun-10	0	30,000	36,000	146,000																												
Jun-11	8,500	37,030	65,030																													
Jun-12	0	5,500																														
Jun-13	0																															

Age-to-Age Factors

Acc Yr Ending	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	To Ult
All Prior Yrs										3.325	1.526	1.000	1.724	1.286	1.307	1.000	1.000	1.330	1.506	1.000	1.000	1.000	1.045	1.041	1.039	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-83								1.000	2.333	1.686	1.593	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
Jun-84								1.000	2.667	1.357	1.066	1.296	1.000	1.238	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.577	1.000	1.000	1.000			
Jun-85				1.000	2.120	1.000	1.594	1.533	1.900	1.772	1.057	1.000	1.000	1.000	1.118	1.069	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Jun-86			2.200	2.061	1.098	1.218	1.979	1.615	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
Jun-87			2.073	1.404	2.382	3.469	1.237	1.239	1.000	1.050	1.043	1.050	1.142	1.097	1.000	1.000	1.050	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
Jun-88		2.247	1.825	4.280	1.905	1.416	1.139	1.097	1.020	1.052	1.080	1.193	1.000	1.014	1.000	1.026	1.017	1.033	1.000	1.000	1.098	1.000	1.000	1.000	1.000							
Jun-89		1.551	1.872	2.801	2.030	1.254	1.100	1.004	1.009	1.031	1.000	1.000	1.028	1.000	1.000	1.000	1.000	1.011	1.002	1.000	1.000	1.000	1.000	1.000								
Jun-90		5.703	3.146	1.481	1.226	1.121	1.042	1.044	1.000	1.083	1.063	1.004	1.017	1.017	1.000	1.000	1.027	1.065	1.000	1.000	1.000	1.000	1.000									
Jun-91		28.595	1.549	1.174	1.110	1.071	1.004	1.000	1.051	1.058	1.000	1.000	1.000	1.021	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
Jun-92		1.244	1.476	1.141	1.032	1.170	1.064	1.082	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.037	1.000	1.000	1.000	1.000											
Jun-93	5.739	2.079	1.439	1.213	1.337	1.067	1.000	1.136	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.023	1.000	1.000	1.000												
Jun-94	18.000	1.492	1.211	1.228	1.000	1.230	1.257	1.000	1.000	1.000	1.000	1.000	1.081	1.075	1.000	1.000	1.000	1.000	1.000													
Jun-95	3.917	1.957	2.544	1.292	1.055	1.125	1.000	1.139	1.061	1.000	1.000	1.000	1.000	1.098	1.000	1.000	1.000	1.000														
Jun-96		2.606	1.043	1.317	1.084	1.000	1.286	1.000	1.033	1.043	1.000	1.000	1.000	1.000	1.000	1.000	1.000															
Jun-97		2.621	2.072	1.000	1.000	1.000	1.036	1.000	1.000	1.195	1.000	1.000	1.000	1.000	1.000	1.000																
Jun-98	3.298	2.809	1.032	1.065	1.236	1.030	1.029	1.000	1.000	1.000	1.000	1.070	1.066	1.000	1.000																	
Jun-99	2.089	2.147	1.604	1.000	1.022	1.106	1.077	1.000	1.000	1.000	1.000	1.000	1.000	1.000																		
Jun-00	13.463	1.455	1.204	1.135	1.050	1.108	1.041	1.023	1.000	1.000	1.000	1.000	1.000																			
Jun-01	5.922	1.638	1.304	1.119	1.122	1.018	1.028	1.067	1.000	1.000	1.000	1.000																				
Jun-02		1.907	1.434	1.258	1.124	1.499	1.081	1.043	1.039	1.000	1.000																					
Jun-03	2.500	3.140	1.908	1.459	1.000	1.000	1.000	1.000	1.137	1.000																						
Jun-04		2.929	2.293	1.702	1.672	1.000	1.086	1.000	1.000																							
Jun-05		3.987	1.847	1.286	1.052	1.077	1.165	1.000																								
Jun-06		15.542	1.609	1.072	1.041	1.000	1.000																									
Jun-07	6.850	1.967	1.378	1.511	1.000	1.000																										
Jun-08	10.588	1.120	1.164	1.163	1.000																											
Jun-09	3.429	2.038	1.102	1.000																												
Jun-10		1.200	4.056																													
Jun-11	4.357	1.756																														
Jun-12																																

Averages	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	To Ult
Simple Avg																																
All Yrs (ex P)	6.679	3.905	1.775	1.446	1.279	1.216	1.147	1.088	1.193	1.111	1.045	1.032	1.019	1.033	1.007	1.006	1.011	1.008	1.000	1.000	1.010	1.000	1.043	1.000	1.000	1.115	1.000	1.000	1.000	1.000		
Latest 5		1.616	1.862	1.207	1.153	1.015	1.066	1.022	1.035	1.000	1.000	1.014	1.013	1.020	1.000	1.000	1.012	1.000	1.000	1.000	1.020	1.000	1.069	1.000	1.000	1.115						
Latest 3		1.665	2.107	1.225	1.014	1.026	1.084	1.000	1.059	1.000	1.000	1.000	1.022	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
Volume Wtd																																
All Yrs (ex P)	8.138	2.298	1.548	1.281	1.208	1.136	1.084	1.054	1.030	1.050	1.020	1.025	1.018	1.020	1.004	1.006	1.014	1.016	1.000	1.000	1.014	1.000	1.019	1.000	1.000	1.065	1.000	1.000	1.000			
Latest 5		1.558	1.432	1.180	1.141	1.017	1.070	1.024	1.026	1.000	1.000	1.016	1.017	1.016	1.000	1.000	1.018	1.000	1.000	1.000	1.018	1.000	1.022	1.000	1.000	1.065						
Latest 3		1.847	1.345	1.193	1.019	1.030	1.086	1.000	1.052	1.000	1.000	1.000	1.027	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				

Dev Factor Selection																																
Prior	4.675	3.212	1.531	1.282	1.130	1.026	1.083	1.050	1.034	1.025	1.022	1.022	1.012	1.000	1.000	1.006	1.006	1.009	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.015	
Selected	4.675	3.212	1.548	1.180	1.141	1.026	1.080	1.050	1.034	1.025	1.022	1.021	1.012	1.000	1.000	1.006	1.006	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.015
FacToUlt	42.154	9.017	2.808	1.814	1.537	1.348	1.314	1.217	1.159	1.121	1.093	1.070	1.048	1.036	1.036	1.036	1.030	1.024	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015
Percent of Ult	2.4%	11.1%	35.6%	55.1%	65.1%	74.2%	76.1%	82.2%	86.3%	89.2%	91.5%	93.5%	95.4%	96.5%	96.5%	96.5%	97.1%	97.7%	98.5%	98.5%	98.5%	98.5%	98.5%	98.5%	98.5%	98.5%	98.5%	98.5%	98.5%	98.5%	98.5%	98.5%

Department of Mental Health - Cluster 2

Indemnity

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At: 4%	6%
384	100.0%	3.1%	0.0%	0.9%	0.5%	1.000	1.000
372	96.9%	1.0%	3.1%	0.3%	0.2%	0.981	0.971
360	95.9%	0.9%	4.1%	0.3%	0.2%	0.952	0.929
348	95.0%	0.9%	5.0%	0.3%	0.2%	0.927	0.895
336	94.0%	0.9%	6.0%	0.3%	0.2%	0.906	0.864
324	93.1%	0.9%	6.9%	0.3%	0.2%	0.886	0.836
312	92.2%	0.9%	7.8%	0.3%	0.2%	0.867	0.810
300	91.3%	0.9%	8.7%	0.3%	0.2%	0.849	0.786
288	90.4%	0.9%	9.6%	0.4%	0.2%	0.832	0.763
276	89.5%	0.9%	10.5%	0.4%	0.2%	0.815	0.741
264	88.6%	0.5%	11.4%	0.2%	0.1%	0.799	0.720
252	88.1%	0.8%	11.9%	0.4%	0.2%	0.777	0.691
240	87.3%	1.1%	12.7%	0.5%	0.4%	0.762	0.673
228	86.2%	0.8%	13.8%	0.4%	0.3%	0.753	0.662
216	85.4%	0.7%	14.6%	0.3%	0.2%	0.738	0.643
204	84.7%	0.1%	15.3%	0.0%	0.0%	0.721	0.623
192	84.6%	0.3%	15.4%	0.1%	0.1%	0.695	0.589
180	84.4%	1.2%	15.6%	0.7%	0.5%	0.674	0.563
168	83.2%	0.3%	16.8%	0.2%	0.2%	0.671	0.562
156	82.9%	0.3%	17.1%	0.2%	0.1%	0.651	0.539
144	82.6%	1.9%	17.4%	1.2%	1.0%	0.632	0.515
132	80.7%	2.1%	19.3%	1.4%	1.2%	0.645	0.535
120	78.5%	1.3%	21.5%	0.9%	0.8%	0.656	0.551
108	77.2%	1.6%	22.8%	1.2%	1.0%	0.651	0.546
96	75.5%	1.9%	24.5%	1.4%	1.3%	0.650	0.546
84	73.6%	2.7%	26.4%	2.1%	1.8%	0.651	0.548
72	70.9%	2.1%	29.1%	1.7%	1.5%	0.659	0.559
60	68.9%	5.4%	31.1%	4.5%	4.2%	0.656	0.557
48	63.5%	5.9%	36.5%	5.2%	4.8%	0.683	0.591
36	57.6%	11.0%	42.4%	9.9%	9.5%	0.702	0.616
24	46.6%	21.3%	53.4%	20.1%	19.5%	0.738	0.661
12	25.3%	25.3%	74.7%	24.8%	24.5%	0.787	0.723
Total		100.0%					

NOTES:

(2) = 1 / Section 3, Exhibit 1, Page 2, Column 4

(3) Incremental % based on (2)

(4) = 1 - (2)

(5) = [(3) / 1.04] ^ {[(1) - 6] / 12}

(6) = [(3) / 1.06] ^ {[(1) - 6] / 12}

(7), (8) Discount factor based on (5), (6)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Indemnity

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	3,638,851	5,017,016		3,182,485	4,387,807
6/30/82-83	14,122	146,220	0.981	13,847	143,380
6/30/83-84	143,799	287,328	0.952	136,859	273,460
6/30/84-85	152,429	569,429	0.927	141,376	528,140
6/30/85-86	248,909	260,909	0.906	225,462	236,332
6/30/86-87	124,587	248,587	0.886	110,353	220,187
6/30/87-88	1,133,476	1,371,641	0.867	982,584	1,189,044
6/30/88-89	1,287,294	1,532,353	0.849	1,092,784	1,300,815
6/30/89-90	974,312	1,543,312	0.832	810,293	1,283,506
6/30/90-91	233,369	388,369	0.815	190,204	316,535
6/30/91-92	127,921	212,921	0.799	102,204	170,116
6/30/92-93	370,581	376,581	0.777	287,809	292,469
6/30/93-94	295,379	299,379	0.762	225,062	228,110
6/30/94-95	390,450	515,450	0.753	293,897	387,986
6/30/95-96	38,649	77,649	0.738	28,508	57,275
6/30/96-97	202,463	208,463	0.721	146,045	150,373
6/30/97-98	393,891	402,891	0.695	273,667	279,920
6/30/98-99	244,340	250,340	0.674	164,563	168,604
6/30/99-00	351,298	352,298	0.671	235,606	236,277
6/30/00-01	536,849	550,849	0.651	349,736	358,856
6/30/01-02	468,796	472,796	0.632	296,149	298,676
6/30/02-03	371,276	381,276	0.645	239,439	245,888
6/30/03-04	768,103	795,103	0.656	503,653	521,357
6/30/04-05	572,172	692,172	0.651	372,572	450,710
6/30/05-06	513,803	636,803	0.650	333,888	413,818
6/30/06-07	718,845	733,845	0.651	467,941	477,706
6/30/07-08	599,922	851,922	0.659	395,052	560,995
6/30/08-09	785,556	935,556	0.656	515,550	613,993
6/30/09-10	857,230	993,230	0.683	585,216	678,060
6/30/10-11	1,149,346	1,390,346	0.702	806,475	975,581
6/30/11-12	1,464,870	1,737,870	0.738	1,080,348	1,281,687
6/30/12-13	2,355,133	2,548,133	0.787	1,852,453	2,004,259
Total	21,528,021	26,781,037		16,442,081	20,731,922
			(7) Total Discount Factor:	0.764	0.774

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	3,638,851	5,017,016
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	519,836	716,717
(11) Discounted Value at 4%:	3,182,485	4,387,807

NOTES:
(2), (3) From Section 3, Exhibit 1, Page 1, Columns 8, 9
(4) From Section 3, Exhibit 1, Page 13, Column 7
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Indemnity

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	3,638,851	5,017,016		2,988,980	4,121,015
6/30/82-83	14,122	146,220	0.971	13,716	142,021
6/30/83-84	143,799	287,328	0.929	133,623	266,995
6/30/84-85	152,429	569,429	0.895	136,349	509,362
6/30/85-86	248,909	260,909	0.864	215,046	225,413
6/30/86-87	124,587	248,587	0.836	104,171	207,851
6/30/87-88	1,133,476	1,371,641	0.810	918,464	1,111,451
6/30/88-89	1,287,294	1,532,353	0.786	1,011,883	1,204,513
6/30/89-90	974,312	1,543,312	0.763	743,496	1,177,700
6/30/90-91	233,369	388,369	0.741	172,987	287,882
6/30/91-92	127,921	212,921	0.720	92,154	153,388
6/30/92-93	370,581	376,581	0.691	256,135	260,282
6/30/93-94	295,379	299,379	0.673	198,720	201,411
6/30/94-95	390,450	515,450	0.662	258,453	341,194
6/30/95-96	38,649	77,649	0.643	24,858	49,942
6/30/96-97	202,463	208,463	0.623	126,138	129,876
6/30/97-98	393,891	402,891	0.589	232,133	237,437
6/30/98-99	244,340	250,340	0.563	137,614	140,993
6/30/99-00	351,298	352,298	0.562	197,366	197,928
6/30/00-01	536,849	550,849	0.539	289,184	296,725
6/30/01-02	468,796	472,796	0.515	241,493	243,553
6/30/02-03	371,276	381,276	0.535	198,530	203,877
6/30/03-04	768,103	795,103	0.551	422,892	437,758
6/30/04-05	572,172	692,172	0.546	312,448	377,977
6/30/05-06	513,803	636,803	0.546	280,380	347,501
6/30/06-07	718,845	733,845	0.548	394,160	402,385
6/30/07-08	599,922	851,922	0.559	335,352	476,217
6/30/08-09	785,556	935,556	0.557	437,461	520,993
6/30/09-10	857,230	993,230	0.591	506,825	587,234
6/30/10-11	1,149,346	1,390,346	0.616	707,426	855,762
6/30/11-12	1,464,870	1,737,870	0.661	968,093	1,148,512
6/30/12-13	2,355,133	2,548,133	0.723	1,701,986	1,841,461
Total	21,528,021	26,781,037		14,758,516	18,706,609
			(7) Total Discount Factor:	0.686	0.699

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	3,638,851	5,017,016
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	519,836	716,717
(11) Discounted Value at 6%:	2,988,980	4,121,015

NOTES:
(2), (3) From Section 3, Exhibit 1, Page 1, Columns 8, 9
(4) From Section 3, Exhibit 1, Page 13, Column 8
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Total Indemnity (Including Lump Sums) + Medical

Calculation of Fiscal Year 7/1/13 - 14 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Cumulative	Incremental Paid		Estimated Payments from		FY 7/1/13 - 6/30/14	
Accident	Est Ult Losses	Est Ult Losses	Paid Losses	Reserves	Reserves	Percent	as a % of	as a % of	7/1/13 - 6/30/14		as a % of Reserves	
Year	(Low)	(High)	to Date	(Low)	(High)	Paid	Ultimates	Reserves	(Low)	(High)	(Low)	(High)
All Prior Yrs	23,843,056	25,241,854	20,194,958	3,648,097	5,046,895				340,343	374,377	9.3%	7.4%
6/30/82-83	2,715,527	2,849,022	2,699,624	15,904	149,398	97.0%	1.0%	33.7%	5,354	50,292	33.7%	33.7%
6/30/83-84	3,011,183	3,156,836	2,864,047	147,137	292,789	92.9%	1.0%	14.0%	20,629	41,051	14.0%	14.0%
6/30/84-85	4,775,000	5,193,000	4,613,624	161,376	579,376	92.6%	1.0%	13.5%	21,716	77,964	13.5%	13.5%
6/30/85-86	5,146,000	5,159,000	4,891,866	254,134	267,134	94.9%	1.0%	19.8%	50,240	52,810	19.8%	19.8%
6/30/86-87	7,054,000	7,178,000	6,911,248	142,752	266,752	97.1%	1.0%	34.8%	49,612	92,708	34.8%	34.8%
6/30/87-88	14,365,835	14,611,000	13,190,451	1,175,384	1,420,549	91.0%	1.0%	11.2%	131,201	158,567	11.2%	11.2%
6/30/88-89	15,458,941	15,704,000	14,107,510	1,351,430	1,596,490	90.5%	1.0%	10.6%	142,862	168,768	10.6%	10.6%
6/30/89-90	14,421,000	15,009,000	13,407,766	1,013,234	1,601,234	91.1%	1.0%	11.3%	114,056	180,244	11.3%	11.3%
6/30/90-91	9,816,000	9,971,000	9,517,613	298,387	453,387	96.2%	1.0%	26.3%	78,537	119,333	26.3%	26.3%
6/30/91-92	5,674,000	5,771,000	5,520,540	153,460	250,460	96.5%	1.0%	28.3%	43,483	70,967	28.3%	28.3%
6/30/92-93	5,016,000	5,023,000	4,598,540	417,460	424,460	91.6%	2.0%	23.8%	99,555	101,225	23.8%	23.8%
6/30/93-94	3,369,000	3,373,000	3,041,833	327,167	331,167	90.2%	2.0%	20.5%	67,010	67,830	20.5%	20.5%
6/30/94-95	4,090,000	4,215,000	3,654,497	435,503	560,503	88.0%	2.0%	16.7%	72,627	93,473	16.7%	16.7%
6/30/95-96	2,808,000	2,848,000	2,722,573	85,427	125,427	96.3%	2.0%	53.6%	45,830	67,290	53.6%	53.6%
6/30/96-97	2,332,000	2,338,000	2,096,483	235,517	241,517	89.8%	3.0%	29.4%	69,169	70,931	29.4%	29.4%
6/30/97-98	3,849,000	3,858,000	3,418,294	430,706	439,706	88.7%	3.0%	26.6%	114,410	116,800	26.6%	26.6%
6/30/98-99	2,627,000	2,633,000	2,329,661	297,339	303,339	88.6%	3.0%	26.3%	78,112	79,688	26.3%	26.3%
6/30/99-00	3,320,000	3,322,000	2,912,093	407,907	409,907	87.7%	3.0%	24.4%	99,386	99,874	24.4%	24.4%
6/30/00-01	4,575,700	4,673,000	4,042,597	533,103	630,403	87.4%	3.0%	23.8%	127,129	150,332	23.8%	23.8%
6/30/01-02	3,764,000	3,769,000	3,222,468	541,532	546,532	85.6%	1.9%	12.9%	69,876	70,521	12.9%	12.9%
6/30/02-03	3,048,000	3,059,000	2,587,438	460,562	471,562	84.7%	0.8%	5.4%	24,720	25,311	5.4%	5.4%
6/30/03-04	5,433,000	5,468,000	4,489,580	943,420	978,420	82.4%	2.4%	13.4%	126,650	131,348	13.4%	13.4%
6/30/04-05	4,296,000	4,438,000	3,603,244	692,756	834,756	82.5%	2.0%	11.4%	79,221	95,459	11.4%	11.4%
6/30/05-06	3,301,000	3,427,000	2,637,370	663,630	789,630	78.4%	4.1%	19.0%	126,301	150,281	19.0%	19.0%
6/30/06-07	3,611,000	3,654,000	2,719,958	891,042	934,042	74.9%	3.5%	14.0%	124,902	130,929	14.0%	14.0%
6/30/07-08	2,997,000	3,290,000	2,187,069	809,931	1,102,931	69.6%	5.3%	17.4%	141,195	192,273	17.4%	17.4%
6/30/08-09	3,388,000	3,576,000	2,359,316	1,028,684	1,216,684	67.8%	1.8%	5.6%	57,965	68,558	5.6%	5.6%
6/30/09-10	2,720,000	2,939,000	1,646,115	1,073,885	1,292,885	58.2%	9.6%	22.9%	245,999	296,167	22.9%	22.9%
6/30/10-11	3,617,000	3,924,000	2,127,074	1,489,926	1,796,926	56.4%	1.8%	4.0%	60,276	72,696	4.0%	4.0%
6/30/11-12	3,509,000	3,833,000	1,655,778	1,853,222	2,177,222	45.1%	11.3%	20.6%	381,790	448,538	20.6%	20.6%
6/30/12-13	3,935,000	4,202,000	885,068	3,049,932	3,316,932	21.8%	23.4%	29.8%	910,161	989,839	29.8%	29.8%
Total	181,886,242	187,705,711	156,856,296	25,029,946	30,849,415				4,120,316	4,906,446	16.5%	15.9%

NOTES:

(2) Exhibit 1, Page 1, Column (4) + Exhibit 2, Page 1, Column (4)
(3) Exhibit 1, Page 1, Column (5) + Exhibit 2, Page 1, Column (5)
(4) Exhibit 1, Page 1, Column (2) + Exhibit 2, Page 1, Column (2)
(5) = (2) - (4)
(6) = (3) - (4)
(7) = (4) / Average of Columns (2), (3)
(8) = (7) - Prior Year's (7)
(9) = (8) / (1.00 - (7))
(10) = (5) * (9)
(11) = (6) * (9)
(12) = (10) / (5)
(13) = (11) / (6)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Medical

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Paid Loss	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		812,712			821,958	842,591	9,246	29,879		
6/30/82-83		137,833	139,615		139,615	141,011	1,782	3,178		
6/30/83-84		209,040	212,378		212,378	214,502	3,338	5,462		
6/30/84-85	142,561	492,053	501,409	501,630	501,000	502,000	8,947	9,947	0.351	0.352
6/30/85-86	153,298	257,775	263,465	263,502	263,000	264,000	5,225	6,225	0.172	0.172
6/30/86-87	176,136	702,835	720,503	720,846	721,000	721,000	18,165	18,165	0.409	0.409
6/30/87-88	206,319	1,733,092	1,781,989	1,774,816	1,775,000	1,782,000	41,908	48,908	0.860	0.864
6/30/88-89	222,806	2,047,864	2,111,958	2,111,965	2,112,000	2,112,000	64,136	64,136	0.948	0.948
6/30/89-90	223,751	1,938,078	2,004,733	2,005,256	1,977,000	1,996,000	38,922	57,922	0.884	0.892
6/30/90-91	210,162	1,741,982	1,807,298	1,806,894	1,807,000	1,807,000	65,018	65,018	0.860	0.860
6/30/91-92	205,241	1,260,461	1,311,645	1,311,156	1,286,000	1,298,000	25,539	37,539	0.627	0.632
6/30/92-93	176,705	1,059,121	1,106,538	1,105,884	1,106,000	1,107,000	46,879	47,879	0.626	0.626
6/30/93-94	173,075	645,213	677,470	677,322	677,000	677,000	31,787	31,787	0.391	0.391
6/30/94-95	178,317	836,947	882,305	881,661	882,000	882,000	45,053	45,053	0.495	0.495
6/30/95-96	175,996	798,222	845,688	844,998	845,000	846,000	46,778	47,778	0.480	0.481
6/30/96-97	190,083	524,946	557,830	558,475	558,000	558,000	33,054	33,054	0.294	0.294
6/30/97-98	177,278	506,185	542,772	543,495	543,000	543,000	36,815	36,815	0.306	0.306
6/30/98-99	189,080	655,001	708,123	708,290	708,000	708,000	52,999	52,999	0.374	0.374
6/30/99-00	194,494	598,391	654,998	655,950	655,000	656,000	56,609	57,609	0.337	0.337
6/30/00-01	201,568	753,446	832,593	832,507	749,700	833,000	-3,746	79,554	0.372	0.413
6/30/01-02	203,105	616,264	688,662	690,345	689,000	690,000	72,736	73,736	0.339	0.340
6/30/02-03	202,515	685,713	774,743	775,967	775,000	776,000	89,287	90,287	0.383	0.383
6/30/03-04	189,588	1,246,683	1,429,577	1,422,272	1,422,000	1,430,000	175,317	183,317	0.750	0.754
6/30/04-05	186,990	884,416	1,027,247	1,005,184	1,005,000	1,027,000	120,584	142,584	0.537	0.549
6/30/05-06	193,254	780,173	933,086	930,006	930,000	933,000	149,827	152,827	0.481	0.483
6/30/06-07	203,359	666,803	838,547	866,807	839,000	867,000	172,197	200,197	0.413	0.426
6/30/07-08	212,083	656,991	867,182	907,542	867,000	908,000	210,009	251,009	0.409	0.428
6/30/08-09	204,679	639,872	883,487	920,570	883,000	921,000	243,128	281,128	0.431	0.450
6/30/09-10	184,688	474,345	691,028	774,445	691,000	774,000	216,655	299,655	0.374	0.419
6/30/10-11	169,689	657,420	1,063,672	998,304	998,000	1,064,000	340,580	406,580	0.588	0.627
6/30/11-12	177,399	448,648	837,310	888,258	837,000	888,000	388,352	439,352	0.472	0.501
6/30/12-13	189,252	232,201	927,494	1,000,965	927,000	1,001,000	694,799	768,799	0.490	0.529
Total	5,513,472	25,700,726	28,625,346	28,485,315	29,202,651	29,769,104	3,501,925	4,068,378		
Tot 6/30/84-13	5,513,472	24,541,141	28,273,353	28,485,315	28,028,700	28,571,000	3,487,559	4,029,859	0.508	0.518

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 3, Exhibit 2, Page 2, Column 3

(4) From Section 3, Exhibit 2, Page 2, Column 8

(5) From Section 3, Exhibit 2, Page 3, Column 8

(6), (7) Selected based on (3), (4), and (5)

(8) = (6) - (3)

(9) = (7) - (3)

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Medical

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Accident Year	Payroll (000's)	Paid Loss	Paid LDF	Adjustment for Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/11-12	Paid Counts 7/1/12-13	Average Outstanding Claim
All Prior Yrs		812,712							0	0	
6/30/82-83		137,833	1.013	1.000	139,615	N/A	139,615		1	1	1,782
6/30/83-84		209,040	1.016	1.000	212,378	N/A	212,378		0	0	
6/30/84-85	142,561	492,053	1.019	1.000	501,409	N/A	501,409	0.352	1	1	9,356
6/30/85-86	153,298	257,775	1.022	1.000	263,465	N/A	263,465	0.172	0	0	
6/30/86-87	176,136	702,835	1.025	1.000	720,503	N/A	720,503	0.409	0	0	
6/30/87-88	206,319	1,733,092	1.028	1.000	1,781,989	N/A	1,781,989	0.864	3	2	24,448
6/30/88-89	222,806	2,047,864	1.031	1.000	2,111,958	N/A	2,111,958	0.948	3	2	32,047
6/30/89-90	223,751	1,938,078	1.034	1.000	2,004,733	N/A	2,004,733	0.896	0	0	
6/30/90-91	210,162	1,741,982	1.037	1.000	1,807,298	N/A	1,807,298	0.860	2	1	65,316
6/30/91-92	205,241	1,260,461	1.041	1.000	1,311,645	N/A	1,311,645	0.639	1	1	51,185
6/30/92-93	176,705	1,059,121	1.045	1.000	1,106,538	N/A	1,106,538	0.626	5	3	15,806
6/30/93-94	173,075	645,213	1.050	1.000	677,470	N/A	677,470	0.391	3	1	32,257
6/30/94-95	178,317	836,947	1.054	1.000	882,305	N/A	882,305	0.495	2	2	22,679
6/30/95-96	175,996	798,222	1.059	1.000	845,688	N/A	845,688	0.481	1	1	47,466
6/30/96-97	190,083	524,946	1.063	1.000	557,830	N/A	557,830	0.293	3	3	10,961
6/30/97-98	177,278	506,185	1.072	1.000	542,772	N/A	542,772	0.306	1	1	36,587
6/30/98-99	189,080	655,001	1.081	1.000	708,123	N/A	708,123	0.375	2	1	53,123
6/30/99-00	194,494	598,391	1.095	1.000	654,998	N/A	654,998	0.337	2	2	28,303
6/30/00-01	201,568	753,446	1.105	1.000	832,593	N/A	832,593	0.413	2	2	39,573
6/30/01-02	203,105	616,264	1.117	1.000	688,662	N/A	688,662	0.339	2	3	24,133
6/30/02-03	202,515	685,713	1.130	1.000	774,743	N/A	774,743	0.383	4	3	29,677
6/30/03-04	189,588	1,246,683	1.147	1.000	1,429,577	N/A	1,429,577	0.754	6	4	45,723
6/30/04-05	186,990	884,416	1.161	1.000	1,027,247	N/A	1,027,247	0.549	8	7	20,404
6/30/05-06	193,254	780,173	1.196	1.000	933,086	N/A	933,086	0.483	4	2	76,456
6/30/06-07	203,359	666,803	1.258	1.000	838,547	N/A	838,547	0.412	3	3	57,248
6/30/07-08	212,083	656,991	1.320	1.000	867,182	N/A	867,182	0.409	4	6	35,032
6/30/08-09	204,679	639,872	1.381	1.000	883,487	N/A	883,487	0.432	6	5	48,723
6/30/09-10	184,688	474,345	1.457	1.000	691,028	N/A	691,028	0.374	17	10	21,668
6/30/10-11	169,689	657,420	1.618	1.000	1,063,672	N/A	1,063,672	0.627	102	15	27,083
6/30/11-12	177,399	448,648	1.866	1.000	837,310	N/A	837,310	0.472	196	117	3,322
6/30/12-13	189,252	232,201	3.994	1.000	927,494	N/A	927,494	0.490		198	3,512
Total	5,513,472	25,700,726			28,625,346		28,625,346		384	397	

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3), (4) From Section 3, Exhibit 2, Page 7

(5) Based on information from the MA WCRIB 9/1/12 filing. Consideration for development beyond 252 months made in selection of LDF's.

(6) = (3) x (4) x (5)

(7) Lump Sum Payments are considered in the Indemnity analysis (Section 1)

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10), (11) Provided by Commonwealth of Massachusetts

(12) = Maximum of [{(6) - (3)} / (11)] and 0

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Medical

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident Year	Payroll (000's)	A Priori Loss Rate	Paid Loss	Paid LDF	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Ultimate Loss Cost Excluding Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	142,561	0.360	492,053	1.019	501,630	N/A	501,630	0.352	0.352
6/30/85-86	153,298	0.173	257,775	1.022	263,502	N/A	263,502	0.172	0.172
6/30/86-87	176,136	0.417	702,835	1.025	720,846	N/A	720,846	0.409	0.409
6/30/87-88	206,319	0.737	1,733,092	1.028	1,774,816	N/A	1,774,816	0.860	0.860
6/30/88-89	222,806	0.948	2,047,864	1.031	2,111,965	N/A	2,111,965	0.948	0.948
6/30/89-90	223,751	0.903	1,938,078	1.034	2,005,256	N/A	2,005,256	0.896	0.896
6/30/90-91	210,162	0.855	1,741,982	1.037	1,806,894	N/A	1,806,894	0.860	0.860
6/30/91-92	205,241	0.633	1,260,461	1.041	1,311,156	N/A	1,311,156	0.639	0.639
6/30/92-93	176,705	0.618	1,059,121	1.045	1,105,884	N/A	1,105,884	0.626	0.626
6/30/93-94	173,075	0.390	645,213	1.050	677,322	N/A	677,322	0.391	0.391
6/30/94-95	178,317	0.488	836,947	1.054	881,661	N/A	881,661	0.494	0.494
6/30/95-96	175,996	0.474	798,222	1.059	844,998	N/A	844,998	0.480	0.480
6/30/96-97	190,083	0.299	524,946	1.063	558,475	N/A	558,475	0.294	0.294
6/30/97-98	177,278	0.312	506,185	1.072	543,495	N/A	543,495	0.307	0.307
6/30/98-99	189,080	0.376	655,001	1.081	708,290	N/A	708,290	0.375	0.375
6/30/99-00	194,494	0.342	598,391	1.095	655,950	N/A	655,950	0.337	0.337
6/30/00-01	201,568	0.413	753,446	1.105	832,507	N/A	832,507	0.413	0.413
6/30/01-02	203,105	0.347	616,264	1.117	690,345	N/A	690,345	0.340	0.340
6/30/02-03	202,515	0.388	685,713	1.130	775,967	N/A	775,967	0.383	0.383
6/30/03-04	189,588	0.724	1,246,683	1.147	1,422,272	N/A	1,422,272	0.750	0.750
6/30/04-05	186,990	0.465	884,416	1.161	1,005,184	N/A	1,005,184	0.538	0.538
6/30/05-06	193,254	0.473	780,173	1.196	930,006	N/A	930,006	0.481	0.481
6/30/06-07	203,359	0.480	666,803	1.258	866,807	N/A	866,807	0.426	0.426
6/30/07-08	212,083	0.487	656,991	1.320	907,542	N/A	907,542	0.428	0.428
6/30/08-09	204,679	0.497	639,872	1.381	920,570	N/A	920,570	0.450	0.450
6/30/09-10	184,688	0.518	474,345	1.457	774,445	N/A	774,445	0.419	0.419
6/30/10-11	169,689	0.526	657,420	1.618	998,304	N/A	998,304	0.588	0.588
6/30/11-12	177,399	0.534	448,648	1.866	888,258	N/A	888,258	0.501	0.501
6/30/12-13	189,252	0.542	232,201	3.994	1,000,965	N/A	1,000,965	0.529	0.529
Total	5,513,472		24,541,141		28,485,315		28,485,315		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 3, Exhibit 2, Page 4, Column 11

(4) From Section 3, Exhibit 2, Page 2, Column 3

(5) From Section 3, Exhibit 2, Page 2, Column 4

(6) = (4) + [{1 - {1 / (5)}} x (3) x (2) x 10]

(7) Lump Sum Payments are considered in the Indemnity analysis (Section 1)

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10) = (6) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Medical

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Expected Ult Loss	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									0.360	0.360
6/30/85-86									0.173	0.173
6/30/86-87									0.417	0.417
6/30/87-88									0.737	0.737
6/30/88-89									0.948	0.948
6/30/89-90									0.903	0.903
6/30/90-91	210,162	1,807,298	0.860	1.194	1.027	1.408	1.446	0.327	0.855	0.855
6/30/91-92	205,241	1,311,645	0.639	1.189	0.760	1.388	1.054	0.333	0.633	0.633
6/30/92-93	176,705	1,106,538	0.626	1.189	0.745	1.367	1.018	0.338	0.612	0.618
6/30/93-94	173,075	677,470	0.391	1.178	0.461	1.347	0.621	0.347	0.390	0.390
6/30/94-95	178,317	882,305	0.495	1.170	0.579	1.327	0.768	0.354	0.486	0.488
6/30/95-96	175,996	845,688	0.481	1.155	0.555	1.307	0.726	0.364	0.474	0.474
6/30/96-97	190,083	557,830	0.293	1.137	0.334	1.288	0.430	0.376	0.300	0.299
6/30/97-98	177,278	542,772	0.306	1.135	0.348	1.269	0.441	0.382	0.315	0.312
6/30/98-99	189,080	708,123	0.375	1.135	0.425	1.250	0.531	0.388	0.370	0.376
6/30/99-00	194,494	654,998	0.337	1.135	0.382	1.232	0.471	0.393	0.343	0.342
6/30/00-01	201,568	832,593	0.413	1.109	0.458	1.214	0.556	0.409	0.409	0.413
6/30/01-02	203,105	688,662	0.339	1.101	0.373	1.196	0.446	0.418	0.349	0.347
6/30/02-03	202,515	774,743	0.383	1.073	0.410	1.178	0.484	0.435	0.385	0.388
6/30/03-04	189,588	1,429,577	0.754	1.046	0.789	1.161	0.916	0.453	0.719	0.724
6/30/04-05	186,990	1,027,247	0.549	1.036	0.569	1.143	0.650	0.465	0.471	0.465
6/30/05-06	193,254	933,086	0.483	1.032	0.498	1.126	0.561	0.473	0.480	0.473
6/30/06-07	203,359	838,547	0.412	1.032	0.426	1.110	0.472	0.480	0.487	0.480
6/30/07-08	212,083	867,182	0.409	1.032	0.422	1.093	0.461	0.487	0.495	0.487
6/30/08-09	204,679	883,487	0.432	1.027	0.443	1.077	0.477	0.497	0.505	0.497
6/30/09-10	184,688	691,028	0.374	1.000	0.374	1.061	0.397	0.518	0.526	0.518
6/30/10-11	169,689	1,063,672	0.627	1.000	0.627	1.046	0.655	0.526	0.534	0.526
6/30/11-12	177,399	837,310	0.472	1.000	0.472	1.030	0.486	0.534	0.542	0.534
6/30/12-13	189,252	927,494	0.490	1.000	0.490	1.015	0.497	0.542		0.542
Total	4,388,602	20,889,296								

Trend Last 4 (ex 12-13):	7.3%	Avg 3 (x12-13):	0.513
Trend Last 8 (ex 12-13):	-0.6%	Avg 5 (x12-13):	0.496
Trend Last 12 (ex 12-13):	0.1%	Avg 10 (x12-13):	0.556
Prior Selected Trend:	1.5%	Prior Sel Avg:	0.550
Selected Trend:	1.5%	Sel. Loss Cost:	0.550

NOTES:
(2) Provided by Commonwealth of Massachusetts
(3) From Section 3, Exhibit 2, Page 2, Column 6
(4) = (3) / (2) / 10
(5) Based on information from the MA WCIRB
(6) = (4) x (5)
(7) Based on Selected Trend from (6)
(8) = (6) x (7)
(9) = Sel. Loss Cost / [(5) * (7)]
(10) From Aon analysis as of June 30, 2012
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Medical

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend		0.950	
(2)	Credibility		33%	
(3)	Average Pmt Trend Statewide		0.950	
(4)	Credibility Weighted Trend		0.950	
		(Low)		(High)
(5)	Selected Range	0.941		0.960
(6)	Incremental Paid for 2013	0		0
(7)	Estimated Reserve	0		0
(8)	Paid to Date (82 & Prior)	812,712		812,712
(9)	Est Ult Paid for 1982 & Prior	812,712		812,712

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	2,642	8,537
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	18,493	59,759
(13)	Paid to Date (82 & Prior)	812,712	812,712
(14)	Est Ult Paid for 1982 & Prior	831,205	872,471
(14a)	Paid Counts During Fiscal Year	0	0
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	821,958	842,591
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	**821,958**	**842,591**
(18)	Implied Tail	1.011	1.037
(19)	Ult Loss Inc Lump Sums @ 6/12	842,591	861,027

NOTES:

(1) From Section 3, Exhibit 2, Page 6
(2) = (Average of Section 3, Exhibit 2, Page 6, Column 3 / 175,000) ^ 0.5
(3) Average Statewide Trend
(4) = (1) x (2) + (4) x {1 - (2)}
(5) Selected judgmentally based on (4)
(6), (14a) Provided by Commonwealth of Massachusetts
(7) = (6) x (5) / {1 - (5)}
(8), (16) From Section 3, Exhibit 2, Page 2, Column 3
(9) = (7) + (8)
(10) Avg of 3 latest years from Section 3, Exhibit 2, Page 6, Column 3
(11) Selected judgmentally
(12) = (10 x (11)
(14) = (12) + (13)
(15) = Average of (9) and (14)
(16) Lump Sums are considered in Indemnity analysis (Section 1)
(17) = (15) + (16)
(18) = (15) / (8)
(19) From Prior Aon Analysis as of June 30, 2012

Department of Mental Health - Cluster 2
Medical

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paids	LN	Average Observed Trend		Trend Calculations
1992	1	51,889	10.857			
1993	2	26,449	10.183	0.510		
1994	3	19,386	9.872	0.733		
1995	4	14,214	9.562	0.733		
1996	5	30,374	10.321	2.137		
1997	6	29,871	10.305	0.983		
1998	7	19,565	9.881	0.655		
1999	8	34,912	10.461	1.784		
2000	9	33,563	10.421	0.961	n =	20
2001	10	21,898	9.994	0.652	S(x) =	40,030
2002	11	10,530	9.262	0.481	S(x-sq) =	80,120,710
2003	12	13,888	9.539	1.319	S(xy) =	395,070
2004	13	14,770	9.600	1.064	S(y) =	197
2005	14	16,486	9.710	1.116	D =	13,300
2006	15	16,533	9.713	1.003	slope =	-0.050
2007	16	15,051	9.619	0.910	Avg Trend =	0.950
2008	17	15,931	9.676	1.058		
2009	18	15,802	9.668	0.992		
2010	19	17,686	9.781	1.119		
2011	20	7,925	8.978	0.448		
2012	21	0				
2013	22	0				
					Selected Trend:	**0.950**

NOTES:

(3) 2013 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2012

(4) LN [(3)]

(5) Eg. 2011: 0.448 = 7925 / 17686

Commonwealth of Massachusetts Workers Compensation
Department of Mental Health - Cluster 2
MEDICAL
Paid Loss Development
Paid Loss (Excluding Lump Sum)

Acc Yr Ending	*12*	*24*	*36*	*48*	*60*	*72*	*84*	*96*	*108*	*120*	*132*	*144*	*156*	*168*	*180*	*192*	*204*	*216*	*228*	*240*	*252*	*264*	*276*	*288*	*300*	*312*	*324*	*336*	*348*	*360*	*372*
June-83	6,910	16,771	25,010	31,963	39,548	47,447	55,206	65,979	79,676	97,881	109,437	118,040	122,472	123,657	124,261	124,960	125,364	127,246	128,435	128,594	128,869	130,242	130,978	131,631	133,115	134,239	135,539	136,526	137,668	137,734	137,833
June-84	15,115	36,685	54,706	69,914	86,505	104,208	114,043	135,514	154,763	169,780	196,611	201,984	204,351	205,488	205,929	206,289	207,062	207,303	207,590	207,590	207,590	207,590	207,590	207,590	207,590	209,040	209,040	209,040	209,040	209,040	
June-85	45,034	109,301	162,993	208,305	264,045	295,679	375,978	436,398	457,324	469,156	478,993	481,392	482,690	484,957	486,098	486,337	486,602	486,918	487,378	488,092	488,848	489,022	489,458	490,407	490,672	490,804	491,592	491,855	492,053		
June-86	31,328	76,036	113,387	149,251	177,640	201,245	224,645	234,675	242,982	244,710	248,077	248,146	248,146	248,464	249,109	249,459	249,459	249,734	249,759	250,509	253,317	253,317	253,317	257,775	257,775	257,775	257,775	257,775			
June-87	76,748	186,273	283,696	389,472	457,883	509,794	575,159	621,158	638,516	650,997	655,971	660,694	667,637	681,728	687,346	690,455	693,082	696,366	698,158	699,573	700,478	701,229	701,978	702,712	702,835	702,835	702,835				
June-88	178,894	502,531	738,028	895,402	1,063,080	1,183,773	1,248,121	1,279,736	1,298,796	1,310,333	1,339,541	1,367,561	1,385,075	1,399,869	1,424,718	1,427,592	1,445,010	1,498,101	1,524,412	1,550,835	1,609,155	1,632,873	1,663,246	1,690,901	1,720,638	1,733,092					
June-89	179,890	786,968	1,088,315	1,330,240	1,584,004	1,681,826	1,741,013	1,807,955	1,845,172	1,876,501	1,906,158	1,945,202	1,962,565	1,969,371	1,973,430	1,978,126	1,981,710	1,986,429	2,002,120	2,035,745	2,040,920	2,043,319	2,045,069	2,046,563	2,047,864						
June-90	298,701	961,341	1,346,536	1,509,954	1,639,655	1,697,547	1,735,975	1,749,267	1,768,436	1,790,051	1,817,206	1,838,401	1,863,987	1,878,469	1,905,280	1,915,675	1,921,866	1,934,997	1,937,028	1,938,078	1,938,078	1,938,078	1,938,078	1,938,078							
June-91	336,650	1,034,501	1,248,801	1,338,322	1,397,546	1,497,111	1,506,640	1,518,859	1,530,350	1,582,638	1,604,133	1,610,563	1,618,558	1,622,507	1,624,821	1,627,667	1,633,766	1,732,296	1,736,277	1,737,397	1,738,820	1,740,878	1,741,982								
June-92	391,215	804,359	985,930	1,100,607	1,131,087	1,152,839	1,156,897	1,204,770	1,207,427	1,217,326	1,239,794	1,242,292	1,245,829	1,245,829	1,247,305	1,249,031	1,251,673	1,256,737	1,256,737	1,257,214	1,258,829	1,260,461									
June-93	258,020	628,980	745,922	854,118	902,554	912,950	924,291	930,378	935,510	938,871	941,935	946,379	956,312	969,261	977,539	988,688	1,003,269	1,015,451	1,027,786	1,045,649	1,059,121										
June-94	182,635	373,628	418,730	436,391	447,015	469,585	491,352	516,384	534,463	550,753	585,007	594,302	601,406	609,303	615,358	624,226	630,803	638,628	643,805	645,213											
June-95	212,717	409,284	509,019	570,032	608,100	631,875	651,359	673,340	687,056	708,855	725,773	748,542	771,912	790,063	800,522	812,267	823,958	831,209	836,947												
June-96	161,311	580,474	655,522	690,974	709,369	717,233	722,565	739,256	747,885	753,899	765,449	771,693	782,222	790,224	794,884	796,128	797,390	798,222													
June-97	135,202	301,857	352,150	378,182	408,711	433,559	446,704	473,023	486,546	493,154	499,117	502,144	505,108	509,796	517,517	522,815	524,946														
June-98	160,545	332,451	383,627	422,681	445,088	461,616	487,824	498,965	499,061	499,770	500,001	503,898	505,757	505,921	506,053	506,185															
June-99	177,752	299,718	340,747	360,722	405,072	439,482	477,272	520,347	561,026	584,273	585,114	588,553	606,906	637,239	655,001																
June-00	185,350	429,256	483,565	521,929	539,722	558,001	575,939	582,579	584,965	587,880	590,258	592,928	595,238	598,391																	
June-01	241,669	433,098	500,398	575,365	598,840	628,934	693,180	725,143	730,102	735,829	737,792	740,203	753,446																		
June-02	174,410	368,134	462,671	501,999	514,827	521,795	525,972	571,546	580,032	584,275	614,358	616,264																			
June-03	106,077	382,205	468,554	496,191	560,019	574,291	585,592	637,875	657,335	673,709	685,713																				
June-04	258,429	665,381	856,411	1,022,737	1,071,500	1,113,490	1,161,995	1,192,531	1,222,893	1,246,683																					
June-05	223,896	627,798	728,574	772,233	797,587	811,216	848,381	866,048	884,416																						
June-06	251,300	520,856	684,007	715,286	737,612	754,221	768,311	780,173																							
June-07	266,977	578,217	638,599	652,141	659,793	664,093	666,803																								
June-08	278,965	550,541	604,168	629,658	649,695	656,991																									
June-09	302,300	569,565	595,188	605,449	639,872																										
June-10	216,046	447,208	465,324	474,345																											
June-11	336,085	580,670	657,420																												
June-12	227,796	448,648																													
June-13	232,201																														

Age-to-Age Factors

Acc Yr Ending	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*
June-83	2.427	1.491	1.278	1.237	1.200	1.164	1.195	1.208	1.228	1.118	1.079	1.038	1.010	1.005	1.006	1.003	1.015	1.009	1.001	1.002	1.011	1.006	1.005	1.011	1.008	1.010	1.007	1.008	1.000	1.001
June-84	2.427	1.491	1.278	1.237	1.205	1.094	1.188	1.142	1.097	1.158	1.027	1.012	1.006	1.002	1.002	1.004	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.007	1.000	1.000	1.000	1.000		
June-85	2.427	1.491	1.278	1.268	1.120	1.272	1.161	1.048	1.026	1.021	1.005	1.003	1.005	1.002	1.000	1.001	1.001	1.001	1.001	1.002	1.000	1.001	1.002	1.001	1.000	1.002	1.001	1.000			
June-86	2.427	1.491	1.316	1.190	1.133	1.116	1.045	1.035	1.007	1.014	1.000	1.000	1.001	1.003	1.001	1.000	1.001	1.000	1.003	1.011	1.000	1.000	1.018	1.000	1.000	1.000	1.000				
June-87	2.427	1.523	1.373	1.176	1.113	1.128	1.080	1.028	1.020	1.008	1.007	1.011	1.021	1.008	1.005	1.004	1.005	1.003	1.002	1.001	1.001	1.001	1.001	1.000	1.000	1.000					
June-88	2.809	1.469	1.213	1.187	1.114	1.054	1.025	1.015	1.009	1.022	1.021	1.013	1.011	1.018	1.002	1.012	1.037	1.018	1.017	1.038	1.015	1.019	1.017	1.018	1.007						
June-89	4.375	1.383	1.222	1.191	1.062	1.035	1.038	1.021	1.017	1.016	1.020	1.009	1.003	1.002	1.002	1.002	1.002	1.008	1.017	1.003	1.001	1.001	1.001	1.001							
June-90	3.218	1.401	1.121	1.086	1.035	1.023	1.008	1.011	1.012	1.015	1.012	1.014	1.008	1.014	1.005	1.003	1.007	1.001	1.001	1.000	1.000	1.000	1.000								
June-91	3.073	1.207	1.072	1.044	1.071	1.006	1.008	1.008	1.034	1.014	1.004	1.005	1.002	1.001	1.002	1.004	1.060	1.002	1.001	1.001	1.001	1.001									
June-92	2.056	1.226	1.116	1.028	1.019	1.004	1.041	1.002	1.008	1.018	1.002	1.003	1.000	1.001	1.001	1.002	1.004	1.000	1.000	1.001	1.001										
June-93	2.438	1.186	1.145	1.057	1.012	1.012	1.007	1.006	1.004	1.003	1.005	1.010	1.014	1.009	1.011	1.015	1.012	1.012	1.017	1.013											
June-94	2.046	1.121	1.042	1.024	1.050	1.046	1.051	1.035	1.030	1.062	1.016	1.012	1.013	1.010	1.014	1.011	1.012	1.008	1.002												
June-95	1.924	1.244	1.120	1.067	1.039	1.031	1.034	1.020	1.032	1.024	1.031	1.031	1.024	1.013	1.015	1.014	1.009	1.007													
June-96	3.598	1.129	1.054	1.027	1.011	1.007	1.023	1.012	1.008	1.015	1.008	1.014	1.010	1.006	1.002	1.002	1.001														
June-97	2.233	1.167	1.074	1.081	1.061	1.030	1.059	1.029	1.014	1.012	1.006	1.006	1.009	1.015	1.010	1.004															
June-98	2.071	1.154	1.102	1.053	1.037	1.057	1.023	1.000	1.001	1.000	1.008	1.004	1.000	1.000	1.000																
June-99	1.686	1.137	1.059	1.123	1.085	1.086	1.090	1.078	1.041	1.001	1.006	1.031	1.050	1.028																	
June-00	2.316	1.127	1.079	1.034	1.034	1.032	1.012	1.004	1.005	1.004	1.005	1.004	1.005																		
June-01	1.792	1.155	1.150	1.041	1.050	1.102	1.046	1.007	1.008	1.003	1.003	1.018																			
June-02	2.111	1.257	1.085	1.026	1.014	1.008	1.087	1.015	1.007	1.051	1.003																				
June-03	3.603	1.226	1.059	1.129	1.025	1.020	1.089	1.031	1.025	1.018																					
June-04	2.575	1.287	1.194	1.048	1.039	1.044	1.026	1.025	1.019																						
June-05	2.804	1.161	1.060	1.033	1.017	1.046	1.021	1.021																							
June-06	2.073	1.313	1.046	1.031	1.023	1.019	1.015																								
June-07	2.166	1.104	1.021	1.012	1.007	1.004																									
June-08	1.974	1.097	1.042	1.032	1.011																										
June-09	1.884	1.045	1.017	1.057																											
June-10	2.070	1.041	1.019																												
June-11	1.728	1.132																													
June-12	1.970																														

Averages	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*To Ult*
Simple Avg																															
All Yrs	2.424	1.250	1.130	1.093	1.061	1.058	1.057	1.035	1.030	1.028	1.013	1.012	1.011	1.008	1.005	1.005	1.012	1.005	1.005	1.006	1.003	1.003	1.005	1.004	1.004	1.002	1.002	1.003	1.000	1.001	
Latest 5	1.925	1.084	1.029	1.033	1.019	1.026	1.048	1.020	1.013	1.015	1.005	1.013	1.015	1.012	1.008	1.009	1.008	1.006	1.004	1.004	1.004	1.004	1.007	1.004	1.003	1.002					
Latest 3	1.922	1.073	1.026	1.033	1.013	1.023	1.021	1.026	1.017	1.024	1.004	1.018	1.019	1.014	1.004	1.007	1.007	1.009	1.007	1.005	1.001	1.000	1.006	1.006	1.002	1.001	1.000	1.003			
Volume Wtd																															
All Yrs	2.373	1.221	1.111	1.076	1.046	1.039	1.037	1.020	1.018	1.019	1.011	1.011	1.010	1.008	1.005	1.006	1.016	1.006	1.007	1.007	1.003	1.004	1.005	1.006	1.004	1.001	1.001	1.002	1.000		
Latest 5	1.908	1.086	1.030	1.033	1.021	1.029	1.041	1.020	1.014	1.015	1.005	1.013	1.015	1.013	1.008	1.010	1.007	1.005	1.003	1.003	1.003	1.004	1.005	1.006	1.004	1.001					
Latest 3	1.893	1.075	1.027	1.033	1.014	1.024	1.022	1.025	1.018	1.022	1.004	1.018	1.020	1.015	1.004	1.007	1.007	1.009	1.007	1.004	1.001	1.000	1.005	1.007	1.005	1.001	1.000	1.002			

Dev Factor Selection																															
Industry 1	1.968	1.143	1.054	1.030	1.018	1.014	1.012																								
Industry 2		1.266	1.074	1.040	1.013	1.011	1.010	1.015	1.008	1.013	1.013	1.009	1.008	1.008	1.008	1.005	1.004	1.002	1.004	1.005											
Prior	*2.168*	*1.173*	*1.113*	*1.055*	*1.047*	*1.050*	*1.051*	*1.030*	*1.017*	*1.012*	*1.011*	*1.011*	*1.010*	*1.009*	*1.010*	*1.009*	*1.003*	*1.005*	*1.004*	*1.005*	*1.004*	*1.003*	*1.003*	*1.003*	*1.003*	*1.003*	*1.003*	*1.003*	*1.003*	1.014	
Selected	2.140	1.153	1.111	1.055	1.046	1.050	1.051	1.030	1.013	1.015	1.011	1.011	1.010	1.012	1.008	1.009	1.003	1.005	1.004	1.005	1.004	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.013
FacToUlt	3.994	1.866	1.618	1.457	1.381	1.320	1.258	1.196	1.161	1.147	1.130	1.117	1.105	1.095	1.081	1.072	1.063	1.059	1.054	1.050	1.045	1.041	1.037	1.034	1.031	1.028	1.025	1.022	1.019	1.016	1.013
Percent of Ult	25.0%	53.6%	61.8%	68.6%	72.4%	75.8%	79.5%	83.6%	86.1%	87.2%	88.5%	89.5%	90.5%	91.4%	92.5%	93.3%	94.1%	94.4%	94.9%	95.2%	95.7%	96.1%	96.4%	96.7%	97.0%	97.3%	97.5%	97.8%	98.1%	98.4%	98.7%

Department of Mental Health - Cluster 2
Medical

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Ultimate Loss		Ultimate Loss		Change in Ultimate Loss		Change in Ultimate Loss	
Accident	As of 6/12		As of 6/13		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	842,591	861,027	821,958	842,591	(20,633)	-2.4%	(18,435)	-2.1%
6/30/82-83	139,649	141,046	139,615	141,011	(34)	0.0%	(35)	0.0%
6/30/83-84	212,582	214,708	212,378	214,502	(205)	-0.1%	(207)	-0.1%
6/30/84-85	502,000	502,000	501,000	502,000	(1,000)	-0.2%	0	0.0%
6/30/85-86	264,000	264,000	263,000	264,000	(1,000)	-0.4%	0	0.0%
6/30/86-87	721,000	722,000	721,000	721,000	0	0.0%	(1,000)	-0.1%
6/30/87-88	1,764,000	1,771,000	1,775,000	1,782,000	11,000	0.6%	11,000	0.6%
6/30/88-89	2,113,000	2,113,000	2,112,000	2,112,000	(1,000)	0.0%	(1,000)	0.0%
6/30/89-90	1,977,000	1,996,000	1,977,000	1,996,000	0	0.0%	0	0.0%
6/30/90-91	1,807,000	1,808,000	1,807,000	1,807,000	0	0.0%	(1,000)	-0.1%
6/30/91-92	1,284,000	1,297,000	1,286,000	1,298,000	2,000	0.2%	1,000	0.1%
6/30/92-93	1,095,000	1,096,000	1,106,000	1,107,000	11,000	1.0%	11,000	1.0%
6/30/93-94	677,000	677,000	677,000	677,000	0	0.0%	0	0.0%
6/30/94-95	878,000	879,000	882,000	882,000	4,000	0.5%	3,000	0.3%
6/30/95-96	845,000	846,000	845,000	846,000	0	0.0%	0	0.0%
6/30/96-97	559,000	560,000	558,000	558,000	(1,000)	-0.2%	(2,000)	-0.4%
6/30/97-98	547,000	548,000	543,000	543,000	(4,000)	-0.7%	(5,000)	-0.9%
6/30/98-99	695,000	695,000	708,000	708,000	13,000	1.9%	13,000	1.9%
6/30/99-00	655,000	657,000	655,000	656,000	0	0.0%	(1,000)	-0.2%
6/30/00-01	741,600	824,000	749,700	833,000	8,100	1.1%	9,000	1.1%
6/30/01-02	692,000	694,000	689,000	690,000	(3,000)	-0.4%	(4,000)	-0.6%
6/30/02-03	767,000	769,000	775,000	776,000	8,000	1.0%	7,000	0.9%
6/30/03-04	1,410,000	1,417,000	1,422,000	1,430,000	12,000	0.9%	13,000	0.9%
6/30/04-05	1,009,000	1,033,000	1,005,000	1,027,000	(4,000)	-0.4%	(6,000)	-0.6%
6/30/05-06	957,000	964,000	930,000	933,000	(27,000)	-2.8%	(31,000)	-3.2%
6/30/06-07	875,000	903,000	839,000	867,000	(36,000)	-4.1%	(36,000)	-4.0%
6/30/07-08	896,000	938,000	867,000	908,000	(29,000)	-3.2%	(30,000)	-3.2%
6/30/08-09	881,000	929,000	883,000	921,000	2,000	0.2%	(8,000)	-0.9%
6/30/09-10	754,000	837,000	691,000	774,000	(63,000)	-8.4%	(63,000)	-7.5%
6/30/10-11	1,010,000	1,103,000	998,000	1,064,000	(12,000)	-1.2%	(39,000)	-3.5%
6/30/11-12	938,000	956,000	837,000	888,000	(101,000)	-10.8%	(68,000)	-7.1%
6/30/12-13								
Total	28,508,423	29,014,781	28,275,651	28,768,104	(232,772)	-0.8%	(246,677)	-0.9%

NOTES:

(2), (3) From Aon analysis as of June 30, 2012

(4), (5) From Section 3, Exhibit 2, Page 1, Columns 6, 7

(6) = (4) - (2)

(7) = (4) / (2) - 1

(8) = (5) - (3)

(9) = (5) / (3) - 1

Department of Mental Health - Cluster 2
Medical

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At: 4%	6%
384	100.0%	1.3%	0.0%	0.4%	0.2%	1.000	1.000
372	98.7%	0.3%	1.3%	0.1%	0.0%	0.981	0.971
360	98.4%	0.3%	1.6%	0.1%	0.1%	0.950	0.927
348	98.1%	0.3%	1.9%	0.1%	0.1%	0.924	0.890
336	97.8%	0.3%	2.2%	0.1%	0.1%	0.901	0.857
324	97.5%	0.3%	2.5%	0.1%	0.1%	0.880	0.828
312	97.3%	0.3%	2.7%	0.1%	0.1%	0.860	0.801
300	97.0%	0.3%	3.0%	0.1%	0.1%	0.842	0.777
288	96.7%	0.3%	3.3%	0.1%	0.1%	0.825	0.753
276	96.4%	0.3%	3.6%	0.1%	0.1%	0.808	0.732
264	96.1%	0.4%	3.9%	0.2%	0.1%	0.792	0.711
252	95.7%	0.5%	4.3%	0.2%	0.1%	0.781	0.698
240	95.2%	0.4%	4.8%	0.2%	0.1%	0.774	0.689
228	94.9%	0.5%	5.1%	0.2%	0.2%	0.762	0.674
216	94.4%	0.3%	5.6%	0.1%	0.1%	0.753	0.664
204	94.1%	0.8%	5.9%	0.4%	0.3%	0.736	0.643
192	93.3%	0.8%	6.7%	0.4%	0.3%	0.742	0.652
180	92.5%	1.1%	7.5%	0.6%	0.5%	0.741	0.652
168	91.4%	0.9%	8.6%	0.5%	0.4%	0.748	0.662
156	90.5%	1.0%	9.5%	0.6%	0.5%	0.743	0.656
144	89.5%	1.0%	10.5%	0.6%	0.5%	0.740	0.652
132	88.5%	1.3%	11.5%	0.9%	0.7%	0.734	0.646
120	87.2%	1.1%	12.8%	0.8%	0.6%	0.734	0.646
108	86.1%	2.5%	13.9%	1.8%	1.5%	0.728	0.638
96	83.6%	4.1%	16.4%	3.1%	2.6%	0.742	0.658
84	79.5%	3.8%	20.5%	2.9%	2.6%	0.767	0.691
72	75.8%	3.3%	24.2%	2.7%	2.4%	0.775	0.701
60	72.4%	3.8%	27.6%	3.2%	2.9%	0.774	0.699
48	68.6%	6.8%	31.4%	6.0%	5.6%	0.773	0.697
36	61.8%	8.2%	38.2%	7.5%	7.1%	0.785	0.714
24	53.6%	28.5%	46.4%	26.9%	26.2%	0.795	0.726
12	25.0%	25.0%	75.0%	24.5%	24.3%	0.847	0.794
Total		100.0%					

NOTES:

(2) = 1 / Section 3, Exhibit 2, Page 2, Column 4

(3) Incremental % based on (2)

(4) = 1 - (2)

(5) = [(3) / 1.04] ^ {[(1) - 6] / 12}

(6) = [(3) / 1.06] ^ {[(1) - 6] / 12}

(7), (8) Discount factor based on (5), (6)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Medical

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	9,246	29,879		8,087	26,132
6/30/82-83	1,782	3,178	0.981	1,747	3,116
6/30/83-84	3,338	5,462	0.950	3,171	5,188
6/30/84-85	8,947	9,947	0.924	8,267	9,191
6/30/85-86	5,225	6,225	0.901	4,708	5,609
6/30/86-87	18,165	18,165	0.880	15,984	15,984
6/30/87-88	41,908	48,908	0.860	36,059	42,081
6/30/88-89	64,136	64,136	0.842	54,004	54,004
6/30/89-90	38,922	57,922	0.825	32,093	47,759
6/30/90-91	65,018	65,018	0.808	52,525	52,525
6/30/91-92	25,539	37,539	0.792	20,223	29,725
6/30/92-93	46,879	47,879	0.781	36,611	37,392
6/30/93-94	31,787	31,787	0.774	24,600	24,600
6/30/94-95	45,053	45,053	0.762	34,311	34,311
6/30/95-96	46,778	47,778	0.753	35,232	35,985
6/30/96-97	33,054	33,054	0.736	24,344	24,344
6/30/97-98	36,815	36,815	0.742	27,329	27,329
6/30/98-99	52,999	52,999	0.741	39,265	39,265
6/30/99-00	56,609	57,609	0.748	42,329	43,077
6/30/00-01	-3,746	79,554	0.743	-2,783	59,089
6/30/01-02	72,736	73,736	0.740	53,803	54,543
6/30/02-03	89,287	90,287	0.734	65,553	66,288
6/30/03-04	175,317	183,317	0.734	128,665	134,537
6/30/04-05	120,584	142,584	0.728	87,741	103,749
6/30/05-06	149,827	152,827	0.742	111,205	113,432
6/30/06-07	172,197	200,197	0.767	132,079	153,555
6/30/07-08	210,009	251,009	0.775	162,798	194,581
6/30/08-09	243,128	281,128	0.774	188,141	217,547
6/30/09-10	216,655	299,655	0.773	167,387	231,513
6/30/10-11	340,580	406,580	0.785	267,503	319,342
6/30/11-12	388,352	439,352	0.795	308,800	349,353
6/30/12-13	694,799	768,799	0.847	588,375	651,041
Total	3,501,925	4,068,378		2,760,159	3,206,189
			(7) Total Discount Factor:	0.788	0.788

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	9,246	29,879
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	1,321	4,268
(11) Discounted Value at 4%:	8,087	26,132

NOTES:
(2), (3) From Section 3, Exhibit 2, Page 1, Columns 8, 9
(4) From Section 3, Exhibit 2, Page 9, Column 7
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Mental Health - Cluster 2
Medical

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	9,246	29,879		7,595	24,543
6/30/82-83	1,782	3,178	0.971	1,731	3,087
6/30/83-84	3,338	5,462	0.927	3,093	5,061
6/30/84-85	8,947	9,947	0.890	7,959	8,848
6/30/85-86	5,225	6,225	0.857	4,478	5,336
6/30/86-87	18,165	18,165	0.828	15,041	15,041
6/30/87-88	41,908	48,908	0.801	33,583	39,193
6/30/88-89	64,136	64,136	0.777	49,811	49,811
6/30/89-90	38,922	57,922	0.753	29,327	43,643
6/30/90-91	65,018	65,018	0.732	47,572	47,572
6/30/91-92	25,539	37,539	0.711	18,159	26,691
6/30/92-93	46,879	47,879	0.698	32,704	33,402
6/30/93-94	31,787	31,787	0.689	21,916	21,916
6/30/94-95	45,053	45,053	0.674	30,371	30,371
6/30/95-96	46,778	47,778	0.664	31,068	31,732
6/30/96-97	33,054	33,054	0.643	21,256	21,256
6/30/97-98	36,815	36,815	0.652	24,019	24,019
6/30/98-99	52,999	52,999	0.652	34,534	34,534
6/30/99-00	56,609	57,609	0.662	37,461	38,123
6/30/00-01	-3,746	79,554	0.656	-2,457	52,173
6/30/01-02	72,736	73,736	0.652	47,458	48,111
6/30/02-03	89,287	90,287	0.646	57,664	58,310
6/30/03-04	175,317	183,317	0.646	113,276	118,445
6/30/04-05	120,584	142,584	0.638	76,986	91,032
6/30/05-06	149,827	152,827	0.658	98,620	100,594
6/30/06-07	172,197	200,197	0.691	118,985	138,332
6/30/07-08	210,009	251,009	0.701	147,297	176,053
6/30/08-09	243,128	281,128	0.699	169,980	196,547
6/30/09-10	216,655	299,655	0.697	151,044	208,908
6/30/10-11	340,580	406,580	0.714	243,118	290,231
6/30/11-12	388,352	439,352	0.726	282,023	319,059
6/30/12-13	694,799	768,799	0.794	551,725	610,487
Total	3,501,925	4,068,378		2,507,395	2,912,461
			(7) Total Discount Factor:	0.716	0.716

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	9,246	29,879
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	1,321	4,268
(11) Discounted Value at 6%:	7,595	24,543

NOTES:
(2), (3) From Section 3, Exhibit 2, Page 1, Columns 8, 9
(4) From Section 3, Exhibit 2, Page 9, Column 8
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Indemnity

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Pd Loss Including Lump Sum	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		3,806,476			4,479,104	5,026,457	672,627	1,219,980		
6/30/82-83		2,747,816	3,081,290		3,004,257	3,081,000	256,441	333,184		
6/30/83-84		1,405,260	1,448,679		1,412,462	1,449,000	7,202	43,740		
6/30/84-85	115,258	3,884,453	5,166,143	3,985,627	4,347,091	4,576,000	462,638	691,547	3.772	3.970
6/30/85-86	123,937	6,399,508	9,162,698	6,597,441	7,486,066	7,880,000	1,086,558	1,480,492	6.040	6.358
6/30/86-87	142,396	3,884,640	4,039,650	4,047,831	4,040,000	4,048,000	155,360	163,360	2.837	2.843
6/30/87-88	166,792	6,097,875	6,637,607	6,377,890	6,378,000	6,638,000	280,125	540,125	3.824	3.980
6/30/88-89	180,117	7,161,863	8,190,001	7,458,979	7,459,000	8,190,000	297,137	1,028,137	4.141	4.547
6/30/89-90	180,883	9,153,609	9,650,389	9,644,115	9,644,000	9,650,000	490,391	496,391	5.332	5.335
6/30/90-91	169,902	9,616,195	13,950,344	10,475,485	10,475,000	13,950,000	858,805	4,333,805	6.165	8.211
6/30/91-92	165,926	4,232,659	4,575,079	4,576,012	4,575,000	4,576,000	342,342	343,342	2.757	2.758
6/30/92-93	174,198	3,157,115	3,430,292	3,434,679	3,430,000	3,435,000	272,885	277,885	1.969	1.972
6/30/93-94	185,946	4,908,602	5,413,068	5,413,360	5,413,000	5,413,000	504,398	504,398	2.911	2.911
6/30/94-95	194,051	6,148,615	6,882,907	6,875,347	6,875,000	6,883,000	726,385	734,385	3.543	3.547
6/30/95-96	205,262	5,110,156	5,793,573	5,792,542	5,793,000	5,794,000	682,844	683,844	2.822	2.823
6/30/96-97	234,073	6,001,023	6,800,451	6,800,125	6,800,000	6,800,000	798,977	798,977	2.905	2.905
6/30/97-98	221,865	8,001,207	9,280,754	9,245,007	9,245,000	9,281,000	1,243,793	1,279,793	4.167	4.183
6/30/98-99	256,071	7,543,693	8,911,476	8,883,294	8,883,000	8,911,000	1,339,307	1,367,307	3.469	3.480
6/30/99-00	268,486	8,164,322	9,769,315	9,730,356	9,730,000	9,769,000	1,565,678	1,604,678	3.624	3.639
6/30/00-01	279,182	10,530,614	12,772,404	12,688,359	12,093,863	12,772,000	1,563,249	2,241,386	4.332	4.575
6/30/01-02	283,070	8,940,565	11,007,150	10,955,094	10,955,000	11,007,000	2,014,435	2,066,435	3.870	3.888
6/30/02-03	289,846	8,700,480	10,799,620	10,755,710	10,238,782	10,800,000	1,538,302	2,099,520	3.532	3.726
6/30/03-04	293,771	7,876,863	9,930,889	9,904,255	9,421,694	9,931,000	1,544,831	2,054,137	3.207	3.381
6/30/04-05	291,382	8,233,940	10,583,008	10,151,796	10,152,000	10,583,000	1,918,060	2,349,060	3.484	3.632
6/30/05-06	294,709	5,818,917	7,637,754	7,905,073	7,638,000	7,905,000	1,819,083	2,086,083	2.592	2.682
6/30/06-07	289,603	4,702,866	6,366,100	6,959,365	6,663,000	6,959,000	1,960,134	2,256,134	2.301	2.403
6/30/07-08	354,668	4,542,475	6,436,290	7,657,326	7,047,000	7,657,000	2,504,525	3,114,525	1.987	2.159
6/30/08-09	332,413	3,650,335	5,443,024	6,947,703	6,195,000	7,295,000	2,544,665	3,644,665	1.864	2.195
6/30/09-10	336,338	2,210,699	3,584,077	6,058,109	4,821,000	6,361,000	2,610,301	4,150,301	1.433	1.891
6/30/10-11	333,783	2,813,022	5,441,538	7,641,923	6,542,000	8,024,000	3,728,978	5,210,978	1.960	2.404
6/30/11-12	348,187	1,376,733	3,624,688	7,808,804	5,717,000	8,199,000	4,340,267	6,822,267	1.642	2.355
6/30/12-13	368,022	598,769	3,413,654	9,782,981	6,598,000	10,272,000	5,999,231	9,673,231	1.793	2.791
Total	7,080,138	177,421,365	219,223,916	224,554,587	223,551,318	243,115,457	46,129,953	65,694,092		
Tot 6/30/84-13	7,080,138	169,461,813	214,693,947	224,554,587	214,655,495	233,559,000	45,193,682	64,097,187	3.032	3.299

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) Sum of Section 4, Exhibit 1, Page 2, Column 3 and Section 4, Exhibit 1, Page 9, Column 8

(4) From Section 4, Exhibit 1, Page 2, Column 8

(5) From Section 4, Exhibit 1, Page 3, Column 8

(6), (7) Selected based on (3), (4), and (5)

(8) = (6) - (3)

(9) = (7) - (3)

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Indemnity

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Accident Year	Payroll (000's)	Paid Loss Excluding Lump Sum	Paid LDF	Adjstmnt for Extra Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/11-12	Paid Counts 7/1/12-13	Average Outstanding Claim	Average Age
All Prior Yrs		3,646,476							4	2		65
6/30/82-83		2,566,735	1.027	1.100	2,900,209	181,081	3,081,290		0	0		
6/30/83-84		1,386,759	1.031	1.000	1,430,178	18,501	1,448,679		0	0		
6/30/84-85	115,258	3,703,603	1.035	1.300	4,985,293	180,850	5,166,143	4.482	1	1	1,281,690	69
6/30/85-86	123,937	6,067,508	1.040	1.400	8,830,698	332,000	9,162,698	7.393	2	0		
6/30/86-87	142,396	3,544,280	1.044	1.000	3,699,290	340,360	4,039,650	2.837	0	0		
6/30/87-88	166,792	5,380,873	1.048	1.050	5,920,605	717,002	6,637,607	3.980	0	0		
6/30/88-89	180,117	6,535,663	1.052	1.100	7,563,801	626,200	8,190,001	4.547	3	2	514,069	59
6/30/89-90	180,883	8,208,709	1.061	1.000	8,705,489	944,900	9,650,389	5.335	2	1	496,780	71
6/30/90-91	169,902	8,674,427	1.071	1.400	13,008,576	941,768	13,950,344	8.211	4	5	866,830	60
6/30/91-92	165,926	3,849,408	1.089	1.000	4,191,828	383,251	4,575,079	2.757	2	4	85,605	62
6/30/92-93	174,198	2,519,814	1.108	1.000	2,792,991	637,301	3,430,292	1.969	0	2	136,589	60
6/30/93-94	185,946	4,065,927	1.124	1.000	4,570,393	842,675	5,413,068	2.911	2	4	126,117	54
6/30/94-95	194,051	5,416,002	1.136	1.000	6,150,294	732,613	6,882,907	3.547	1	0		
6/30/95-96	205,262	4,658,156	1.147	1.000	5,341,573	452,000	5,793,573	2.823	2	4	170,854	54
6/30/96-97	234,073	5,233,422	1.153	1.000	6,032,850	767,601	6,800,451	2.905	1	1	799,428	62
6/30/97-98	221,865	7,569,489	1.169	1.000	8,849,036	431,718	9,280,754	4.183	4	3	426,516	49
6/30/98-99	256,071	7,367,640	1.186	1.000	8,735,252	176,224	8,911,476	3.480	4	3	455,871	62
6/30/99-00	268,486	7,888,220	1.203	1.000	9,487,927	281,388	9,769,315	3.639	2	2	799,854	50
6/30/00-01	279,182	10,115,331	1.219	1.000	12,332,457	439,948	12,772,404	4.575	2	4	554,281	51
6/30/01-02	283,070	8,636,684	1.234	1.000	10,660,627	346,524	11,007,150	3.888	4	6	337,324	52
6/30/02-03	289,846	8,336,977	1.244	1.000	10,373,874	425,746	10,799,620	3.726	2	1	2,036,897	49
6/30/03-04	293,771	7,549,433	1.262	1.000	9,529,508	401,381	9,930,889	3.380	2	1	1,980,075	52
6/30/04-05	291,382	7,956,390	1.281	1.000	10,195,750	387,259	10,583,008	3.632	9	5	447,872	50
6/30/05-06	294,709	5,558,413	1.311	1.000	7,284,301	353,453	7,637,754	2.592	7	7	246,555	48
6/30/06-07	289,603	4,495,865	1.350	1.000	6,069,512	296,588	6,366,100	2.198	7	6	262,274	50
6/30/07-08	354,668	4,361,974	1.411	1.000	6,152,669	283,621	6,436,290	1.815	14	8	223,837	47
6/30/08-09	332,413	3,498,318	1.482	1.000	5,183,399	259,625	5,443,024	1.637	18	12	140,423	48
6/30/09-10	336,338	2,120,199	1.605	1.000	3,402,525	181,552	3,584,077	1.066	15	9	142,481	50
6/30/10-11	333,783	2,754,241	1.891	1.000	5,206,968	234,569	5,441,538	1.630	73	36	68,131	47
6/30/11-12	348,187	1,365,683	2.532	1.000	3,458,003	166,686	3,624,688	1.041	106	48	43,590	43
6/30/12-13	368,022	594,769	5.445	1.000	3,238,266	175,387	3,413,654	0.928		102	25,917	42
Total	7,080,138	165,627,388			206,284,143	12,939,773	219,223,916		293	279		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3), (4) From Section 4, Exhibit 1, Page 7

(5) Based on information from the MA WCRIB

(6) = (3) x (4) x (5)

(7) From Section 4, Exhibit 1, Page 9, Column 13

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10), (11) Provided by Commonwealth of Massachusetts

(12) = Maximum of [{(6) - (3)} / (11)] and 0

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Indemnity

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident Year	Payroll (000's)	A Priori Loss Rate	Paid Loss Excluding Lump Sum	Paid LDF	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Ultimate Loss Cost Excluding Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	115,258	2.565	3,703,603	1.035	3,804,777	180,850	3,985,627	3.458	3.301
6/30/85-86	123,937	4.195	6,067,508	1.040	6,265,441	332,000	6,597,441	5.323	5.055
6/30/86-87	142,396	2.735	3,544,280	1.044	3,707,471	340,360	4,047,831	2.843	2.604
6/30/87-88	166,792	3.672	5,380,873	1.048	5,660,888	717,002	6,377,890	3.824	3.394
6/30/88-89	180,117	3.331	6,535,663	1.052	6,832,779	626,200	7,458,979	4.141	3.794
6/30/89-90	180,883	4.752	8,208,709	1.061	8,699,215	944,900	9,644,115	5.332	4.809
6/30/90-91	169,902	7.611	8,674,427	1.071	9,533,717	941,768	10,475,485	6.166	5.611
6/30/91-92	165,926	2.533	3,849,408	1.089	4,192,761	383,251	4,576,012	2.758	2.527
6/30/92-93	174,198	1.629	2,519,814	1.108	2,797,378	637,301	3,434,679	1.972	1.606
6/30/93-94	185,946	2.459	4,065,927	1.124	4,570,685	842,675	5,413,360	2.911	2.458
6/30/94-95	194,051	3.137	5,416,002	1.136	6,142,734	732,613	6,875,347	3.543	3.166
6/30/95-96	205,262	2.598	4,658,156	1.147	5,340,542	452,000	5,792,542	2.822	2.602
6/30/96-97	234,073	2.576	5,233,422	1.153	6,032,524	767,601	6,800,125	2.905	2.577
6/30/97-98	221,865	3.877	7,569,489	1.169	8,813,289	431,718	9,245,007	4.167	3.972
6/30/98-99	256,071	3.341	7,367,640	1.186	8,707,070	176,224	8,883,294	3.469	3.400
6/30/99-00	268,486	3.448	7,888,220	1.203	9,448,967	281,388	9,730,356	3.624	3.519
6/30/00-01	279,182	4.250	10,115,331	1.219	12,248,411	439,948	12,688,359	4.545	4.387
6/30/01-02	283,070	3.669	8,636,684	1.234	10,608,570	346,524	10,955,094	3.870	3.748
6/30/02-03	289,846	3.502	8,336,977	1.244	10,329,964	425,746	10,755,710	3.711	3.564
6/30/03-04	293,771	3.200	7,549,433	1.262	9,502,874	401,381	9,904,255	3.371	3.235
6/30/04-05	291,382	2.825	7,956,390	1.281	9,764,538	387,259	10,151,796	3.484	3.351
6/30/05-06	294,709	2.855	5,558,413	1.311	7,551,620	353,453	7,905,073	2.682	2.562
6/30/06-07	289,603	2.886	4,495,865	1.350	6,662,777	296,588	6,959,365	2.403	2.301
6/30/07-08	354,668	2.918	4,361,974	1.411	7,373,705	283,621	7,657,326	2.159	2.079
6/30/08-09	332,413	2.952	3,498,318	1.482	6,688,078	259,625	6,947,703	2.090	2.012
6/30/09-10	336,338	2.963	2,120,199	1.605	5,876,557	181,552	6,058,109	1.801	1.747
6/30/10-11	333,783	2.959	2,754,241	1.891	7,407,353	234,569	7,641,923	2.289	2.219
6/30/11-12	348,187	2.979	1,365,683	2.532	7,642,119	166,686	7,808,804	2.243	2.195
6/30/12-13	368,022	3.000	594,769	5.445	9,607,593	175,387	9,782,981	2.658	2.611
Total	7,080,138		158,027,418		211,814,397	12,740,191	224,554,587		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 4, Exhibit 1, Page 4, Column 11

(4) From Section 4, Exhibit 1, Page 2, Column 3

(5) From Section 4, Exhibit 1, Page 2, Column 4

(6) = (4) + [{1 - {1 / (5)}} x (3) x (2) x 10]

(7) From Section 4, Exhibit 1, Page 9, Column 13

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10) = (6) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Indemnity

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Exp Ult Loss Excluding Lump Sum	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									2.565	2.565
6/30/85-86									4.195	4.195
6/30/86-87									2.735	2.735
6/30/87-88									3.672	3.672
6/30/88-89									3.331	3.331
6/30/89-90									4.752	4.752
6/30/90-91	169,902	13,008,576	7.657	0.953	7.294	1.000	7.294	3.149	7.577	7.611
6/30/91-92	165,926	4,191,828	2.526	1.045	2.640	1.000	2.640	2.870	2.536	2.533
6/30/92-93	174,198	2,792,991	1.603	1.219	1.954	1.000	1.954	2.462	1.648	1.629
6/30/93-94	185,946	4,570,393	2.458	1.203	2.957	1.000	2.957	2.494	2.458	2.459
6/30/94-95	194,051	6,150,294	3.169	1.192	3.778	1.000	3.778	2.517	3.171	3.137
6/30/95-96	205,262	5,341,573	2.602	1.183	3.077	1.000	3.077	2.537	2.594	2.598
6/30/96-97	234,073	6,032,850	2.577	1.171	3.018	1.000	3.018	2.562	2.618	2.576
6/30/97-98	221,865	8,849,036	3.988	1.156	4.610	1.000	4.610	2.596	3.895	3.877
6/30/98-99	256,071	8,735,252	3.411	1.141	3.891	1.000	3.891	2.630	3.388	3.341
6/30/99-00	268,486	9,487,927	3.534	1.122	3.966	1.000	3.966	2.673	3.509	3.448
6/30/00-01	279,182	12,332,457	4.417	1.094	4.831	1.000	4.831	2.743	4.324	4.250
6/30/01-02	283,070	10,660,627	3.766	1.072	4.039	1.000	4.039	2.797	3.711	3.669
6/30/02-03	289,846	10,373,874	3.579	1.069	3.824	1.000	3.824	2.808	3.571	3.502
6/30/03-04	293,771	9,529,508	3.244	1.069	3.466	1.000	3.466	2.808	3.286	3.200
6/30/04-05	291,382	10,195,750	3.499	1.062	3.715	1.000	3.715	2.825	3.082	2.825
6/30/05-06	294,709	7,284,301	2.472	1.051	2.598	1.000	2.598	2.855	3.114	2.855
6/30/06-07	289,603	6,069,512	2.096	1.040	2.179	1.000	2.179	2.886	3.148	2.886
6/30/07-08	354,668	6,152,669	1.735	1.028	1.784	1.000	1.784	2.918	3.183	2.918
6/30/08-09	332,413	5,183,399	1.559	1.016	1.585	1.000	1.585	2.952	3.220	2.952
6/30/09-10	336,338	3,402,525	1.012	1.012	1.024	1.000	1.024	2.963	3.233	2.963
6/30/10-11	333,783	5,206,968	1.560	1.014	1.581	1.000	1.581	2.959	3.228	2.959
6/30/11-12	348,187	3,458,003	0.993	1.007	1.000	1.000	1.000	2.979	3.250	2.979
6/30/12-13	368,022	3,238,266	0.880	1.000	0.880	1.000	0.880	3.000		3.000
Total	6,170,754	162,248,580								

Trend Last 4 (ex 12-13):	-9.0%	Avg 3 (x12-13):	1.202
Trend Last 8 (ex 12-13):	-15.4%	Avg 5 (x12-13):	1.395
Trend Last 12 (ex 12-13):	-13.4%	Avg 10 (x12-13):	2.276
Prior Selected Trend:	0.0%	Prior Sel Avg:	3.250
Selected Trend:	0.0%	Sel. Loss Cost:	3.000

NOTES:
(2) Provided by Commonwealth of Massachusetts
(3) From Section 4, Exhibit 1, Page 2, Column 6
(4) = (3) / (2) / 10
(5) Based on information from the MA WCRIB
(6) = (4) x (5)
(7) Based on Selected Trend from (6)
(8) = (6) x (7)
(9) = Sel. Loss Cost / [(5) * (7)]
(10) From Aon analysis as of June 30, 2012
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Indemnity

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend	1.000	
(2)	Credibility	19%	
(3)	Average Pmt Trend Statewide	0.960	
(4)	Credibility Weighted Trend	0.968	
		(Low)	(High)
(5)	Selected Range	0.948	0.977
(6)	Incremental Paid for 2013	98,227	98,227
(7)	Estimated Reserve	1,801,974	4,236,014
(8)	Paid to Date (82 & Prior)	3,646,476	3,646,476
(9)	Est Ult Paid for 1982 & Prior	5,448,451	7,882,490

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	98,726	104,287
(11)	Projected Number of Years	3	3
(12)	Estimated Reserve	296,178	312,862
(13)	Paid to Date (82 & Prior)	3,646,476	3,548,250
(14)	Est Ult Paid for 1982 & Prior	3,942,655	3,861,112
(14a)	Paid Counts During Fiscal Year	2	4
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	4,319,104	4,866,457
(16)	Lump Sum Ultimates	160,000	160,000
(17)	Ult Loss Including Lump Sums	**4,479,104**	**5,026,457**
(18)	Implied Tail	1.184	1.335
(19)	Ult Loss Inc Lump Sums @ 6/12	4,351,042	4,857,957

NOTES:

(1) From Section 4, Exhibit 1, Page 6
(2) = (Average of Section 4, Exhibit 1, Page 6, Column 3 / 3,000,000) ^ 0.5
(3) Average Statewide Trend
(4) = (1) x (2) + (4) x {1 - (2)}
(5) Selected judgmentally based on (4)
(6), (14a) Provided by Commonwealth of Massachusetts
(7) = (6) x (5) / {1 - (5)}
(8), (16) From Section 4, Exhibit 1, Page 2, Column 3
(9) = (7) + (8)
(10) Avg of 3 latest years from Section 4, Exhibit 1, Page 6, Column 3
(11) Selected judgmentally
(12) = (10 x (11)
(14) = (12) + (13)
(15) = Average of (9) and (14)
(16) From Section 4, Exhibit 1, Page 9, Column 13
(17) = (15) + (16)
(18) = (15) / (8)
(19) From Aon analysis as of June 30, 2012

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Indemnity

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paids	LN	Average Observed Trend		Trend Calculations
1992	1	188,569	12.147			
1993	2	151,483	11.928	0.803		
1994	3	104,509	11.557	0.690		
1995	4	93,428	11.445	0.894		
1996	5	94,858	11.460	1.015		
1997	6	35,075	10.465	0.370		
1998	7	103,538	11.548	2.952		
1999	8	96,697	11.479	0.934		
2000	9	73,478	11.205	0.760	n =	22
2001	10	66,717	11.108	0.908	S(x) =	44,055
2002	11	70,033	11.157	1.050	S(x-sq) =	88,221,023
2003	12	124,671	11.733	1.780	S(xy) =	508,039
2004	13	92,927	11.440	0.745	S(y) =	254
2005	14	283,599	12.555	3.052	D =	19,481
2006	15	99,838	11.511	0.352	slope =	0.002
2007	16	101,854	11.531	1.020	Avg Trend =	1.002
2008	17	110,209	11.610	1.082		
2009	18	118,086	11.679	1.071		
2010	19	114,911	11.652	0.973		
2011	20	108,994	11.599	0.949		
2012	21	88,958	11.396	0.816		
2013	22	98,227	11.495	1.104		
					Selected Trend:	**1.000**

NOTES:

(3) 2013 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2012

(4) LN [(3)]

(5) Eg. 2012: 1.104 = 98227 / 88958

Commonwealth of Massachusetts Workers Compensation
Department of Corrections - Cluster 3
INDEMNITY
Paid Loss Development
Paid Loss (Excluding Lump Sum)

Acc Yr Ending	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372
June-83	160,888	374,220	534,542	675,661	811,997	954,058	1,116,909	1,304,184	1,471,217	1,635,013	1,757,490	1,859,844	1,949,141	2,029,453	2,148,093	2,178,681	2,205,456	2,235,374	2,318,345	2,353,359	2,388,924	2,424,404	2,461,295	2,499,289	2,538,974	2,566,735	2,566,735	2,566,735	2,566,735	2,566,735	2,566,735
June-84	149,256	331,713	467,188	590,124	701,300	845,012	973,143	1,100,933	1,224,966	1,294,374	1,350,379	1,377,980	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	
June-85	278,562	647,928	925,510	1,158,844	1,390,342	1,636,071	1,810,725	1,948,970	2,082,835	2,178,082	2,319,274	2,402,755	2,445,792	2,537,445	2,628,105	2,728,723	2,834,546	2,914,527	2,998,669	3,082,607	3,169,057	3,258,902	3,352,791	3,451,011	3,510,756	3,557,919	3,604,884	3,653,451	3,703,603		
June-86	597,558	1,389,906	1,985,364	2,475,336	2,928,617	3,253,763	3,464,240	3,764,813	3,935,847	4,097,154	4,211,904	4,374,071	4,479,419	4,611,691	4,746,846	4,891,689	5,026,555	5,162,645	5,288,465	5,417,172	5,551,316	5,691,506	5,810,912	5,922,767	6,004,210	6,066,309	6,067,508	6,067,508			
June-87	463,134	1,057,238	1,522,773	1,934,421	2,261,898	2,491,874	2,659,729	2,799,050	2,901,503	3,021,876	3,103,922	3,271,697	3,314,455	3,410,332	3,452,632	3,495,733	3,527,775	3,544,280	3,544,280	3,544,280	3,544,280	3,544,280	3,544,280	3,544,280	3,544,280	3,544,280	3,544,280				
June-88	759,128	1,737,832	2,686,963	3,506,695	4,220,441	4,682,677	4,893,879	5,026,539	5,141,074	5,203,833	5,239,349	5,242,532	5,243,019	5,243,019	5,260,048	5,288,978	5,318,482	5,326,859	5,355,106	5,361,539	5,362,873	5,362,873	5,362,873	5,380,873	5,380,873	5,380,873					
June-89	680,636	1,738,554	2,435,784	3,057,497	3,492,498	3,784,686	4,070,002	4,251,487	4,490,766	4,687,032	4,846,109	4,998,762	5,152,745	5,318,978	5,453,186	5,596,167	5,742,890	5,832,925	5,929,581	6,031,181	6,137,243	6,244,608	6,352,619	6,475,512	6,535,663						
June-90	1,246,443	2,758,107	3,953,901	4,833,484	5,310,648	5,694,385	6,073,411	6,354,690	6,596,629	6,831,981	7,007,542	7,150,038	7,296,131	7,414,103	7,526,903	7,637,465	7,757,732	7,827,571	7,914,306	7,972,756	8,030,743	8,088,272	8,148,032	8,208,709							
June-91	1,000,517	2,462,230	3,477,661	4,227,150	4,729,807	5,106,814	5,363,266	5,600,518	5,854,394	6,102,795	6,340,515	6,600,177	6,839,938	7,070,212	7,325,430	7,572,623	7,805,418	8,019,651	8,226,001	8,354,608	8,448,679	8,541,379	8,674,427								
June-92	963,115	1,684,344	2,020,505	2,282,563	2,488,454	2,659,321	2,775,749	2,916,157	3,056,759	3,187,754	3,331,193	3,457,174	3,499,791	3,525,037	3,564,269	3,587,669	3,612,762	3,661,736	3,712,392	3,755,041	3,800,723	3,849,408									
June-93	801,947	1,527,666	1,907,058	2,209,630	2,348,676	2,429,818	2,460,521	2,483,853	2,505,893	2,512,506	2,512,506	2,515,387	2,517,666	2,518,289	2,518,289	2,518,289	2,518,289	2,518,289	2,518,289	2,518,289	2,519,814										
June-94	875,165	1,819,302	2,384,278	2,739,772	2,916,720	3,056,071	3,202,146	3,363,364	3,490,849	3,617,239	3,691,543	3,766,820	3,806,934	3,840,602	3,876,771	3,914,626	3,951,801	3,987,674	4,025,425	4,065,927											
June-95	1,066,149	2,306,245	2,941,602	3,493,104	3,941,201	4,297,491	4,665,184	4,944,044	5,062,779	5,143,804	5,226,875	5,309,969	5,385,490	5,413,698	5,413,698	5,413,698	5,415,952	5,416,002	5,416,002												
June-96	1,138,070	2,104,418	2,766,267	3,096,876	3,400,508	3,669,768	3,910,958	4,114,697	4,277,458	4,365,040	4,414,632	4,445,368	4,479,763	4,513,668	4,547,750	4,581,690	4,620,397	4,658,156													
June-97	1,262,694	2,691,990	3,329,480	3,919,297	4,322,162	4,636,666	4,943,217	5,112,087	5,158,225	5,193,663	5,222,438	5,229,461	5,229,461	5,232,465	5,232,465	5,232,660	5,233,422														
June-98	1,638,670	3,196,042	4,206,538	4,955,846	5,569,408	6,119,997	6,488,625	6,735,243	6,883,928	7,016,935	7,118,193	7,210,560	7,304,495	7,390,265	7,484,278	7,569,489															
June-99	1,336,118	2,975,082	4,075,622	4,979,874	5,739,985	6,193,457	6,542,142	6,776,193	6,959,053	7,099,219	7,215,948	7,278,599	7,305,413	7,335,907	7,367,640																
June-00	1,879,439	3,995,519	5,337,812	6,367,281	6,972,119	7,368,789	7,595,232	7,618,785	7,768,614	7,812,460	7,834,124	7,857,055	7,878,617	7,888,220																	
June-01	2,226,443	4,927,848	6,754,618	8,128,201	8,912,524	9,501,364	9,916,815	10,090,085	10,093,706	10,098,792	10,102,701	10,107,752	10,115,331																		
June-02	2,224,570	4,640,913	6,255,872	7,251,577	7,851,163	8,205,089	8,352,527	8,442,240	8,504,072	8,548,892	8,597,046	8,636,684																			
June-03	2,532,484	5,029,957	6,520,088	7,358,736	7,963,011	8,162,267	8,271,915	8,286,330	8,290,078	8,307,565	8,336,977																				
June-04	2,147,040	4,500,943	5,865,460	6,696,306	7,139,497	7,374,551	7,518,148	7,544,299	7,548,670	7,549,433																					
June-05	2,241,999	4,614,395	5,992,285	6,941,629	7,354,316	7,648,410	7,859,634	7,944,264	7,956,390																						
June-06	1,249,906	3,009,799	4,221,387	4,926,296	5,233,916	5,403,155	5,520,760	5,558,413																							
June-07	1,380,680	2,815,182	3,556,899	4,026,861	4,280,218	4,409,792	4,495,865																								
June-08	1,238,290	2,624,403	3,322,948	3,832,582	4,162,771	4,361,974																									
June-09	1,050,261	2,223,832	2,862,597	3,295,878	3,498,318																										
June-10	907,606	1,619,359	1,983,041	2,120,199																											
June-11	985,007	2,210,801	2,754,241																												
June-12	628,004	1,365,683																													
June-13	594,769																														

Age-to-Age Factors

Acc Yr Ending	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372
June-83	2.326	1.428	1.264	1.202	1.175	1.171	1.168	1.128	1.111	1.075	1.058	1.048	1.041	1.058	1.014	1.012	1.014	1.037	1.015	1.015	1.015	1.015	1.015	1.016	1.011	1.000	1.000	1.000	1.000	1.000
June-84	2.222	1.408	1.263	1.188	1.205	1.152	1.131	1.113	1.057	1.043	1.020	1.006	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
June-85	2.326	1.428	1.252	1.200	1.177	1.107	1.076	1.069	1.046	1.065	1.036	1.018	1.037	1.036	1.038	1.039	1.028	1.029	1.028	1.028	1.028	1.029	1.029	1.017	1.013	1.013	1.013	1.014		
June-86	2.326	1.428	1.247	1.183	1.111	1.065	1.087	1.045	1.041	1.028	1.039	1.024	1.030	1.029	1.031	1.028	1.027	1.024	1.024	1.025	1.025	1.021	1.019	1.014	1.010	1.000	1.000			
June-87	2.283	1.440	1.270	1.169	1.102	1.067	1.052	1.037	1.041	1.027	1.054	1.013	1.029	1.012	1.012	1.009	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
June-88	2.289	1.546	1.305	1.204	1.110	1.045	1.027	1.023	1.012	1.007	1.001	1.000	1.000	1.003	1.005	1.006	1.002	1.005	1.001	1.000	1.000	1.000	1.003	1.000	1.000					
June-89	2.554	1.401	1.255	1.142	1.084	1.075	1.045	1.056	1.044	1.034	1.032	1.031	1.032	1.025	1.026	1.026	1.016	1.017	1.017	1.018	1.017	1.017	1.019	1.009						
June-90	2.213	1.434	1.222	1.099	1.072	1.067	1.046	1.038	1.036	1.026	1.020	1.020	1.016	1.015	1.015	1.016	1.009	1.011	1.007	1.007	1.007	1.007	1.007							
June-91	2.461	1.412	1.216	1.119	1.080	1.050	1.044	1.045	1.042	1.039	1.041	1.036	1.034	1.036	1.034	1.031	1.027	1.026	1.016	1.011	1.011	1.011	1.016							
June-92	1.749	1.200	1.130	1.090	1.069	1.044	1.051	1.048	1.043	1.045	1.038	1.012	1.007	1.011	1.007	1.007	1.014	1.014	1.011	1.012	1.013									
June-93	1.905	1.248	1.159	1.063	1.035	1.013	1.009	1.009	1.003	1.000	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.001										
June-94	2.079	1.311	1.149	1.065	1.048	1.048	1.050	1.038	1.036	1.021	1.020	1.011	1.009	1.009	1.010	1.009	1.009	1.009	1.010											
June-95	2.163	1.275	1.187	1.128	1.090	1.086	1.060	1.024	1.016	1.016	1.016	1.014	1.005	1.000	1.000	1.000	1.000	1.000												
June-96	1.849	1.315	1.120	1.098	1.079	1.066	1.052	1.040	1.020	1.011	1.007	1.008	1.008	1.008	1.007	1.008	1.008													
June-97	2.132	1.237	1.177	1.103	1.073	1.066	1.034	1.009	1.007	1.006	1.001	1.000	1.001	1.000	1.000	1.000														
June-98	1.950	1.316	1.178	1.124	1.099	1.060	1.038	1.022	1.019	1.014	1.013	1.013	1.012	1.013	1.011															
June-99	2.227	1.370	1.222	1.153	1.079	1.056	1.036	1.027	1.020	1.016	1.009	1.004	1.004	1.004																
June-00	2.126	1.336	1.193	1.095	1.057	1.031	1.003	1.020	1.006	1.003	1.003	1.003	1.001																	
June-01	2.213	1.371	1.203	1.096	1.066	1.044	1.017	1.000	1.001	1.000	1.000	1.001																		
June-02	2.086	1.348	1.159	1.083	1.045	1.018	1.011	1.007	1.005	1.006	1.005																			
June-03	1.986	1.296	1.129	1.082	1.025	1.013	1.002	1.000	1.002	1.004																				
June-04	2.096	1.303	1.142	1.066	1.033	1.019	1.003	1.001	1.000																					
June-05	2.058	1.299	1.158	1.059	1.040	1.028	1.011	1.002																						
June-06	2.408	1.403	1.167	1.062	1.032	1.022	1.007																							
June-07	2.039	1.263	1.132	1.063	1.030	1.020																								
June-08	2.119	1.266	1.153	1.086	1.048																									
June-09	2.117	1.287	1.151	1.061																										
June-10	1.784	1.225	1.069																											
June-11	2.244	1.246																												
June-12	2.175																													

Averages	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	To Ult
Simple Avg																															
All Yrs	2.150	1.339	1.188	1.114	1.079	1.057	1.044	1.035	1.028	1.023	1.021	1.014	1.015	1.015	1.013	1.013	1.011	1.013	1.011	1.011	1.012	1.012	1.012	1.008	1.006	1.003	1.003	1.005	1.000	1.000	
Latest 5	2.088	1.257	1.135	1.066	1.037	1.020	1.007	1.002	1.003	1.006	1.006	1.004	1.005	1.005	1.006	1.004	1.006	1.010	1.009	1.010	1.010	1.008	1.010	1.008	1.005	1.003					
Latest 3	2.068	1.253	1.125	1.070	1.037	1.023	1.007	1.001	1.002	1.003	1.003	1.002	1.006	1.006	1.006	1.003	1.006	1.003	1.007	1.008	1.010	1.013	1.010	1.003	1.003	1.004	1.004	1.005			
Volume Wtd																															
All Yrs	2.119	1.329	1.178	1.101	1.064	1.045	1.030	1.023	1.019	1.017	1.016	1.012	1.014	1.014	1.014	1.014	1.012	1.014	1.012	1.011	1.012	1.012	1.012	1.008	1.006	1.003	1.004	1.007	1.000		
Latest 5	2.089	1.260	1.141	1.065	1.036	1.020	1.007	1.002	1.003	1.005	1.005	1.004	1.005	1.005	1.006	1.004	1.006	1.012	1.010	1.011	1.010	1.009	1.011	1.008	1.006	1.003					
Latest 3	2.061	1.255	1.132	1.070	1.036	1.024	1.007	1.001	1.003	1.003	1.003	1.002	1.006	1.006	1.007	1.003	1.005	1.003	1.008	1.010	1.010	1.013	1.010	1.004	1.004	1.004	1.004	1.007			

Dev Factor Selection																															
Industry 1	2.781	1.499	1.187	1.084	1.039	1.019	1.012																								
Industry 2		1.746	1.300	1.126	1.062	1.029	1.020	1.009	1.008	1.005	1.006	1.010	1.003	1.002	1.004	1.003	1.001	1.001	1.001	1.001											
Prior	*2.149*	*1.343*	*1.180*	*1.084*	*1.049*	*1.046*	*1.031*	*1.023*	*1.018*	*1.016*	*1.009*	*1.014*	*1.015*	*1.016*	*1.015*	*1.015*	*1.003*	*1.012*	*1.012*	*1.014*	*1.018*	*1.017*	*1.008*	*1.008*	*1.004*	*1.004*	*1.004*	*1.004*	*1.004*	*1.028*	
Selected	2.150	1.339	1.178	1.083	1.050	1.045	1.030	1.023	1.015	1.014	1.008	1.012	1.014	1.014	1.014	1.014	1.005	1.010	1.010	1.014	1.018	1.017	1.010	1.008	1.004	1.004	1.004	1.004	1.004	1.004	1.027
FacToUlt	5.445	2.532	1.891	1.605	1.482	1.411	1.350	1.311	1.281	1.262	1.244	1.234	1.219	1.203	1.186	1.169	1.153	1.147	1.136	1.124	1.108	1.089	1.071	1.061	1.052	1.048	1.044	1.040	1.035	1.031	1.027
Percent of Ult	18.4%	39.5%	52.9%	62.3%	67.5%	70.9%	74.1%	76.3%	78.0%	79.2%	80.4%	81.0%	82.0%	83.1%	84.3%	85.5%	86.7%	87.2%	88.1%	89.0%	90.2%	91.8%	93.4%	94.3%	95.0%	95.4%	95.8%	96.2%	96.6%	97.0%	97.4%

Department of Corrections - Cluster 3
Indemnity

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Ultimate Loss		Ultimate Loss		Change in Ultimate Loss		Change in Ultimate Loss	
Accident	As of 6/12		As of 6/13		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	4,351,042	4,857,957	4,479,104	5,026,457	128,062	2.9%	168,500	3.5%
6/30/82-83	3,005,772	3,083,000	3,004,257	3,081,000	(1,515)	-0.1%	(2,000)	-0.1%
6/30/83-84	1,413,209	1,449,000	1,412,462	1,449,000	(747)	-0.1%	0	0.0%
6/30/84-85	4,293,181	4,519,000	4,347,091	4,576,000	53,910	1.3%	57,000	1.3%
6/30/85-86	7,478,185	7,872,000	7,486,066	7,880,000	7,881	0.1%	8,000	0.1%
6/30/86-87	4,042,000	4,050,000	4,040,000	4,048,000	(2,000)	0.0%	(2,000)	0.0%
6/30/87-88	6,381,000	6,641,000	6,378,000	6,638,000	(3,000)	0.0%	(3,000)	0.0%
6/30/88-89	7,424,000	8,154,000	7,459,000	8,190,000	35,000	0.5%	36,000	0.4%
6/30/89-90	9,616,000	9,621,000	9,644,000	9,650,000	28,000	0.3%	29,000	0.3%
6/30/90-91	10,405,000	13,827,000	10,475,000	13,950,000	70,000	0.7%	123,000	0.9%
6/30/91-92	4,571,000	4,573,000	4,575,000	4,576,000	4,000	0.1%	3,000	0.1%
6/30/92-93	3,451,000	3,457,000	3,430,000	3,435,000	(21,000)	-0.6%	(22,000)	-0.6%
6/30/93-94	5,394,000	5,396,000	5,413,000	5,413,000	19,000	0.4%	17,000	0.3%
6/30/94-95	6,924,000	6,929,000	6,875,000	6,883,000	(49,000)	-0.7%	(46,000)	-0.7%
6/30/95-96	5,754,000	5,757,000	5,793,000	5,794,000	39,000	0.7%	37,000	0.6%
6/30/96-97	6,865,000	6,869,000	6,800,000	6,800,000	(65,000)	-0.9%	(69,000)	-1.0%
6/30/97-98	9,247,000	9,279,000	9,245,000	9,281,000	(2,000)	0.0%	2,000	0.0%
6/30/98-99	8,965,000	8,987,000	8,883,000	8,911,000	(82,000)	-0.9%	(76,000)	-0.8%
6/30/99-00	9,842,000	9,874,000	9,730,000	9,769,000	(112,000)	-1.1%	(105,000)	-1.1%
6/30/00-01	12,264,892	12,950,000	12,093,863	12,772,000	(171,029)	-1.4%	(178,000)	-1.4%
6/30/01-02	11,011,000	11,052,000	10,955,000	11,007,000	(56,000)	-0.5%	(45,000)	-0.4%
6/30/02-03	10,397,450	10,962,000	10,238,782	10,800,000	(158,668)	-1.5%	(162,000)	-1.5%
6/30/03-04	9,643,043	10,159,000	9,421,694	9,931,000	(221,350)	-2.3%	(228,000)	-2.2%
6/30/04-05	10,513,000	10,872,000	10,152,000	10,583,000	(361,000)	-3.4%	(289,000)	-2.7%
6/30/05-06	7,874,000	8,316,000	7,638,000	7,905,000	(236,000)	-3.0%	(411,000)	-4.9%
6/30/06-07	7,001,000	7,424,000	6,663,000	6,959,000	(338,000)	-4.8%	(465,000)	-6.3%
6/30/07-08	7,339,000	8,175,000	7,047,000	7,657,000	(292,000)	-4.0%	(518,000)	-6.3%
6/30/08-09	6,597,000	8,003,000	6,195,000	7,295,000	(402,000)	-6.1%	(708,000)	-8.8%
6/30/09-10	5,654,000	7,708,000	4,821,000	6,361,000	(833,000)	-14.7%	(1,347,000)	-17.5%
6/30/10-11	7,477,000	9,487,000	6,542,000	8,024,000	(935,000)	-12.5%	(1,463,000)	-15.4%
6/30/11-12	6,850,000	10,569,000	5,717,000	8,199,000	(1,133,000)	-16.5%	(2,370,000)	-22.4%
6/30/12-13								
Total	222,043,774	240,871,957	216,953,318	232,843,457	(5,090,456)	-2.3%	(8,028,500)	-3.3%

NOTES:

(2), (3) From Aon analysis as of June 30, 2012

(4), (5) From Section 4, Exhibit 1, Page 1, Columns 6, 7

(6) = (4) - (2)

(7) = (4) / (2) - 1

(8) = (5) - (3)

(9) = (5) / (3) - 1

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Indemnity

Calculation of Ultimate Lump Sum Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Accident Year	Paid Loss Excluding Lump Sum	Implied Cumulative LDF	Ult Loss Excluding Lump Sum	Selected Incr Lump Sum % Outstdg	Cumulative Lump Sum % Outstdg	Total Lump Sum Outstdg	Paid Lump Sum to Date	Est Ult Lump Sum - Incr Method	Ultimate Lump Sum Percentage	Lump Sum LDF	Est Ult Lump Sum - Paid Method	Selected Est Ultimate Lump Sums	Prior Est Ultimate Lump Sums
All Prior Yrs	3,646,476	1.260	4,592,780	0.0%	0.0%	0	160,000	160,000	3.5%	1.000	160,000	160,000	160,000
6/30/82-83	2,566,735	1.130	2,900,209	0.0%	0.0%	0	181,081	181,081	6.2%	1.000	181,081	181,081	181,081
6/30/83-84	1,386,759	1.031	1,430,178	0.0%	0.0%	0	18,501	18,501	1.3%	1.000	18,501	18,501	18,501
6/30/84-85	3,703,603	1.346	4,985,293	0.0%	0.0%	0	180,850	180,850	3.6%	1.000	180,850	180,850	180,850
6/30/85-86	6,067,508	1.455	8,830,698	0.0%	0.0%	0	332,000	332,000	3.8%	1.000	332,000	332,000	320,000
6/30/86-87	3,544,280	1.044	3,699,290	0.0%	0.0%	0	340,360	340,360	9.2%	1.000	340,360	340,360	340,360
6/30/87-88	5,380,873	1.100	5,920,605	0.0%	0.0%	0	717,002	717,002	12.1%	1.000	717,002	717,002	717,002
6/30/88-89	6,535,663	1.157	7,563,801	0.0%	0.0%	0	626,200	626,200	8.3%	1.000	626,200	626,200	626,200
6/30/89-90	8,208,709	1.061	8,705,489	0.0%	0.0%	0	944,900	944,900	10.9%	1.000	944,900	944,900	944,900
6/30/90-91	8,674,427	1.500	13,008,576	0.0%	0.0%	0	941,768	941,768	7.2%	1.000	941,768	941,768	881,768
6/30/91-92	3,849,408	1.089	4,191,828	0.0%	0.0%	0	383,251	383,251	9.1%	1.000	383,251	383,251	383,251
6/30/92-93	2,519,814	1.108	2,792,991	0.0%	0.0%	0	637,301	637,301	22.8%	1.000	637,301	637,301	637,301
6/30/93-94	4,065,927	1.124	4,570,393	0.0%	0.0%	0	842,675	842,675	18.4%	1.000	842,675	842,675	842,675
6/30/94-95	5,416,002	1.136	6,150,294	0.0%	0.0%	0	732,613	732,613	11.9%	1.000	732,613	732,613	732,613
6/30/95-96	4,658,156	1.147	5,341,573	0.0%	0.0%	0	452,000	452,000	8.5%	1.000	452,000	452,000	452,000
6/30/96-97	5,233,422	1.153	6,032,850	0.0%	0.0%	0	767,601	767,601	12.7%	1.000	767,601	767,601	767,601
6/30/97-98	7,569,489	1.169	8,849,036	0.0%	0.0%	0	431,718	431,718	4.9%	1.000	431,718	431,718	432,165
6/30/98-99	7,367,640	1.186	8,735,252	0.0%	0.0%	0	176,053	176,053	2.0%	1.002	176,395	176,224	180,824
6/30/99-00	7,888,220	1.203	9,487,927	0.1%	0.1%	9,488	276,102	285,590	3.0%	1.004	277,187	281,388	275,464
6/30/00-01	10,115,331	1.219	12,332,457	0.1%	0.2%	24,665	415,283	439,948	3.6%	1.013	420,703	439,948	465,221
6/30/01-02	8,636,684	1.234	10,660,627	0.2%	0.4%	42,643	303,881	346,524	3.3%	1.025	311,449	346,524	341,145
6/30/02-03	8,336,977	1.244	10,373,874	0.2%	0.6%	62,243	363,503	425,746	4.1%	1.041	378,503	425,746	446,189
6/30/03-04	7,549,433	1.262	9,529,508	0.2%	0.8%	73,951	327,430	401,381	4.2%	1.053	344,939	401,381	433,081
6/30/04-05	7,956,390	1.281	10,195,750	0.3%	1.1%	109,708	277,550	387,259	3.8%	1.077	298,805	387,259	404,193
6/30/05-06	5,558,413	1.311	7,284,301	0.2%	1.3%	92,949	260,504	353,453	4.9%	1.099	286,191	353,453	372,002
6/30/06-07	4,495,865	1.350	6,069,512	0.2%	1.5%	89,587	207,001	296,588	4.9%	1.132	234,398	296,588	312,671
6/30/07-08	4,361,974	1.411	6,152,669	0.2%	1.7%	103,120	180,501	283,621	4.6%	1.197	216,037	283,621	299,911
6/30/08-09	3,498,318	1.482	5,183,399	0.4%	2.1%	107,608	152,017	259,625	5.0%	1.330	202,169	259,625	248,784
6/30/09-10	2,120,199	1.605	3,402,525	0.6%	2.7%	91,052	90,500	181,552	5.3%	1.733	156,849	181,552	187,038
6/30/10-11	2,754,241	1.891	5,206,968	0.7%	3.4%	175,788	58,781	234,569	4.5%	3.081	181,126	234,569	257,760
6/30/11-12	1,365,683	2.532	3,458,003	1.1%	4.5%	155,636	11,050	166,686	4.8%	11.367	125,609	166,686	177,929
6/30/12-13	594,769	5.445	3,238,266	0.8%	5.3%	171,387	4,000	175,387	5.4%	56.155	224,619	175,387	
Total	165,627,388		210,876,923			1,309,826	11,793,977	13,103,803	6.2%		12,524,801	13,099,773	13,020,481

NOTES:

(2) From Section 4, Exhibit 1, Page 2, Column 3
(3) = (4) / (2)
(4) From Section 4, Exhibit 1, Page 2, Column 6
(5) From Section 4, Exhibit 1, Page 11
(6) Downward sum of (5)
(7) = (6) x (4)
(8) From Section 4, Exhibit 1, Page 10
(9) = (7) + (8)
(10) = (9) / (4)
(11) From Section 4, Exhibit 1, Page 12
(12) = (8) x (11)
(13) Selected based on (9) and (12)
(14) From Aon analysis as of June 30, 2012

Commonwealth of Massachusetts Workers Compensation
Department of Corrections - Cluster 3
INDEMNITY
Lump Sum Development
Incremental Lump Sum Payments

Acc Yr Ending	*0-12*	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*372-384*
All Prior Yrs	0	0	0	0	0	0	0	0	15,000	0	0	0	57,500	26,000	0	60,000	0	0	0	0	0	0	1,500	0	0	0	0	0	0	0	0	0
Jun-83	0	0	0	0	0	0	0	17,500	0	35,000	41,581	41,000	46,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jun-84	0	0	0	0	0	0	0	0	18,500	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jun-85	0	0	0	11,000	0	0	20,000	0	69,000	0	42,000	0	38,850	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Jun-86	0	0	0	30,000	68,000	10,000	40,000	27,000	50,000	0	45,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48,000	2,000	12,000				
Jun-87	0	20,000	25,000	22,500	22,500	27,000	38,250	25,001	11,250	85,000	0	37,000	14,859	0	0	0	0	12,000	0	0	0	0	0	0	0	0	0					
Jun-88	0	31,500	17,000	20,000	40,000	191,500	199,000	23,000	102,000	30,000	60,000	0	0	0	0	0	0	3,000	0	1	0	0	0	1	0	0						
Jun-89	0	5,000	70,500	4,500	125,000	86,200	157,000	70,000	30,000	49,500	0	0	0	0	0	18,500	0	0	0	0	0	0	0	0	0							
Jun-90	0	16,700	104,500	133,000	151,700	139,500	73,000	98,000	40,000	170,000	1,000	0	0	0	0	0	0	0	5,000	12,500	0	0	0	0								
Jun-91	0	19,996	27,700	321,471	173,500	181,000	68,000	0	40,000	40,000	1	0	0	0	0	100	0	0	10,000	0	0	0	60,000									
Jun-92	0	30,500	94,000	95,000	50,000	90,000	0	0	0	0	0	11,250	0	0	12,501	0	0	0	0	0	0	0										
Jun-93	0	122,600	116,000	160,700	27,000	80,001	119,000	0	0	0	12,000	0	0	0	0	0	0	0	0	0	0											
Jun-94	52,000	162,000	181,925	221,000	101,000	77,500	7,500	7,500	0	15,750	0	4,500	6,000	0	0	0	6,000	0	0	0												
Jun-95	18,613	172,000	187,000	82,000	135,000	70,000	10,000	0	0	25,000	0	1,000	0	32,000	0	0	0	0	0													
Jun-96	0	35,000	32,000	335,000	0	0	0	0	12,000	15,000	23,000	0	0	0	0	0	0	0														
Jun-97	59,500	268,000	190,500	120,000	43,000	24,000	16,000	20,600	0	9,001	0	17,000	0	0	0	0	0															
Jun-98	56,500	160,501	125,715	0	10,000	29,000	20,800	12,201	9,000	8,001	0	0	0	0	0	0																
Jun-99	0	0	20,000	1	91,750	12,800	20,500	15,000	8,001	0	0	8,001	0	0	0																	
Jun-00	0	27,501	5,000	85,500	78,101	17,500	28,500	4,500	10,000	0	7,500	0	0	12,000																		
Jun-01	8,490	1	74,500	89,900	93,000	73,389	33,503	20,500	4,000	18,000	0	0	0																			
Jun-02	0	10,000	43,880	99,500	47,501	66,000	7,000	0	0	0	3,000	27,000																				
Jun-03	0	58,500	110,001	81,000	77,501	21,500	10,001	5,000	0	0	0																					
Jun-04	0	21,923	84,502	80,002	26,003	65,000	35,000	15,000	0	0																						
Jun-05	0	12,500	108,002	89,501	37,546	0	12,000	10,001	8,000																							
Jun-06	0	35,001	24,502	113,501	81,500	6,000	0	0																								
Jun-07	0	36,000	69,500	32,500	50,000	19,000	1																									
Jun-08	0	36,001	37,000	72,000	25,500	10,000																										
Jun-09	0	16,000	42,767	47,000	46,250																											
Jun-10	0	3,000	56,000	31,500																												
Jun-11	0	11,750	47,031																													
Jun-12	0	11,050																														
Jun-13	4,000																															

Cumulative Lump Sum Payments

Acc Yr Ending	*12*	*24*	*36*	*48*	*60*	*72*	*84*	*96*	*108*	*120*	*132*	*144*	*156*	*168*	*180*	*192*	*204*	*216*	*228*	*240*	*252*	*264*	*276*	*288*	*300*	*312*	*324*	*336*	*348*	*360*	*372*	*384*
All Prior Yrs	0	0	0	0	0	0	0	0	15,000	15,000	15,000	15,000	72,500	98,500	98,500	158,500	158,500	158,500	158,500	158,500	158,500	158,500	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000
Jun-83	0	0	0	0	0	0	0	17,500	17,500	52,500	94,081	135,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	
Jun-84	0	0	0	0	0	0	0	0	18,500	18,500	18,500	18,500	18,500	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501		
Jun-85	0	0	0	11,000	11,000	11,000	31,000	31,000	100,000	100,000	142,000	142,000	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850		
Jun-86	0	0	0	30,000	98,000	108,000	148,000	175,000	225,000	225,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	318,000	320,000	332,000				
Jun-87	0	20,000	45,000	67,500	90,000	117,000	155,250	180,251	191,501	276,501	276,501	313,501	328,360	328,360	328,360	328,360	328,360	340,360	340,360	340,360	340,360	340,360	340,360	340,360	340,360	340,360	340,360					
Jun-88	0	31,500	48,500	68,500	108,500	300,000	499,000	522,000	624,000	654,000	714,000	714,000	714,000	714,000	714,000	714,000	714,000	717,000	717,000	717,001	717,001	717,001	717,001	717,002	717,002	717,002						
Jun-89	0	5,000	75,500	80,000	205,000	291,200	448,200	518,200	548,200	597,700	597,700	597,700	597,700	597,700	597,700	616,200	616,200	616,200	616,200	616,200	616,200	616,200	616,200	626,200	626,200							
Jun-90	0	16,700	121,200	254,200	405,900	545,400	618,400	716,400	756,400	926,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	932,400	944,900	944,900	944,900	944,900	944,900								
Jun-91	0	19,996	47,696	369,167	542,667	723,667	791,667	791,667	831,667	871,667	871,668	871,668	871,668	871,668	871,668	871,768	871,768	871,768	881,768	881,768	881,768	881,768	941,768									
Jun-92	0	30,500	124,500	219,500	269,500	359,500	359,500	359,500	359,500	359,500	359,500	370,750	370,750	370,750	383,251	383,251	383,251	383,251	383,251	383,251	383,251	383,251										
Jun-93	0	122,600	238,600	399,300	426,300	506,301	625,301	625,301	625,301	625,301	637,301	637,301	637,301	637,301	637,301	637,301	637,301	637,301	637,301	637,301	637,301											
Jun-94	52,000	214,000	395,925	616,925	717,925	795,425	802,925	810,425	810,425	826,175	826,175	830,675	836,675	836,675	836,675	836,675	836,675	842,675	842,675	842,675	842,675											
Jun-95	18,613	190,613	377,613	459,613	594,613	664,613	674,613	674,613	674,613	699,613	699,613	700,613	700,613	732,613	732,613	732,613	732,613	732,613	732,613													
Jun-96	0	35,000	67,000	402,000	402,000	402,000	402,000	402,000	414,000	429,000	452,000	452,000	452,000	452,000	452,000	452,000	452,000	452,000														
Jun-97	59,500	327,500	518,000	638,000	681,000	705,000	721,000	741,600	741,600	750,601	750,601	767,601	767,601	767,601	767,601	767,601	767,601															
Jun-98	56,500	217,001	342,716	342,716	352,716	381,716	402,516	414,717	423,717	431,718	431,718	431,718	431,718	431,718	431,718	431,718																
Jun-99	0	0	20,000	20,001	111,751	124,551	145,051	160,051	168,052	168,052	168,052	176,053	176,053	176,053	176,053																	
Jun-00	0	27,501	32,501	118,001	196,102	213,602	242,102	246,602	256,602	256,602	264,102	264,102	264,102	276,102																		
Jun-01	8,490	8,491	82,991	172,891	265,891	339,280	372,783	393,283	397,283	415,283	415,283	415,283	415,283																			
Jun-02	0	10,000	53,880	153,380	200,881	266,881	273,881	273,881	273,881	273,881	276,881	303,881																				
Jun-03	0	58,500	168,501	249,501	327,002	348,502	358,503	363,503	363,503	363,503	363,503																					
Jun-04	0	21,923	106,425	186,427	212,430	277,430	312,430	327,430	327,430	327,430																						
Jun-05	0	12,500	120,502	210,003	247,549	247,549	259,549	269,550	277,550																							
Jun-06	0	35,001	59,503	173,004	254,504	260,504	260,504	260,504																								
Jun-07	0	36,000	105,500	138,000	188,000	207,000	207,001																									
Jun-08	0	36,001	73,001	145,001	170,501	180,501																										
Jun-09	0	16,000	58,767	105,767	152,017																											
Jun-10	0	3,000	59,000	90,500																												
Jun-11	0	11,750	58,781																													
Jun-12	0	11,050																														
Jun-13	4,000																															

Commonwealth of Massachusetts Workers Compensation
Department of Corrections - Cluster 3
INDEMNITY
Lump Sum Development
Incremental Lump Sums as a % of Ultimate Losses Excluding Lump Sums

Acc Yr Ending	0-12	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384
All Prior Yrs	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.013	0.006	0.000	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun-83	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.012	0.014	0.014	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-84	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Jun-85	0.000	0.000	0.000	0.002	0.000	0.000	0.004	0.000	0.014	0.000	0.008	0.000	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
Jun-86	0.000	0.000	0.000	0.003	0.008	0.001	0.005	0.003	0.006	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.001				
Jun-87	0.000	0.005	0.007	0.006	0.006	0.007	0.010	0.007	0.003	0.023	0.000	0.010	0.004	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
Jun-88	0.000	0.005	0.003	0.003	0.007	0.032	0.034	0.004	0.017	0.005	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000						
Jun-89	0.000	0.001	0.009	0.001	0.017	0.011	0.021	0.009	0.004	0.007	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000							
Jun-90	0.000	0.002	0.012	0.015	0.017	0.016	0.008	0.011	0.005	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000								
Jun-91	0.000	0.002	0.002	0.025	0.013	0.014	0.005	0.000	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.005									
Jun-92	0.000	0.007	0.022	0.023	0.012	0.021	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000										
Jun-93	0.000	0.044	0.042	0.058	0.010	0.029	0.043	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000											
Jun-94	0.011	0.035	0.040	0.048	0.022	0.017	0.002	0.002	0.000	0.003	0.000	0.001	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000												
Jun-95	0.003	0.028	0.030	0.013	0.022	0.011	0.002	0.000	0.000	0.004	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000													
Jun-96	0.000	0.007	0.006	0.063	0.000	0.000	0.000	0.000	0.002	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000														
Jun-97	0.010	0.044	0.032	0.020	0.007	0.004	0.003	0.003	0.000	0.001	0.000	0.003	0.000	0.000	0.000	0.000	0.000															
Jun-98	0.006	0.018	0.014	0.000	0.001	0.003	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000																
Jun-99	0.000	0.000	0.002	0.000	0.011	0.001	0.002	0.002	0.001	0.000	0.000	0.001	0.000	0.000	0.000																	
Jun-00	0.000	0.003	0.001	0.009	0.008	0.002	0.003	0.000	0.001	0.000	0.001	0.000	0.000	0.001																		
Jun-01	0.001	0.000	0.006	0.007	0.008	0.006	0.003	0.002	0.000	0.001	0.000	0.000	0.000																			
Jun-02	0.000	0.001	0.004	0.009	0.004	0.006	0.001	0.000	0.000	0.000	0.000	0.003																				
Jun-03	0.000	0.006	0.011	0.008	0.007	0.002	0.001	0.000	0.000	0.000	0.000																					
Jun-04	0.000	0.002	0.009	0.008	0.003	0.007	0.004	0.002	0.000	0.000																						
Jun-05	0.000	0.001	0.011	0.009	0.004	0.000	0.001	0.001	0.001																							
Jun-06	0.000	0.005	0.003	0.016	0.011	0.001	0.000	0.000																								
Jun-07	0.000	0.006	0.011	0.005	0.008	0.003	0.000																									
Jun-08	0.000	0.006	0.006	0.012	0.004	0.002																										
Jun-09	0.000	0.003	0.008	0.009	0.009																											
Jun-10	0.000	0.001	0.016	0.009																												
Jun-11	0.000	0.002	0.009																													
Jun-12	0.000	0.003																														
Jun-13	0.001																															

Averages		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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384
Simple Avg																																
All Yrs (ex P)	0.001	0.008	0.011	0.014	0.008	0.008	0.006	0.002	0.003	0.004	0.002	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	
Latest 5	0.000	0.003	0.010	0.010	0.007	0.002	0.001	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.000					
Latest 3	0.000	0.002	0.011	0.010	0.007	0.002	0.000	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.000	0.000	0.000			
Olympic Avg																																
All Yrs (ex P)	0.001	0.007	0.010	0.012	0.008	0.007	0.005	0.002	0.003	0.003	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
Latest 10	0.000	0.004	0.009	0.009	0.007	0.003	0.002	0.001	0.001	0.001	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000									
Latest 5	0.000	0.003	0.010	0.010	0.007	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					

Dev Factor Selection																																
Prior	NA	0.008	0.010	0.007	0.006	0.004	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Selected	NA	0.008	0.011	0.007	0.006	0.004	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FacToUlt	NA	0.053	0.045	0.034	0.027	0.021	0.017	0.015	0.013	0.011	0.008	0.006	0.004	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Commonwealth of Massachusetts Workers Compensation
Department of Corrections - Cluster 3
INDEMNITY
Paid Loss Development
Paid Loss - Lump Sum only

Acc Yr Ending	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384
All Prior Yrs	0	0	0	0	0	0	0	0	15,000	15,000	15,000	15,000	72,500	98,500	98,500	158,500	158,500	158,500	158,500	158,500	158,500	158,500	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000
Jun-83	0	0	0	0	0	0	0	17,500	17,500	52,500	94,081	135,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081		
Jun-84	0	0	0	0	0	0	0	0	18,500	18,500	18,500	18,500	18,500	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501	18,501		
Jun-85	0	0	0	11,000	11,000	11,000	31,000	31,000	100,000	100,000	142,000	142,000	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850	180,850			
Jun-86	0	0	0	30,000	98,000	108,000	148,000	175,000	225,000	225,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	318,000	320,000	332,000				
Jun-87	0	20,000	45,000	67,500	90,000	117,000	155,250	180,251	191,501	276,501	276,501	313,501	328,360	328,360	328,360	328,360	328,360	340,360	340,360	340,360	340,360	340,360	340,360	340,360	340,360	340,360	340,360					
Jun-88	0	31,500	48,500	68,500	108,500	300,000	499,000	522,000	624,000	654,000	714,000	714,000	714,000	714,000	714,000	714,000	714,000	717,000	717,000	717,001	717,001	717,001	717,001	717,002	717,002	717,002						
Jun-89	0	5,000	75,500	80,000	205,000	291,200	448,200	518,200	548,200	597,700	597,700	597,700	597,700	597,700	597,700	616,200	616,200	616,200	616,200	616,200	616,200	616,200	616,200	626,200	626,200							
Jun-90	0	16,700	121,200	254,200	405,900	545,400	618,400	716,400	756,400	926,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	932,400	944,900	944,900	944,900	944,900	944,900								
Jun-91	0	19,996	47,696	369,167	542,667	723,667	791,667	791,667	831,667	871,667	871,668	871,668	871,668	871,668	871,668	871,768	871,768	871,768	881,768	881,768	881,768	881,768	941,768									
Jun-92	0	30,500	124,500	219,500	269,500	359,500	359,500	359,500	359,500	359,500	359,500	370,750	370,750	370,750	383,251	383,251	383,251	383,251	383,251	383,251	383,251	383,251										
Jun-93	0	122,600	238,600	399,300	426,300	506,301	625,301	625,301	625,301	625,301	637,301	637,301	637,301	637,301	637,301	637,301	637,301	637,301	637,301	637,301	637,301											
Jun-94	52,000	214,000	395,925	616,925	717,925	795,425	802,925	810,425	810,425	826,175	826,175	830,675	836,675	836,675	836,675	836,675	836,675	842,675	842,675	842,675	842,675											
Jun-95	18,613	190,613	377,613	459,613	594,613	664,613	674,613	674,613	674,613	699,613	699,613	700,613	700,613	732,613	732,613	732,613	732,613	732,613	732,613													
Jun-96	0	35,000	67,000	402,000	402,000	402,000	402,000	402,000	414,000	429,000	452,000	452,000	452,000	452,000	452,000	452,000	452,000	452,000														
Jun-97	59,500	327,500	518,000	638,000	681,000	705,000	721,000	741,600	741,600	750,601	750,601	767,601	767,601	767,601	767,601	767,601	767,601															
Jun-98	56,500	217,001	342,716	342,716	352,716	381,716	402,516	414,717	423,717	431,718	431,718	431,718	431,718	431,718	431,718	431,718	431,718															
Jun-99	0	0	20,000	20,001	111,751	124,551	145,051	160,051	168,052	168,052	168,052	176,053	176,053	176,053	176,053																	
Jun-00	0	27,501	32,501	118,001	196,102	213,602	242,102	246,602	256,602	256,602	264,102	264,102	264,102	276,102																		
Jun-01	8,490	8,491	82,991	172,891	265,891	339,280	372,783	393,283	397,283	415,283	415,283	415,283	415,283																			
Jun-02	0	10,000	53,880	153,380	200,881	266,881	273,881	273,881	273,881	273,881	276,881	303,881																				
Jun-03	0	58,500	168,501	249,501	327,002	348,502	358,503	363,503	363,503	363,503	363,503																					
Jun-04	0	21,923	106,425	186,427	212,430	277,430	312,430	327,430	327,430	327,430																						
Jun-05	0	12,500	120,502	210,003	247,549	247,549	259,549	269,550	277,550																							
Jun-06	0	35,001	59,503	173,004	254,504	260,504	260,504	260,504																								
Jun-07	0	36,000	105,500	138,000	188,000	207,000	207,001																									
Jun-08	0	36,001	73,001	145,001	170,501	180,501																										
Jun-09	0	16,000	58,767	105,767	152,017																											
Jun-10	0	3,000	59,000	90,500																												
Jun-11	0	11,750	58,781																													
Jun-12	0	11,050																														
Jun-13	4,000																															

Age-to-Age Factors

Acc Yr Ending	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	To Ult
All Prior Yrs									1.000	1.000	1.000	4.833	1.359	1.000	1.609	1.000	1.000	1.000	1.000	1.000	1.000	1.009	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-83								1.000	3.000	1.792	1.436	1.341	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
Jun-84									1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Jun-85				1.000	1.000	2.818	1.000	3.226	1.000	1.420	1.000	1.274	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
Jun-86				3.267	1.102	1.370	1.182	1.286	1.000	1.200	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.178	1.006	1.038					
Jun-87		2.250	1.500	1.333	1.300	1.327	1.161	1.062	1.444	1.000	1.134	1.047	1.000	1.000	1.000	1.000	1.037	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
Jun-88		1.540	1.412	1.584	2.765	1.663	1.046	1.195	1.048	1.092	1.000	1.000	1.000	1.000	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
Jun-89		15.100	1.060	2.563	1.420	1.539	1.156	1.058	1.090	1.000	1.000	1.000	1.000	1.000	1.031	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.016	1.000								
Jun-90		7.257	2.097	1.597	1.344	1.134	1.158	1.056	1.225	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.005	1.013	1.000	1.000	1.000	1.000									
Jun-91		2.385	7.740	1.470	1.334	1.094	1.000	1.051	1.048	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.011	1.000	1.000	1.000	1.068										
Jun-92		4.082	1.763	1.228	1.334	1.000	1.000	1.000	1.000	1.000	1.031	1.000	1.000	1.034	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
Jun-93		1.946	1.674	1.068	1.188	1.235	1.000	1.000	1.000	1.019	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000												
Jun-94	4.115	1.850	1.558	1.164	1.108	1.009	1.009	1.000	1.019	1.000	1.005	1.007	1.000	1.000	1.000	1.007	1.000	1.000	1.000													
Jun-95	10.241	1.981	1.217	1.294	1.118	1.015	1.000	1.000	1.037	1.000	1.001	1.000	1.046	1.000	1.000	1.000	1.000	1.000														
Jun-96		1.914	6.000	1.000	1.000	1.000	1.000	1.030	1.036	1.054	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000														
Jun-97	5.504	1.582	1.232	1.067	1.035	1.023	1.029	1.000	1.012	1.000	1.023	1.000	1.000	1.000	1.000	1.000																
Jun-98	3.841	1.579	1.000	1.029	1.082	1.054	1.030	1.022	1.019	1.000	1.000	1.000	1.000	1.000	1.000																	
Jun-99			1.000	5.587	1.115	1.165	1.103	1.050	1.000	1.000	1.048	1.000	1.000	1.000																		
Jun-00		1.182	3.631	1.662	1.089	1.133	1.019	1.041	1.000	1.029	1.000	1.000	1.045																			
Jun-01	1.000	9.774	2.083	1.538	1.276	1.099	1.055	1.010	1.045	1.000	1.000	1.000																				
Jun-02		5.388	2.847	1.310	1.329	1.026	1.000	1.000	1.000	1.011	1.098																					
Jun-03		2.880	1.481	1.311	1.066	1.029	1.014	1.000	1.000	1.000																						
Jun-04		4.854	1.752	1.139	1.306	1.126	1.048	1.000	1.000																							
Jun-05		9.640	1.743	1.179	1.000	1.048	1.039	1.030																								
Jun-06		1.700	2.907	1.471	1.024	1.000	1.000																									
Jun-07		2.931	1.308	1.362	1.101	1.000																										
Jun-08		2.028	1.986	1.176	1.059																											
Jun-09		3.673	1.800	1.437																												
Jun-10		19.667	1.534																													
Jun-11		5.003																														
Jun-12																																

Averages	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	To Ult
Simple Avg																																
All Yrs (ex P)	4.940	4.674	2.180	1.593	1.229	1.213	1.048	1.142	1.137	1.077	1.039	1.035	1.005	1.002	1.002	1.000	1.003	1.001	1.001	1.000	1.000	1.008	1.002	1.000	1.030	1.001	1.009	1.000	1.000	1.000		
Latest 5		6.660	1.907	1.325	1.098	1.041	1.020	1.008	1.009	1.008	1.029	1.000	1.009	1.000	1.000	1.001	1.000	1.002	1.003	1.000	1.000	1.014	1.003	1.000	1.036	1.001						
Latest 3		9.447	1.773	1.325	1.061	1.016	1.029	1.010	1.000	1.004	1.033	1.000	1.015	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.023	1.005	1.000	1.059	1.002	1.013	1.000				
Volume Wtd																																
All Yrs (ex P)	7.781	2.257	1.711	1.284	1.183	1.112	1.042	1.046	1.055	1.025	1.016	1.012	1.005	1.001	1.002	1.001	1.002	1.002	1.002	1.000	1.000	1.014	1.003	1.000	1.028	1.002	1.017	1.000	1.000			
Latest 5		3.455	1.833	1.312	1.093	1.043	1.020	1.007	1.011	1.007	1.022	1.000	1.006	1.000	1.000	1.002	1.000	1.003	1.003	1.000	1.000	1.017	1.003	1.000	1.031	1.002						
Latest 3		5.741	1.789	1.313	1.057	1.017	1.030	1.008	1.000	1.003	1.028	1.000	1.014	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.025	1.004	1.000	1.036	1.002	1.023	1.000				

Dev Factor Selection																																
Prior	4.940	3.689	1.734	1.295	1.104	1.073	1.036	1.018	1.029	1.015	1.013	1.012	1.009	1.002	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Selected	4.940	3.689	1.778	1.303	1.111	1.057	1.031	1.020	1.022	1.012	1.016	1.012	1.009	1.002	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
FacToUlt	56.155	11.367	3.081	1.733	1.330	1.197	1.132	1.099	1.077	1.053	1.041	1.025	1.013	1.004	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Percent of Ult	1.8%	8.8%	32.5%	57.7%	75.2%	83.6%	88.3%	91.0%	92.9%	94.9%	96.0%	97.6%	98.7%	99.6%	99.8%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Department of Corrections - Cluster 3
Indemnity

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At: 4%	6%
384	100.0%	2.6%	0.0%	0.8%	0.4%	1.000	1.000
372	97.4%	0.4%	2.6%	0.1%	0.1%	0.981	0.971
360	97.0%	0.4%	3.0%	0.1%	0.1%	0.948	0.923
348	96.6%	0.4%	3.4%	0.1%	0.1%	0.919	0.882
336	96.2%	0.4%	3.8%	0.1%	0.1%	0.894	0.846
324	95.8%	0.4%	4.2%	0.1%	0.1%	0.870	0.814
312	95.4%	0.4%	4.6%	0.1%	0.1%	0.849	0.785
300	95.0%	0.8%	5.0%	0.3%	0.2%	0.829	0.758
288	94.3%	0.9%	5.7%	0.4%	0.2%	0.821	0.749
276	93.4%	1.5%	6.6%	0.6%	0.4%	0.817	0.744
264	91.8%	1.6%	8.2%	0.7%	0.5%	0.822	0.752
252	90.2%	1.3%	9.8%	0.6%	0.4%	0.821	0.753
240	89.0%	0.9%	11.0%	0.4%	0.3%	0.812	0.740
228	88.1%	0.9%	11.9%	0.4%	0.3%	0.795	0.719
216	87.2%	0.5%	12.8%	0.2%	0.2%	0.779	0.698
204	86.7%	1.2%	13.3%	0.6%	0.5%	0.757	0.669
192	85.5%	1.2%	14.5%	0.7%	0.5%	0.749	0.660
180	84.3%	1.2%	15.7%	0.7%	0.5%	0.740	0.649
168	83.1%	1.1%	16.9%	0.7%	0.5%	0.731	0.638
156	82.0%	1.0%	18.0%	0.6%	0.5%	0.720	0.625
144	81.0%	0.6%	19.0%	0.4%	0.3%	0.708	0.610
132	80.4%	1.1%	19.6%	0.8%	0.6%	0.690	0.588
120	79.2%	1.2%	20.8%	0.8%	0.7%	0.681	0.578
108	78.0%	1.7%	22.0%	1.2%	1.1%	0.673	0.568
96	76.3%	2.2%	23.7%	1.7%	1.4%	0.671	0.568
84	74.1%	3.2%	25.9%	2.5%	2.2%	0.674	0.573
72	70.9%	3.4%	29.1%	2.7%	2.5%	0.685	0.588
60	67.5%	5.2%	32.5%	4.3%	4.0%	0.692	0.598
48	62.3%	9.4%	37.7%	8.2%	7.7%	0.709	0.620
36	52.9%	13.4%	47.1%	12.2%	11.6%	0.741	0.662
24	39.5%	21.1%	60.5%	19.9%	19.4%	0.772	0.702
12	18.4%	18.4%	81.6%	18.0%	17.8%	0.804	0.742
Total		100.0%					

NOTES:

(2) = 1 / Section 4, Exhibit 1, Page 2, Column 4

(3) Incremental % based on (2)

(4) = 1 - (2)

(5) = [(3) / 1.04] ^ {[(1) - 6] / 12}

(6) = [(3) / 1.06] ^ {[(1) - 6] / 12}

(7), (8) Discount factor based on (5), (6)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Indemnity

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	672,627	1,219,980		634,645	1,151,089
6/30/82-83	256,441	333,184	0.981	251,461	326,714
6/30/83-84	7,202	43,740	0.948	6,826	41,452
6/30/84-85	462,638	691,547	0.919	425,193	635,576
6/30/85-86	1,086,558	1,480,492	0.894	970,845	1,322,826
6/30/86-87	155,360	163,360	0.870	135,201	142,163
6/30/87-88	280,125	540,125	0.849	237,765	458,448
6/30/88-89	297,137	1,028,137	0.829	246,255	852,079
6/30/89-90	490,391	496,391	0.821	402,693	407,620
6/30/90-91	858,805	4,333,805	0.817	701,259	3,538,775
6/30/91-92	342,342	343,342	0.822	281,271	282,092
6/30/92-93	272,885	277,885	0.821	224,153	228,260
6/30/93-94	504,398	504,398	0.812	409,343	409,343
6/30/94-95	726,385	734,385	0.795	577,805	584,169
6/30/95-96	682,844	683,844	0.779	532,125	532,904
6/30/96-97	798,977	798,977	0.757	605,049	605,049
6/30/97-98	1,243,793	1,279,793	0.749	931,913	958,886
6/30/98-99	1,339,307	1,367,307	0.740	991,509	1,012,237
6/30/99-00	1,565,678	1,604,678	0.731	1,144,566	1,173,076
6/30/00-01	1,563,249	2,241,386	0.720	1,125,817	1,614,197
6/30/01-02	2,014,435	2,066,435	0.708	1,425,745	1,462,548
6/30/02-03	1,538,302	2,099,520	0.690	1,062,151	1,449,655
6/30/03-04	1,544,831	2,054,137	0.681	1,052,555	1,399,566
6/30/04-05	1,918,060	2,349,060	0.673	1,290,275	1,580,208
6/30/05-06	1,819,083	2,086,083	0.671	1,220,949	1,400,156
6/30/06-07	1,960,134	2,256,134	0.674	1,321,629	1,521,208
6/30/07-08	2,504,525	3,114,525	0.685	1,714,583	2,132,185
6/30/08-09	2,544,665	3,644,665	0.692	1,760,962	2,522,185
6/30/09-10	2,610,301	4,150,301	0.709	1,849,947	2,941,361
6/30/10-11	3,728,978	5,210,978	0.741	2,764,121	3,862,660
6/30/11-12	4,340,267	6,822,267	0.772	3,350,984	5,267,259
6/30/12-13	5,999,231	9,673,231	0.804	4,823,510	7,777,485
Total	46,129,953	65,694,092		34,473,102	49,593,431
			(7) Total Discount Factor:	0.747	0.755

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	672,627	1,219,980
(9) Projected Number of Years:	3	3
(10) Projected Paid Loss per Year:	224,209	406,660
(11) Discounted Value at 4%:	634,645	1,151,089

NOTES:
(2), (3) From Section 4, Exhibit 1, Page 1, Columns 8, 9
(4) From Section 4, Exhibit 1, Page 13, Column 7
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Indemnity

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	672,627	1,219,980		617,293	1,119,617
6/30/82-83	256,441	333,184	0.971	249,078	323,617
6/30/83-84	7,202	43,740	0.923	6,650	40,387
6/30/84-85	462,638	691,547	0.882	408,223	610,208
6/30/85-86	1,086,558	1,480,492	0.846	919,736	1,253,189
6/30/86-87	155,360	163,360	0.814	126,518	133,033
6/30/87-88	280,125	540,125	0.785	219,956	424,110
6/30/88-89	297,137	1,028,137	0.758	225,366	779,801
6/30/89-90	490,391	496,391	0.749	367,468	371,964
6/30/90-91	858,805	4,333,805	0.744	639,164	3,225,424
6/30/91-92	342,342	343,342	0.752	257,557	258,309
6/30/92-93	272,885	277,885	0.753	205,444	209,208
6/30/93-94	504,398	504,398	0.740	373,239	373,239
6/30/94-95	726,385	734,385	0.719	522,062	527,812
6/30/95-96	682,844	683,844	0.698	476,373	477,071
6/30/96-97	798,977	798,977	0.669	534,468	534,468
6/30/97-98	1,243,793	1,279,793	0.660	820,294	844,036
6/30/98-99	1,339,307	1,367,307	0.649	869,021	887,189
6/30/99-00	1,565,678	1,604,678	0.638	998,563	1,023,436
6/30/00-01	1,563,249	2,241,386	0.625	976,494	1,400,097
6/30/01-02	2,014,435	2,066,435	0.610	1,227,929	1,259,626
6/30/02-03	1,538,302	2,099,520	0.588	904,785	1,234,877
6/30/03-04	1,544,831	2,054,137	0.578	892,594	1,186,869
6/30/04-05	1,918,060	2,349,060	0.568	1,089,629	1,334,476
6/30/05-06	1,819,083	2,086,083	0.568	1,032,719	1,184,298
6/30/06-07	1,960,134	2,256,134	0.573	1,123,389	1,293,032
6/30/07-08	2,504,525	3,114,525	0.588	1,471,876	1,830,365
6/30/08-09	2,544,665	3,644,665	0.598	1,521,917	2,179,807
6/30/09-10	2,610,301	4,150,301	0.620	1,618,798	2,573,842
6/30/10-11	3,728,978	5,210,978	0.662	2,469,592	3,451,076
6/30/11-12	4,340,267	6,822,267	0.702	3,044,835	4,786,037
6/30/12-13	5,999,231	9,673,231	0.742	4,450,897	7,176,678
Total	46,129,953	65,694,092		30,661,928	44,307,199
			(7) Total Discount Factor:	0.665	0.674

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	672,627	1,219,980
(9) Projected Number of Years:	3	3
(10) Projected Paid Loss per Year:	224,209	406,660
(11) Discounted Value at 6%:	617,293	1,119,617

NOTES:
(2), (3) From Section 4, Exhibit 1, Page 1, Columns 8, 9
(4) From Section 4, Exhibit 1, Page 13, Column 8
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Total Indemnity (Including Lump Sums) + Medical

Calculation of Fiscal Year 7/1/12 - 13 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Cumulative	Incremental Paid		Estimated Payments from		FY 7/1/13 - 6/30/14	
Accident	Est Ult Losses	Est Ult Losses	Paid Losses	Reserves	Reserves	Percent	as a % of	as a % of	7/1/13 - 6/30/14		as a % of Reserves	
Year	(Low)	(High)	to Date	(Low)	(High)	Paid	Ultimates	Reserves	(Low)	(High)	(Low)	(High)
All Prior Yrs	5,820,136	7,382,879	4,460,600	1,359,536	2,922,279				98,227	108,049	7.2%	3.7%
6/30/82-83	3,169,006	3,253,737	2,912,565	256,441	341,172	90.7%	0.5%	5.4%	13,780	18,333	5.4%	5.4%
6/30/83-84	2,142,876	2,217,893	2,135,674	7,202	82,219	97.9%	0.5%	24.4%	1,756	20,048	24.4%	24.4%
6/30/84-85	4,808,091	5,044,000	4,336,200	471,891	707,800	88.0%	1.0%	8.4%	39,410	59,111	8.4%	8.4%
6/30/85-86	8,067,066	8,466,000	6,962,379	1,104,687	1,503,621	84.2%	1.0%	6.3%	70,022	95,309	6.3%	6.3%
6/30/86-87	4,716,000	4,725,000	4,532,161	183,839	192,839	96.0%	1.0%	25.1%	46,077	48,333	25.1%	25.1%
6/30/87-88	7,580,000	7,843,000	7,243,711	336,289	599,289	93.9%	2.0%	33.0%	110,874	197,586	33.0%	33.0%
6/30/88-89	8,768,000	9,502,000	8,408,254	359,746	1,093,746	92.0%	2.0%	25.1%	90,438	274,962	25.1%	25.1%
6/30/89-90	11,606,000	11,614,000	11,011,449	594,551	602,551	94.8%	2.0%	38.8%	230,648	233,752	38.8%	38.8%
6/30/90-91	13,081,000	16,557,000	12,070,585	1,010,415	4,486,415	81.5%	2.0%	10.8%	108,960	483,800	10.8%	10.8%
6/30/91-92	6,651,000	6,653,000	6,177,973	473,027	475,027	92.9%	2.0%	28.1%	132,759	133,321	28.1%	28.1%
6/30/92-93	4,854,000	4,860,000	4,484,717	369,283	375,283	92.3%	2.0%	26.1%	96,357	97,923	26.1%	26.1%
6/30/93-94	7,029,000	7,031,000	6,385,581	643,419	645,419	90.8%	2.0%	21.8%	140,382	140,818	21.8%	21.8%
6/30/94-95	8,346,000	8,356,000	7,474,126	871,874	881,874	89.5%	2.0%	19.0%	166,068	167,972	19.0%	19.0%
6/30/95-96	7,440,000	7,443,000	6,575,595	864,405	867,405	88.4%	2.0%	17.2%	148,572	149,088	17.2%	17.2%
6/30/96-97	8,787,000	8,792,000	7,759,294	1,027,706	1,032,706	88.3%	2.0%	17.1%	175,363	176,217	17.1%	17.1%
6/30/97-98	11,466,000	11,510,000	9,959,493	1,506,507	1,550,507	86.7%	2.0%	15.0%	226,453	233,067	15.0%	15.0%
6/30/98-99	11,001,000	11,035,000	9,382,359	1,618,641	1,652,641	85.2%	2.0%	13.5%	218,070	222,650	13.5%	13.5%
6/30/99-00	12,100,000	12,149,000	10,193,681	1,906,319	1,955,319	84.1%	2.0%	12.6%	239,413	245,567	12.6%	12.6%
6/30/00-01	15,519,863	16,224,000	13,416,775	2,103,088	2,807,225	84.5%	2.0%	12.9%	271,918	362,959	12.9%	12.9%
6/30/01-02	13,219,000	13,276,000	10,808,068	2,410,932	2,467,932	81.6%	2.0%	10.9%	261,855	268,045	10.9%	10.9%
6/30/02-03	12,846,782	13,559,000	10,914,565	1,932,216	2,644,435	82.7%	2.0%	11.5%	222,965	305,150	11.5%	11.5%
6/30/03-04	11,820,694	12,464,000	9,874,861	1,945,833	2,589,139	81.3%	1.3%	7.2%	139,856	186,093	7.2%	7.2%
6/30/04-05	13,165,000	13,840,000	10,747,763	2,417,237	3,092,237	79.6%	1.7%	8.5%	204,676	261,830	8.5%	8.5%
6/30/05-06	10,267,000	10,659,000	7,903,256	2,363,744	2,755,744	75.5%	4.1%	16.6%	392,565	457,668	16.6%	16.6%
6/30/06-07	8,774,000	9,100,000	6,246,667	2,527,333	2,853,333	69.9%	5.6%	18.7%	473,389	534,452	18.7%	18.7%
6/30/07-08	9,162,000	9,962,000	6,025,640	3,136,360	3,936,360	63.0%	6.9%	18.6%	583,468	732,295	18.6%	18.6%
6/30/08-09	8,154,000	9,545,000	5,019,641	3,134,359	4,525,359	56.7%	6.3%	14.5%	455,854	658,158	14.5%	14.5%
6/30/09-10	6,228,000	8,249,000	3,028,714	3,199,286	5,220,286	41.8%	14.9%	25.6%	818,580	1,335,680	25.6%	25.6%
6/30/10-11	8,232,000	10,362,350	3,773,801	4,458,199	6,588,549	40.6%	1.3%	2.1%	93,870	138,727	2.1%	2.1%
6/30/11-12	7,336,000	10,653,900	2,015,638	5,320,362	8,638,262	22.4%	18.2%	23.4%	1,246,740	2,024,235	23.4%	23.4%
6/30/12-13	8,454,000	13,298,100	885,308	7,568,692	12,412,792	8.1%	14.3%	15.5%	1,175,642	1,928,074	15.5%	15.5%
Total	280,610,514	305,626,859	223,127,092	57,483,422	82,499,767				8,695,008	12,299,271	15.1%	14.9%

NOTES:

(2) Exhibit 1, Page 1, Column (4) + Exhibit 2, Page 1, Column (4)
(3) Exhibit 1, Page 1, Column (5) + Exhibit 2, Page 1, Column (5)
(4) Exhibit 1, Page 1, Column (2) + Exhibit 2, Page 1, Column (2)
(5) = (2) - (4)
(6) = (3) - (4)
(7) = (4) / Average of Columns (2), (3)
(8) = (7) - Prior Year's (7)
(9) = (8) / (1.00 - (7))
(10) = (5) * (9)
(11) = (6) * (9)
(12) = (10) / (5)
(13) = (11) / (6)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Medical

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Paid Loss	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		654,124			1,341,032	2,356,422	686,909	1,702,299		
6/30/82-83		164,749	169,350		164,749	172,737	0	7,988		
6/30/83-84		730,414	753,816		730,414	768,893	0	38,479		
6/30/84-85	115,258	451,747	468,086	461,041	461,000	468,000	9,253	16,253	0.400	0.406
6/30/85-86	123,937	562,871	585,562	581,121	581,000	586,000	18,129	23,129	0.469	0.473
6/30/86-87	142,396	647,521	676,319	677,109	676,000	677,000	28,479	29,479	0.475	0.475
6/30/87-88	166,792	1,145,836	1,201,584	1,205,344	1,202,000	1,205,000	56,164	59,164	0.721	0.722
6/30/88-89	180,117	1,246,391	1,312,259	1,309,496	1,309,000	1,312,000	62,609	65,609	0.727	0.728
6/30/89-90	180,883	1,857,840	1,963,844	1,961,823	1,962,000	1,964,000	104,160	106,160	1.085	1.086
6/30/90-91	169,902	2,454,390	2,607,405	2,606,440	2,606,000	2,607,000	151,610	152,610	1.534	1.534
6/30/91-92	165,926	1,945,315	2,076,925	2,075,501	2,076,000	2,077,000	130,685	131,685	1.251	1.252
6/30/92-93	174,198	1,327,602	1,424,508	1,423,663	1,424,000	1,425,000	96,398	97,398	0.817	0.818
6/30/93-94	185,946	1,476,979	1,617,895	1,616,088	1,616,000	1,618,000	139,021	141,021	0.869	0.870
6/30/94-95	194,051	1,325,511	1,472,916	1,471,385	1,471,000	1,473,000	145,489	147,489	0.758	0.759
6/30/95-96	205,262	1,465,439	1,649,147	1,646,562	1,647,000	1,649,000	181,561	183,561	0.802	0.803
6/30/96-97	234,073	1,758,270	1,991,550	1,987,339	1,987,000	1,992,000	228,730	233,730	0.849	0.851
6/30/97-98	221,865	1,958,286	2,229,109	2,221,216	2,221,000	2,229,000	262,714	270,714	1.001	1.005
6/30/98-99	256,071	1,838,665	2,123,578	2,117,882	2,118,000	2,124,000	279,335	285,335	0.827	0.829
6/30/99-00	268,486	2,029,359	2,379,572	2,370,295	2,370,000	2,380,000	340,641	350,641	0.883	0.886
6/30/00-01	279,182	2,886,161	3,451,617	3,425,867	3,426,000	3,452,000	539,839	565,839	1.227	1.236
6/30/01-02	283,070	1,867,504	2,269,349	2,263,511	2,264,000	2,269,000	396,496	401,496	0.800	0.802
6/30/02-03	289,846	2,214,085	2,759,398	2,745,539	2,608,000	2,759,000	393,915	544,915	0.900	0.952
6/30/03-04	293,771	1,997,998	2,533,481	2,525,592	2,399,000	2,533,000	401,002	535,002	0.817	0.862
6/30/04-05	291,382	2,513,823	3,256,850	3,012,724	3,013,000	3,257,000	499,177	743,177	1.034	1.118
6/30/05-06	294,709	2,084,339	2,754,012	2,629,418	2,629,000	2,754,000	544,661	669,661	0.892	0.934
6/30/06-07	289,603	1,543,801	2,110,586	2,141,260	2,111,000	2,141,000	567,199	597,199	0.729	0.739
6/30/07-08	354,668	1,483,165	2,115,081	2,305,343	2,115,000	2,305,000	631,835	821,835	0.596	0.650
6/30/08-09	332,413	1,369,306	2,062,582	2,249,574	1,959,000	2,250,000	589,694	880,694	0.589	0.677
6/30/09-10	336,338	818,015	1,340,091	1,888,323	1,407,000	1,888,000	588,985	1,069,985	0.418	0.561
6/30/10-11	333,783	960,779	1,778,911	2,227,230	1,690,000	2,338,350	729,221	1,377,571	0.506	0.701
6/30/11-12	348,187	638,905	1,541,614	2,337,777	1,619,000	2,454,900	980,095	1,815,995	0.465	0.705
6/30/12-13	368,022	286,539	1,767,459	2,881,633	1,856,000	3,026,100	1,569,461	2,739,561	0.504	0.822
Total	7,080,138	45,705,727	56,444,458	58,366,096	57,059,195	62,511,402	11,353,468	16,805,675		
Tot 6/30/84-13	7,080,138	44,156,440	55,521,291	58,366,096	54,823,000	59,213,350	10,666,560	15,056,910	0.774	0.836

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 4, Exhibit 2, Page 2, Column 3

(4) From Section 4, Exhibit 2, Page 2, Column 8

(5) From Section 4, Exhibit 2, Page 3, Column 8

(6), (7) Selected based on (3), (4), and (5)

(8) = (6) - (3)

(9) = (7) - (3)

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Medical

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Accident Year	Payroll (000's)	Paid Loss	Paid LDF	Adjustment for Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/11-12	Paid Counts 7/1/12-13	Average Outstanding Claim
All Prior Yrs		654,124							4	2	
6/30/82-83		164,749	1.028	1.000	169,350	N/A	169,350		0	0	
6/30/83-84		730,414	1.032	1.000	753,816	N/A	753,816		0	0	
6/30/84-85	115,258	451,747	1.036	1.000	468,086	N/A	468,086	0.406	1	1	16,339
6/30/85-86	123,937	562,871	1.040	1.000	585,562	N/A	585,562	0.472	1	1	22,691
6/30/86-87	142,396	647,521	1.044	1.000	676,319	N/A	676,319	0.475	1	1	28,798
6/30/87-88	166,792	1,145,836	1.049	1.000	1,201,584	N/A	1,201,584	0.720	1	1	55,747
6/30/88-89	180,117	1,246,391	1.053	1.000	1,312,259	N/A	1,312,259	0.729	2	3	21,956
6/30/89-90	180,883	1,857,840	1.057	1.000	1,963,844	N/A	1,963,844	1.086	2	2	53,002
6/30/90-91	169,902	2,454,390	1.062	1.000	2,607,405	N/A	2,607,405	1.535	8	8	19,127
6/30/91-92	165,926	1,945,315	1.068	1.000	2,076,925	N/A	2,076,925	1.252	2	5	26,322
6/30/92-93	174,198	1,327,602	1.073	1.000	1,424,508	N/A	1,424,508	0.818	1	3	32,302
6/30/93-94	185,946	1,476,979	1.095	1.000	1,617,895	N/A	1,617,895	0.870	7	5	28,183
6/30/94-95	194,051	1,325,511	1.111	1.000	1,472,916	N/A	1,472,916	0.759	2	3	49,135
6/30/95-96	205,262	1,465,439	1.125	1.000	1,649,147	N/A	1,649,147	0.803	3	2	91,854
6/30/96-97	234,073	1,758,270	1.133	1.000	1,991,550	N/A	1,991,550	0.851	4	6	38,880
6/30/97-98	221,865	1,958,286	1.138	1.000	2,229,109	N/A	2,229,109	1.005	8	4	67,706
6/30/98-99	256,071	1,838,665	1.155	1.000	2,123,578	N/A	2,123,578	0.829	7	8	35,614
6/30/99-00	268,486	2,029,359	1.173	1.000	2,379,572	N/A	2,379,572	0.886	8	8	43,777
6/30/00-01	279,182	2,886,161	1.196	1.000	3,451,617	N/A	3,451,617	1.236	7	7	80,779
6/30/01-02	283,070	1,867,504	1.215	1.000	2,269,349	N/A	2,269,349	0.802	14	10	40,185
6/30/02-03	289,846	2,214,085	1.246	1.000	2,759,398	N/A	2,759,398	0.952	8	5	109,063
6/30/03-04	293,771	1,997,998	1.268	1.000	2,533,481	N/A	2,533,481	0.862	8	9	59,498
6/30/04-05	291,382	2,513,823	1.296	1.000	3,256,850	N/A	3,256,850	1.118	19	14	53,073
6/30/05-06	294,709	2,084,339	1.321	1.000	2,754,012	N/A	2,754,012	0.934	21	13	51,513
6/30/06-07	289,603	1,543,801	1.367	1.000	2,110,586	N/A	2,110,586	0.729	16	16	35,424
6/30/07-08	354,668	1,483,165	1.426	1.000	2,115,081	N/A	2,115,081	0.596	21	16	39,495
6/30/08-09	332,413	1,369,306	1.506	1.000	2,062,582	N/A	2,062,582	0.620	25	17	40,781
6/30/09-10	336,338	818,015	1.638	1.000	1,340,091	N/A	1,340,091	0.398	28	16	32,630
6/30/10-11	333,783	960,779	1.852	1.000	1,778,911	N/A	1,778,911	0.533	157	48	17,044
6/30/11-12	348,187	638,905	2.413	1.000	1,541,614	N/A	1,541,614	0.443	218	127	7,108
6/30/12-13	368,022	286,539	6.168	1.000	1,767,459	N/A	1,767,459	0.480		206	7,189
Total	7,080,138	45,705,727			56,444,458		56,444,458		604	567	

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3), (4) From Section 4, Exhibit 2, Page 7

(5) Based on information from the MA WCRIB 9/1/12 filing. Consideration for development beyond 252 months made in selection of LDF's.

(6) = (3) x (4) x (5)

(7) Lump Sum Payments are considered in the Indemnity analysis (Section 1)

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10), (11) Provided by Commonwealth of Massachusetts

(12) = Maximum of [{(6) - (3)} / (11)] and 0

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Medical

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident Year	Payroll (000's)	A Priori Loss Rate	Paid Loss	Paid LDF	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Ultimate Loss Cost Excluding Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	115,258	0.231	451,747	1.036	461,041	N/A	461,041	0.400	0.400
6/30/85-86	123,937	0.380	562,871	1.040	581,121	N/A	581,121	0.469	0.469
6/30/86-87	142,396	0.488	647,521	1.044	677,109	N/A	677,109	0.476	0.476
6/30/87-88	166,792	0.769	1,145,836	1.049	1,205,344	N/A	1,205,344	0.723	0.723
6/30/88-89	180,117	0.698	1,246,391	1.053	1,309,496	N/A	1,309,496	0.727	0.727
6/30/89-90	180,883	1.065	1,857,840	1.057	1,961,823	N/A	1,961,823	1.085	1.085
6/30/90-91	169,902	1.525	2,454,390	1.062	2,606,440	N/A	2,606,440	1.534	1.534
6/30/91-92	165,926	1.238	1,945,315	1.068	2,075,501	N/A	2,075,501	1.251	1.251
6/30/92-93	174,198	0.811	1,327,602	1.073	1,423,663	N/A	1,423,663	0.817	0.817
6/30/93-94	185,946	0.859	1,476,979	1.095	1,616,088	N/A	1,616,088	0.869	0.869
6/30/94-95	194,051	0.751	1,325,511	1.111	1,471,385	N/A	1,471,385	0.758	0.758
6/30/95-96	205,262	0.792	1,465,439	1.125	1,646,562	N/A	1,646,562	0.802	0.802
6/30/96-97	234,073	0.835	1,758,270	1.133	1,987,339	N/A	1,987,339	0.849	0.849
6/30/97-98	221,865	0.975	1,958,286	1.138	2,221,216	N/A	2,221,216	1.001	1.001
6/30/98-99	256,071	0.813	1,838,665	1.155	2,117,882	N/A	2,117,882	0.827	0.827
6/30/99-00	268,486	0.863	2,029,359	1.173	2,370,295	N/A	2,370,295	0.883	0.883
6/30/00-01	279,182	1.180	2,886,161	1.196	3,425,867	N/A	3,425,867	1.227	1.227
6/30/01-02	283,070	0.790	1,867,504	1.215	2,263,511	N/A	2,263,511	0.800	0.800
6/30/02-03	289,846	0.928	2,214,085	1.246	2,745,539	N/A	2,745,539	0.947	0.947
6/30/03-04	293,771	0.850	1,997,998	1.268	2,525,592	N/A	2,525,592	0.860	0.860
6/30/04-05	291,382	0.750	2,513,823	1.296	3,012,724	N/A	3,012,724	1.034	1.034
6/30/05-06	294,709	0.761	2,084,339	1.321	2,629,418	N/A	2,629,418	0.892	0.892
6/30/06-07	289,603	0.768	1,543,801	1.367	2,141,260	N/A	2,141,260	0.739	0.739
6/30/07-08	354,668	0.776	1,483,165	1.426	2,305,343	N/A	2,305,343	0.650	0.650
6/30/08-09	332,413	0.788	1,369,306	1.506	2,249,574	N/A	2,249,574	0.677	0.677
6/30/09-10	336,338	0.817	818,015	1.638	1,888,323	N/A	1,888,323	0.561	0.561
6/30/10-11	333,783	0.825	960,779	1.852	2,227,230	N/A	2,227,230	0.667	0.667
6/30/11-12	348,187	0.833	638,905	2.413	2,337,777	N/A	2,337,777	0.671	0.671
6/30/12-13	368,022	0.842	286,539	6.168	2,881,633	N/A	2,881,633	0.783	0.783
Total	7,080,138		44,156,440		58,366,096		58,366,096		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 4, Exhibit 2, Page 4, Column 11

(4) From Section 4, Exhibit 2, Page 2, Column 3

(5) From Section 4, Exhibit 2, Page 2, Column 4

(6) = (4) + [{1 - {1 / (5)}} x (3) x (2) x 10]

(7) Lump Sum Payments are considered in the Indemnity analysis (Section 1)

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10) = (6) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Medical

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Expected Ult Loss	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									0.231	0.231
6/30/85-86									0.380	0.380
6/30/86-87									0.488	0.488
6/30/87-88									0.769	0.769
6/30/88-89									0.698	0.698
6/30/89-90									1.065	1.065
6/30/90-91	169,902	2,607,405	1.535	1.194	1.832	1.257	2.303	0.566	1.512	1.525
6/30/91-92	165,926	2,076,925	1.252	1.189	1.488	1.245	1.852	0.575	1.163	1.238
6/30/92-93	174,198	1,424,508	0.818	1.189	0.972	1.232	1.198	0.580	0.826	0.811
6/30/93-94	185,946	1,617,895	0.870	1.178	1.025	1.220	1.251	0.591	0.863	0.859
6/30/94-95	194,051	1,472,916	0.759	1.170	0.888	1.208	1.073	0.601	0.763	0.751
6/30/95-96	205,262	1,649,147	0.803	1.155	0.928	1.196	1.110	0.615	0.799	0.792
6/30/96-97	234,073	1,991,550	0.851	1.137	0.967	1.184	1.145	0.631	0.841	0.835
6/30/97-98	221,865	2,229,109	1.005	1.135	1.140	1.173	1.337	0.639	0.964	0.975
6/30/98-99	256,071	2,123,578	0.829	1.135	0.941	1.161	1.093	0.645	0.821	0.813
6/30/99-00	268,486	2,379,572	0.886	1.135	1.006	1.149	1.156	0.652	0.874	0.863
6/30/00-01	279,182	3,451,617	1.236	1.109	1.371	1.138	1.561	0.673	1.194	1.180
6/30/01-02	283,070	2,269,349	0.802	1.101	0.883	1.127	0.994	0.685	0.810	0.790
6/30/02-03	289,846	2,759,398	0.952	1.073	1.021	1.116	1.140	0.710	0.942	0.928
6/30/03-04	293,771	2,533,481	0.862	1.046	0.902	1.105	0.997	0.735	0.877	0.850
6/30/04-05	291,382	3,256,850	1.118	1.036	1.157	1.094	1.266	0.750	0.847	0.750
6/30/05-06	294,709	2,754,012	0.934	1.032	0.964	1.083	1.044	0.761	0.859	0.761
6/30/06-07	289,603	2,110,586	0.729	1.032	0.752	1.072	0.806	0.768	0.867	0.768
6/30/07-08	354,668	2,115,081	0.596	1.032	0.615	1.062	0.653	0.776	0.876	0.776
6/30/08-09	332,413	2,062,582	0.620	1.027	0.637	1.051	0.669	0.788	0.889	0.788
6/30/09-10	336,338	1,340,091	0.398	1.000	0.398	1.041	0.415	0.817	0.922	0.817
6/30/10-11	333,783	1,778,911	0.533	1.000	0.533	1.030	0.549	0.825	0.931	0.825
6/30/11-12	348,187	1,541,614	0.443	1.000	0.443	1.020	0.452	0.833	0.941	0.833
6/30/12-13	368,022	1,767,459	0.480	1.000	0.480	1.010	0.485	0.842		0.842
Total	6,170,754	49,313,638								

Trend Last 4 (ex 12-13):	-7.7%	Avg 3 (x12-13):	0.472
Trend Last 8 (ex 12-13):	-12.9%	Avg 5 (x12-13):	0.548
Trend Last 12 (ex 12-13):	-9.2%	Avg 10 (x12-13):	0.799
Prior Selected Trend:	1.0%	Prior Sel Avg:	0.950
Selected Trend:	1.0%	Sel. Loss Cost:	0.850

NOTES:
(2) Provided by Commonwealth of Massachusetts
(3) From Section 4, Exhibit 2, Page 2, Column 6
(4) = (3) / (2) / 10
(5) Based on information from the MA WCIRB
(6) = (4) x (5)
(7) Based on Selected Trend from (6)
(8) = (6) x (7)
(9) = Sel. Loss Cost / [(5) * (7)]
(10) From Aon analysis as of June 30, 2012
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Medical

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend		0.950	
(2)	Credibility		38%	
(3)	Average Pmt Trend Statewide		0.950	
(4)	Credibility Weighted Trend		0.950	
		(Low)		(High)
(5)	Selected Range	0.941		0.960
(6)	Incremental Paid for 2013	71,853		71,853
(7)	Estimated Reserve	1,135,763		1,702,299
(8)	Paid to Date (82 & Prior)	654,124		654,124
(9)	Est Ult Paid for 1982 & Prior	1,789,887		2,356,422

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	79,352	92,350
(11)	Projected Number of Years	3	3
(12)	Estimated Reserve	238,055	277,049
(13)	Paid to Date (82 & Prior)	654,124	582,270
(14)	Est Ult Paid for 1982 & Prior	892,178	859,319
(14a)	Paid Counts During Fiscal Year	2	4
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	1,341,032	2,356,422
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	**1,341,032**	**2,356,422**
(18)	Implied Tail	2.050	3.602
(19)	Ult Loss Inc Lump Sums @ 6/12	1,312,041	2,354,609

NOTES:

(1) From Section 4, Exhibit 2, Page 6
(2) = (Average of Section 4, Exhibit 2, Page 6, Column 3 / 175,000) ^ 0.5
(3) Average Statewide Trend
(4) = (1) x (2) + (4) x {1 - (2)}
(5) Selected judgmentally based on (4)
(6), (14a) Provided by Commonwealth of Massachusetts
(7) = (6) x (5) / {1 - (5)}
(8), (16) From Section 4, Exhibit 2, Page 2, Column 3
(9) = (7) + (8)
(10) Avg of 3 latest years from Section 4, Exhibit 2, Page 6, Column 3
(11) Selected judgmentally
(12) = (10 x (11)
(14) = (12) + (13)
(15) = Average of (9) and (14)
(16) Lump Sums are considered in Indemnity analysis (Section 1)
(17) = (15) + (16)
(18) = (15) / (8)
(19) From Prior Aon Analysis as of June 30, 2012

Department of Corrections - Cluster 3
Medical

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paids	LN	Average Observed Trend		Trend Calculations
1992	1	24,180	10.093			
1993	2	4,649	8.444	0.192		
1994	3	4,226	8.349	0.909		
1995	4	2,463	7.809	0.583		
1996	5	3,867	8.260	1.570		
1997	6	12,692	9.449	3.282		
1998	7	3,736	8.226	0.294		
1999	8	1,455	7.283	0.389		
2000	9	13,993	9.546	9.617	n =	22
2001	10	18,860	9.845	1.348	S(x) =	44,055
2002	11	1,907	7.553	0.101	S(x-sq) =	88,221,023
2003	12	725	6.586	0.380	S(xy) =	401,392
2004	13	1,808	7.500	2.494	S(y) =	200
2005	14	2,687	7.896	1.486	D =	19,481
2006	15	3,792	8.241	1.411	slope =	0.126
2007	16	10,343	9.244	2.728	Avg Trend =	1.126
2008	17	8,983	9.103	0.869		
2009	18	100,501	11.518	11.187		
2010	19	110,847	11.616	1.103		
2011	20	91,392	11.423	0.824		
2012	21	74,810	11.223	0.819		
2013	22	71,853	11.182	0.960		
					Selected Trend:	**0.950**

NOTES:

(3) 2013 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2012

(4) LN [(3)]

(5) Eg. 2013: 0.96 = 71853 / 74810

Commonwealth of Massachusetts Workers Compensation
Department of Corrections - Cluster 3
MEDICAL
Paid Loss Development
Paid Loss (Excluding Lump Sum)

Acc Yr Ending	*12*	*24*	*36*	*48*	*60*	*72*	*84*	*96*	*108*	*120*	*132*	*144*	*156*	*168*	*180*	*192*	*204*	*216*	*228*	*240*	*252*	*264*	*276*	*288*	*300*	*312*	*324*	*336*	*348*	*360*	*372*
June-83	11,197	26,045	37,203	47,025	56,514	66,401	72,814	83,440	107,442	118,641	128,866	135,800	137,783	138,069	140,735	141,596	141,596	141,914	142,318	142,318	142,318	142,748	144,456	154,891	160,448	164,749	164,749	164,749	164,749	164,749	164,749
June-84	52,670	137,962	203,703	257,882	317,818	352,402	422,888	501,855	591,716	647,521	689,358	721,711	724,550	728,685	728,693	728,709	728,709	728,709	729,143	729,143	729,143	730,066	730,414	730,414	730,414	730,414	730,414	730,414	730,414	730,414	
June-85	24,581	57,175	81,670	103,231	128,616	150,557	165,276	184,340	192,621	201,787	208,269	211,465	217,592	220,213	229,343	238,016	247,437	257,231	266,584	280,985	298,608	318,573	337,983	352,978	369,873	394,344	415,317	434,308	451,747		
June-86	48,446	112,684	160,960	207,617	233,762	263,664	302,247	319,414	339,302	351,896	365,470	378,302	387,035	413,763	422,216	433,663	460,852	480,856	494,886	512,562	523,474	541,163	550,005	554,546	557,077	558,277	559,768	562,871			
June-87	77,936	181,278	229,911	293,653	369,221	440,930	473,706	485,578	509,980	540,282	563,925	581,583	602,759	614,805	618,094	621,890	624,842	627,889	633,482	636,887	638,336	639,623	640,749	642,212	643,694	648,271	647,521				
June-88	139,053	319,817	519,537	680,966	823,361	912,703	998,546	1,039,983	1,059,846	1,072,337	1,112,168	1,116,550	1,122,900	1,125,982	1,127,653	1,131,576	1,136,086	1,139,881	1,139,671	1,140,874	1,141,510	1,142,078	1,144,288	1,145,006	1,145,741	1,145,836					
June-89	131,654	415,398	576,800	731,889	811,584	895,533	936,684	955,349	999,849	1,017,126	1,032,040	1,060,186	1,074,102	1,089,934	1,108,376	1,126,235	1,147,403	1,157,458	1,164,985	1,178,930	1,193,712	1,206,048	1,216,929	1,227,147	1,246,391						
June-90	233,608	695,685	1,052,182	1,224,162	1,354,697	1,427,692	1,488,096	1,536,324	1,567,188	1,604,683	1,637,523	1,658,777	1,680,547	1,714,885	1,752,807	1,778,979	1,821,497	1,836,851	1,849,519	1,851,871	1,853,225	1,854,022	1,856,452	1,857,840							
June-91	236,602	942,522	1,192,208	1,419,689	1,530,020	1,581,521	1,621,661	1,644,367	1,676,462	1,699,513	1,748,257	1,799,332	1,845,064	1,889,995	1,951,997	2,058,075	2,109,105	2,138,832	2,230,499	2,269,406	2,337,283	2,427,731	2,454,390								
June-92	391,819	811,780	1,023,022	1,084,480	1,141,810	1,171,673	1,196,735	1,319,302	1,369,241	1,426,734	1,445,752	1,475,976	1,501,400	1,542,584	1,553,065	1,562,833	1,573,916	1,589,949	1,615,152	1,692,813	1,819,909	1,945,315									
June-93	344,830	901,476	1,061,794	1,155,998	1,198,560	1,220,287	1,266,026	1,272,695	1,293,165	1,297,361	1,300,910	1,301,951	1,307,475	1,311,803	1,319,110	1,321,122	1,322,034	1,323,404	1,323,509	1,323,675	1,327,602										
June-94	431,268	816,076	959,344	1,052,996	1,141,756	1,231,287	1,271,524	1,296,482	1,314,355	1,335,010	1,357,475	1,376,074	1,390,533	1,402,752	1,413,794	1,423,336	1,430,519	1,446,576	1,458,508	1,476,979											
June-95	351,310	722,998	906,028	985,528	1,057,961	1,106,846	1,136,019	1,186,110	1,209,822	1,232,732	1,266,835	1,285,546	1,294,524	1,301,613	1,305,920	1,312,490	1,318,475	1,323,435	1,325,511												
June-96	344,486	709,731	859,884	962,823	1,085,060	1,150,008	1,181,678	1,213,854	1,256,984	1,305,951	1,334,696	1,371,532	1,394,601	1,418,259	1,433,202	1,445,908	1,456,275	1,465,439													
June-97	404,402	880,944	1,029,045	1,129,661	1,192,806	1,242,248	1,291,581	1,332,755	1,404,699	1,468,293	1,534,845	1,608,334	1,629,854	1,671,824	1,708,017	1,745,451	1,758,270														
June-98	352,321	850,419	1,071,815	1,188,934	1,283,207	1,349,964	1,408,091	1,486,280	1,529,830	1,572,573	1,615,592	1,716,755	1,772,391	1,838,516	1,900,110	1,958,286															
June-99	335,840	780,685	1,009,719	1,120,546	1,237,603	1,345,867	1,452,103	1,561,531	1,613,648	1,654,503	1,683,574	1,743,457	1,791,004	1,820,118	1,838,665																
June-00	496,994	1,118,525	1,328,041	1,481,979	1,601,386	1,717,688	1,766,903	1,812,535	1,852,179	1,901,468	1,931,755	1,967,861	2,003,457	2,029,359																	
June-01	553,191	1,161,108	1,486,434	1,729,264	2,113,882	2,296,440	2,415,155	2,501,361	2,567,715	2,697,204	2,775,225	2,860,089	2,886,161																		
June-02	441,054	954,595	1,190,752	1,457,269	1,628,226	1,698,307	1,736,904	1,769,478	1,813,443	1,830,775	1,851,171	1,867,504																			
June-03	268,200	928,702	1,552,091	1,775,257	1,904,289	1,988,413	2,045,138	2,103,051	2,147,004	2,184,461	2,214,085																				
June-04	152,994	1,174,712	1,612,636	1,744,790	1,811,022	1,896,424	1,965,029	1,975,226	1,988,740	1,997,998																					
June-05	504,986	1,476,366	1,809,319	2,048,757	2,193,956	2,297,784	2,392,936	2,464,260	2,513,823																						
June-06	456,471	1,195,789	1,564,242	1,729,098	1,847,555	1,939,187	2,044,654	2,084,339																							
June-07	537,825	1,000,141	1,218,822	1,380,770	1,450,003	1,505,529	1,543,801																								
June-08	539,208	1,080,479	1,291,808	1,419,250	1,474,245	1,483,165																									
June-09	508,581	995,354	1,230,224	1,338,898	1,369,306																										
June-10	391,950	706,776	789,348	818,015																											
June-11	496,567	863,714	960,779																												
June-12	293,489	638,905																													
June-13	286,539																														

Age-to-Age Factors

Acc Yr Ending	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*
June-83	2.326	1.428	1.264	1.202	1.175	1.097	1.146	1.288	1.104	1.086	1.054	1.015	1.002	1.019	1.006	1.000	1.002	1.003	1.000	1.000	1.003	1.012	1.072	1.036	1.027	1.000	1.000	1.000	1.000	1.000
June-84	2.619	1.477	1.266	1.232	1.109	1.200	1.187	1.179	1.094	1.065	1.047	1.004	1.006	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
June-85	2.326	1.428	1.264	1.246	1.171	1.098	1.115	1.045	1.048	1.032	1.015	1.029	1.012	1.041	1.038	1.040	1.040	1.036	1.054	1.063	1.067	1.061	1.044	1.048	1.066	1.053	1.046	1.040			
June-86	2.326	1.428	1.290	1.126	1.128	1.146	1.057	1.062	1.037	1.039	1.035	1.023	1.069	1.020	1.027	1.063	1.043	1.029	1.036	1.021	1.034	1.016	1.008	1.005	1.002	1.003	1.006				
June-87	2.326	1.268	1.277	1.257	1.194	1.074	1.025	1.050	1.059	1.044	1.031	1.036	1.020	1.005	1.006	1.005	1.005	1.009	1.005	1.002	1.002	1.002	1.002	1.002	1.007	0.999					
June-88	2.300	1.624	1.311	1.209	1.109	1.094	1.041	1.019	1.012	1.037	1.004	1.006	1.003	1.001	1.003	1.004	1.003	1.000	1.001	1.001	1.000	1.002	1.001	1.001	1.000						
June-89	3.155	1.389	1.269	1.109	1.103	1.046	1.020	1.047	1.017	1.015	1.027	1.013	1.015	1.017	1.016	1.019	1.009	1.007	1.012	1.013	1.010	1.009	1.008	1.016							
June-90	2.978	1.512	1.163	1.107	1.054	1.042	1.032	1.020	1.024	1.020	1.013	1.013	1.020	1.022	1.015	1.024	1.008	1.007	1.001	1.001	1.000	1.001	1.001								
June-91	3.984	1.265	1.191	1.078	1.034	1.025	1.014	1.020	1.014	1.029	1.029	1.025	1.024	1.033	1.054	1.025	1.014	1.043	1.017	1.030	1.039	1.011									
June-92	2.072	1.260	1.060	1.053	1.026	1.021	1.102	1.038	1.042	1.013	1.021	1.017	1.027	1.007	1.006	1.007	1.010	1.016	1.048	1.075	1.069										
June-93	2.614	1.178	1.089	1.037	1.018	1.037	1.005	1.016	1.003	1.003	1.001	1.004	1.003	1.006	1.002	1.001	1.001	1.000	1.000	1.003											
June-94	1.892	1.176	1.098	1.084	1.078	1.033	1.020	1.014	1.016	1.017	1.014	1.011	1.009	1.008	1.007	1.005	1.011	1.008	1.013												
June-95	2.058	1.253	1.088	1.073	1.046	1.026	1.044	1.020	1.019	1.028	1.015	1.007	1.005	1.003	1.005	1.005	1.004	1.002													
June-96	2.060	1.212	1.120	1.127	1.060	1.028	1.027	1.036	1.039	1.022	1.028	1.017	1.017	1.011	1.009	1.007	1.006														
June-97	2.178	1.168	1.098	1.056	1.041	1.040	1.032	1.054	1.045	1.045	1.048	1.013	1.026	1.022	1.022	1.007															
June-98	2.414	1.260	1.109	1.079	1.052	1.043	1.056	1.029	1.028	1.027	1.063	1.032	1.037	1.034	1.031																
June-99	2.325	1.293	1.110	1.104	1.087	1.079	1.075	1.033	1.025	1.018	1.036	1.027	1.016	1.010																	
June-00	2.251	1.187	1.116	1.081	1.073	1.029	1.026	1.022	1.027	1.016	1.019	1.018	1.013																		
June-01	2.099	1.280	1.163	1.222	1.086	1.052	1.036	1.027	1.050	1.029	1.031	1.009																			
June-02	2.164	1.247	1.224	1.117	1.043	1.023	1.019	1.025	1.010	1.011	1.009																				
June-03	3.463	1.671	1.144	1.073	1.044	1.029	1.028	1.021	1.017	1.014																					
June-04	7.678	1.373	1.082	1.038	1.047	1.036	1.005	1.007	1.005																						
June-05	2.924	1.226	1.132	1.071	1.047	1.041	1.030	1.020																							
June-06	2.620	1.308	1.105	1.069	1.050	1.054	1.019																								
June-07	1.860	1.219	1.133	1.050	1.038	1.025																									
June-08	2.004	1.196	1.099	1.039	1.006																										
June-09	1.957	1.236	1.088	1.023																											
June-10	1.803	1.117	1.036																												
June-11	1.739	1.112																													
June-12	2.177																														

Averages	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*To Ult*
Simple Avg																															
All Yrs	2.556	1.303	1.157	1.110	1.074	1.057	1.048	1.047	1.033	1.029	1.027	1.017	1.018	1.015	1.015	1.014	1.011	1.012	1.016	1.019	1.023	1.013	1.017	1.015	1.017	1.011	1.013	1.013	1.000	1.000	
Latest 5	1.936	1.176	1.092	1.050	1.038	1.037	1.020	1.020	1.022	1.017	1.031	1.020	1.022	1.016	1.015	1.005	1.007	1.014	1.016	1.024	1.024	1.005	1.004	1.014	1.015	1.011					
Latest 3	1.907	1.155	1.074	1.037	1.031	1.040	1.018	1.016	1.011	1.018	1.019	1.018	1.022	1.022	1.020	1.006	1.007	1.003	1.020	1.036	1.036	1.007	1.003	1.006	1.003	1.018	1.017	1.013			
Volume Wtd																															
All Yrs	2.372	1.272	1.130	1.088	1.056	1.043	1.035	1.029	1.027	1.023	1.026	1.016	1.018	1.015	1.017	1.012	1.009	1.013	1.014	1.021	1.025	1.008	1.007	1.010	1.010	1.009	1.012	1.013	1.000		
Latest 5	1.922	1.182	1.097	1.053	1.039	1.038	1.021	1.020	1.023	1.018	1.030	1.019	1.022	1.017	1.016	1.005	1.007	1.017	1.016	1.026	1.028	1.006	1.003	1.010	1.009	1.009					
Latest 3	1.869	1.162	1.080	1.037	1.033	1.042	1.019	1.016	1.011	1.019	1.021	1.017	1.022	1.022	1.021	1.006	1.007	1.003	1.022	1.038	1.036	1.007	1.003	1.007	1.003	1.014	1.013	1.013			

Dev Factor Selection																															
Industry 1	1.968	1.143	1.054	1.030	1.018	1.014	1.012																								
Industry 2		1.266	1.074	1.040	1.013	1.011	1.010	1.015	1.008	1.013	1.013	1.009	1.008	1.008	1.008	1.005	1.004	1.002	1.004	1.005											
Prior	*2.569*	*1.310*	*1.133*	*1.091*	*1.059*	*1.044*	*1.036*	*1.020*	*1.026*	*1.020*	*1.027*	*1.017*	*1.020*	*1.016*	*1.009*	*1.005*	*1.008*	*1.014*	*1.015*	*1.023*	*1.005*	*1.005*	*1.005*	*1.004*	*1.004*	*1.004*	*1.004*	*1.004*	*1.004*	1.029	
Selected	2.556	1.303	1.130	1.088	1.056	1.043	1.035	1.020	1.022	1.017	1.026	1.016	1.020	1.015	1.015	1.005	1.007	1.013	1.014	1.021	1.005	1.005	1.005	1.004	1.004	1.004	1.004	1.004	1.004	1.004	1.028
FacToUlt	6.168	2.413	1.852	1.638	1.506	1.426	1.367	1.321	1.296	1.268	1.246	1.215	1.196	1.173	1.155	1.138	1.133	1.125	1.111	1.095	1.073	1.068	1.062	1.057	1.053	1.049	1.044	1.040	1.036	1.032	1.028
Percent of Ult	16.2%	41.4%	54.0%	61.0%	66.4%	70.1%	73.1%	75.7%	77.2%	78.9%	80.2%	82.3%	83.6%	85.3%	86.6%	87.9%	88.3%	88.9%	90.0%	91.3%	93.2%	93.7%	94.1%	94.6%	95.0%	95.4%	95.7%	96.1%	96.5%	96.9%	97.3%

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Medical

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Ultimate Loss		Ultimate Loss		Change in Ultimate Loss		Change in Ultimate Loss	
Accident	As of 6/12		As of 6/13		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	1,312,041	2,354,609	1,341,032	2,356,422	28,991	2.2%	1,813	0.1%
6/30/82-83	164,749	172,901	164,749	172,737	0	0.0%	(164)	-0.1%
6/30/83-84	730,414	769,623	730,414	768,893	0	0.0%	(730)	-0.1%
6/30/84-85	444,000	450,000	461,000	468,000	17,000	3.8%	18,000	4.0%
6/30/85-86	578,000	583,000	581,000	586,000	3,000	0.5%	3,000	0.5%
6/30/86-87	678,000	678,000	676,000	677,000	(2,000)	-0.3%	(1,000)	-0.1%
6/30/87-88	1,203,000	1,206,000	1,202,000	1,205,000	(1,000)	-0.1%	(1,000)	-0.1%
6/30/88-89	1,291,000	1,293,000	1,309,000	1,312,000	18,000	1.4%	19,000	1.5%
6/30/89-90	1,964,000	1,966,000	1,962,000	1,964,000	(2,000)	-0.1%	(2,000)	-0.1%
6/30/90-91	2,583,000	2,584,000	2,606,000	2,607,000	23,000	0.9%	23,000	0.9%
6/30/91-92	1,946,000	1,947,000	2,076,000	2,077,000	130,000	6.7%	130,000	6.7%
6/30/92-93	1,448,000	1,449,000	1,424,000	1,425,000	(24,000)	-1.7%	(24,000)	-1.7%
6/30/93-94	1,618,000	1,620,000	1,616,000	1,618,000	(2,000)	-0.1%	(2,000)	-0.1%
6/30/94-95	1,489,000	1,490,000	1,471,000	1,473,000	(18,000)	-1.2%	(17,000)	-1.1%
6/30/95-96	1,651,000	1,653,000	1,647,000	1,649,000	(4,000)	-0.2%	(4,000)	-0.2%
6/30/96-97	1,988,000	1,991,000	1,987,000	1,992,000	(1,000)	-0.1%	1,000	0.1%
6/30/97-98	2,180,000	2,186,000	2,221,000	2,229,000	41,000	1.9%	43,000	2.0%
6/30/98-99	2,124,000	2,127,000	2,118,000	2,124,000	(6,000)	-0.3%	(3,000)	-0.1%
6/30/99-00	2,381,000	2,388,000	2,370,000	2,380,000	(11,000)	-0.5%	(8,000)	-0.3%
6/30/00-01	3,443,000	3,467,000	3,426,000	3,452,000	(17,000)	-0.5%	(15,000)	-0.4%
6/30/01-02	2,302,000	2,304,000	2,264,000	2,269,000	(38,000)	-1.7%	(35,000)	-1.5%
6/30/02-03	2,626,000	2,774,000	2,608,000	2,759,000	(18,000)	-0.7%	(15,000)	-0.5%
6/30/03-04	2,458,000	2,591,000	2,399,000	2,533,000	(59,000)	-2.4%	(58,000)	-2.2%
6/30/04-05	3,076,000	3,275,000	3,013,000	3,257,000	(63,000)	-2.0%	(18,000)	-0.5%
6/30/05-06	2,737,000	2,815,000	2,629,000	2,754,000	(108,000)	-3.9%	(61,000)	-2.2%
6/30/06-07	2,164,000	2,270,000	2,111,000	2,141,000	(53,000)	-2.4%	(129,000)	-5.7%
6/30/07-08	2,243,000	2,539,000	2,115,000	2,305,000	(128,000)	-5.7%	(234,000)	-9.2%
6/30/08-09	2,111,000	2,514,000	1,959,000	2,250,000	(152,000)	-7.2%	(264,000)	-10.5%
6/30/09-10	1,559,000	2,241,000	1,407,000	1,888,000	(152,000)	-9.7%	(353,000)	-15.8%
6/30/10-11	2,021,000	2,845,500	1,690,000	2,338,350	(331,000)	-16.4%	(507,150)	-17.8%
6/30/11-12	1,951,000	3,203,550	1,619,000	2,454,900	(332,000)	-17.0%	(748,650)	-23.4%
6/30/12-13								
Total	56,464,204	61,747,183	55,203,195	59,485,302	(1,261,009)	-2.2%	(2,261,881)	-3.7%

NOTES:

(2), (3) From Aon analysis as of June 30, 2012

(4), (5) From Section 4, Exhibit 2, Page 1, Columns 6, 7

(6) = (4) - (2)

(7) = (4) / (2) - 1

(8) = (5) - (3)

(9) = (5) / (3) - 1

Department of Corrections - Cluster 3
Medical

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At: 4%	6%
384	100.0%	2.7%	0.0%	0.8%	0.4%	1.000	1.000
372	97.3%	0.4%	2.7%	0.1%	0.1%	0.981	0.971
360	96.9%	0.4%	3.1%	0.1%	0.1%	0.948	0.923
348	96.5%	0.4%	3.5%	0.1%	0.1%	0.919	0.882
336	96.1%	0.4%	3.9%	0.1%	0.1%	0.893	0.846
324	95.7%	0.4%	4.3%	0.1%	0.1%	0.870	0.814
312	95.4%	0.4%	4.6%	0.1%	0.1%	0.848	0.784
300	95.0%	0.4%	5.0%	0.1%	0.1%	0.828	0.757
288	94.6%	0.5%	5.4%	0.2%	0.1%	0.809	0.733
276	94.1%	0.5%	5.9%	0.2%	0.1%	0.794	0.714
264	93.7%	0.5%	6.3%	0.2%	0.1%	0.780	0.695
252	93.2%	1.9%	6.8%	0.9%	0.6%	0.766	0.677
240	91.3%	1.3%	8.7%	0.6%	0.4%	0.790	0.712
228	90.0%	1.1%	10.0%	0.5%	0.4%	0.788	0.710
216	88.9%	0.6%	11.1%	0.3%	0.2%	0.780	0.701
204	88.3%	0.4%	11.7%	0.2%	0.2%	0.762	0.676
192	87.9%	1.3%	12.1%	0.7%	0.5%	0.741	0.650
180	86.6%	1.3%	13.4%	0.7%	0.6%	0.738	0.647
168	85.3%	1.7%	14.7%	1.0%	0.8%	0.734	0.642
156	83.6%	1.3%	16.4%	0.8%	0.6%	0.733	0.643
144	82.3%	2.1%	17.7%	1.3%	1.1%	0.726	0.634
132	80.2%	1.4%	19.8%	0.9%	0.7%	0.727	0.637
120	78.9%	1.7%	21.1%	1.2%	1.0%	0.718	0.625
108	77.2%	1.5%	22.8%	1.1%	0.9%	0.711	0.618
96	75.7%	2.5%	24.3%	1.9%	1.6%	0.702	0.607
84	73.1%	3.0%	26.9%	2.3%	2.1%	0.704	0.610
72	70.1%	3.7%	29.9%	3.0%	2.7%	0.708	0.616
60	66.4%	5.3%	33.6%	4.5%	4.1%	0.714	0.624
48	61.0%	7.0%	39.0%	6.1%	5.7%	0.727	0.641
36	54.0%	12.6%	46.0%	11.4%	10.9%	0.742	0.661
24	41.4%	25.2%	58.6%	23.8%	23.1%	0.771	0.698
12	16.2%	16.2%	83.8%	15.9%	15.7%	0.813	0.753
Total		100.0%					

NOTES:

(2) = 1 / Section 4, Exhibit 2, Page 2, Column 4

(3) Incremental % based on (2)

(4) = 1 - (2)

(5) = [(3) / 1.04] ^ {[(1) - 6] / 12}

(6) = [(3) / 1.06] ^ {[(1) - 6] / 12}

(7), (8) Discount factor based on (5), (6)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Department of Corrections - Cluster 3
Medical

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	686,909	1,702,299		648,120	1,606,172
6/30/82-83	0	7,988	0.981	0	7,833
6/30/83-84	0	38,479	0.948	0	36,462
6/30/84-85	9,253	16,253	0.919	8,502	14,933
6/30/85-86	18,129	23,129	0.893	16,191	20,657
6/30/86-87	28,479	29,479	0.870	24,769	25,639
6/30/87-88	56,164	59,164	0.848	47,634	50,178
6/30/88-89	62,609	65,609	0.828	51,840	54,324
6/30/89-90	104,160	106,160	0.809	84,275	85,893
6/30/90-91	151,610	152,610	0.794	120,411	121,205
6/30/91-92	130,685	131,685	0.780	101,895	102,675
6/30/92-93	96,398	97,398	0.766	73,795	74,561
6/30/93-94	139,021	141,021	0.790	109,774	111,353
6/30/94-95	145,489	147,489	0.788	114,639	116,214
6/30/95-96	181,561	183,561	0.780	141,672	143,232
6/30/96-97	228,730	233,730	0.762	174,194	178,001
6/30/97-98	262,714	270,714	0.741	194,720	200,650
6/30/98-99	279,335	285,335	0.738	206,145	210,572
6/30/99-00	340,641	350,641	0.734	249,878	257,213
6/30/00-01	539,839	565,839	0.733	395,869	414,935
6/30/01-02	396,496	401,496	0.726	287,746	291,374
6/30/02-03	393,915	544,915	0.727	286,457	396,265
6/30/03-04	401,002	535,002	0.718	287,731	383,880
6/30/04-05	499,177	743,177	0.711	355,069	528,629
6/30/05-06	544,661	669,661	0.702	382,501	470,285
6/30/06-07	567,199	597,199	0.704	399,377	420,500
6/30/07-08	631,835	821,835	0.708	447,178	581,650
6/30/08-09	589,694	880,694	0.714	420,964	628,700
6/30/09-10	588,985	1,069,985	0.727	428,064	777,645
6/30/10-11	729,221	1,377,571	0.742	541,017	1,022,035
6/30/11-12	980,095	1,815,995	0.771	755,374	1,399,614
6/30/12-13	1,569,461	2,739,561	0.813	1,276,282	2,227,805
Total	11,353,468	16,805,675		8,632,080	12,961,085
			(7) Total Discount Factor:	0.760	0.771

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	686,909	1,702,299
(9) Projected Number of Years:	3	3
(10) Projected Paid Loss per Year:	228,970	567,433
(11) Discounted Value at 4%:	648,120	1,606,172

NOTES:
(2), (3) From Section 4, Exhibit 2, Page 1, Columns 8, 9
(4) From Section 4, Exhibit 2, Page 9, Column 7
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Department of Corrections - Cluster 3
Medical

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	686,909	1,702,299		630,400	1,562,258
6/30/82-83	0	7,988	0.971	0	7,759
6/30/83-84	0	38,479	0.923	0	35,523
6/30/84-85	9,253	16,253	0.882	8,161	14,335
6/30/85-86	18,129	23,129	0.846	15,335	19,565
6/30/86-87	28,479	29,479	0.814	23,171	23,985
6/30/87-88	56,164	59,164	0.784	44,049	46,402
6/30/88-89	62,609	65,609	0.757	47,421	49,693
6/30/89-90	104,160	106,160	0.733	76,302	77,767
6/30/90-91	151,610	152,610	0.714	108,182	108,895
6/30/91-92	130,685	131,685	0.695	90,852	91,547
6/30/92-93	96,398	97,398	0.677	65,305	65,982
6/30/93-94	139,021	141,021	0.712	98,961	100,384
6/30/94-95	145,489	147,489	0.710	103,358	104,779
6/30/95-96	181,561	183,561	0.701	127,238	128,640
6/30/96-97	228,730	233,730	0.676	154,696	158,078
6/30/97-98	262,714	270,714	0.650	170,764	175,964
6/30/98-99	279,335	285,335	0.647	180,738	184,620
6/30/99-00	340,641	350,641	0.642	218,795	225,218
6/30/00-01	539,839	565,839	0.643	347,156	363,876
6/30/01-02	396,496	401,496	0.634	251,363	254,532
6/30/02-03	393,915	544,915	0.637	250,874	347,043
6/30/03-04	401,002	535,002	0.625	250,591	334,329
6/30/04-05	499,177	743,177	0.618	308,300	458,999
6/30/05-06	544,661	669,661	0.607	330,426	406,259
6/30/06-07	567,199	597,199	0.610	346,010	364,311
6/30/07-08	631,835	821,835	0.616	388,919	505,872
6/30/08-09	589,694	880,694	0.624	368,030	549,644
6/30/09-10	588,985	1,069,985	0.641	377,698	686,148
6/30/10-11	729,221	1,377,571	0.661	482,003	910,551
6/30/11-12	980,095	1,815,995	0.698	684,288	1,267,901
6/30/12-13	1,569,461	2,739,561	0.753	1,181,503	2,062,363
Total	11,353,468	16,805,675		7,730,889	11,693,222
			(7) Total Discount Factor:	0.681	0.696

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	686,909	1,702,299
(9) Projected Number of Years:	3	3
(10) Projected Paid Loss per Year:	228,970	567,433
(11) Discounted Value at 6%:	630,400	1,562,258

NOTES:
(2), (3) From Section 4, Exhibit 2, Page 1, Columns 8, 9
(4) From Section 4, Exhibit 2, Page 9, Column 8
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Amherst) - Cluster 4

Indemnity

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Pd Loss Including Lump Sum	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		2,132,651			2,535,758	2,663,005	403,107	530,354		
6/30/82-83		134,406	136,718		138,000	140,000	3,594	5,594		
6/30/83-84		188,031	190,792		192,000	196,000	3,969	7,969		
6/30/84-85	176,924	1,836,424	2,231,907	1,862,872	1,863,000	2,232,000	26,576	395,576	1.053	1.262
6/30/85-86	188,662	1,624,227	2,223,974	1,644,198	1,644,000	1,934,086	19,773	309,860	0.871	1.025
6/30/86-87	212,277	2,319,400	3,193,602	2,349,122	2,349,000	3,194,000	29,600	874,600	1.107	1.505
6/30/87-88	243,118	2,094,543	2,129,050	2,127,474	2,127,000	2,129,000	32,457	34,457	0.875	0.876
6/30/88-89	248,990	1,835,742	1,866,150	1,865,848	1,866,000	1,866,000	30,258	30,258	0.749	0.749
6/30/89-90	250,404	522,038	532,545	537,378	533,000	537,000	10,962	14,962	0.213	0.214
6/30/90-91	235,170	2,274,875	2,342,053	2,341,502	2,342,000	2,342,000	67,125	67,125	0.996	0.996
6/30/91-92	235,607	2,402,822	2,755,128	2,537,394	2,537,000	2,755,000	134,178	352,178	1.077	1.169
6/30/92-93	241,161	450,365	474,269	474,261	455,000	473,000	4,635	22,635	0.189	0.196
6/30/93-94	254,321	710,933	900,291	782,521	719,000	747,000	8,067	36,067	0.283	0.294
6/30/94-95	256,665	761,806	841,556	839,536	770,000	800,000	8,194	38,194	0.300	0.312
6/30/95-96	265,739	591,722	663,419	661,996	598,000	622,000	6,278	30,278	0.225	0.234
6/30/96-97	296,336	512,528	595,967	594,505	518,000	539,000	5,473	26,473	0.175	0.182
6/30/97-98	296,982	463,804	528,794	529,361	469,000	487,000	5,196	23,196	0.158	0.164
6/30/98-99	299,530	670,669	781,693	779,228	779,000	782,000	108,331	111,331	0.260	0.261
6/30/99-00	323,627	1,216,150	1,488,903	1,471,991	1,472,000	1,489,000	255,850	272,850	0.455	0.460
6/30/00-01	338,348	1,311,100	1,650,174	1,628,754	1,629,000	1,650,000	317,900	338,900	0.481	0.488
6/30/01-02	329,555	775,125	963,639	958,083	958,000	964,000	182,875	188,875	0.291	0.293
6/30/02-03	329,179	849,271	1,056,536	1,050,341	1,050,000	1,057,000	200,729	207,729	0.319	0.321
6/30/03-04	344,547	268,295	349,097	356,537	349,000	357,000	80,705	88,705	0.101	0.104
6/30/04-05	325,530	624,705	815,762	791,554	792,000	816,000	167,295	191,295	0.243	0.251
6/30/05-06	403,750	353,027	477,513	565,617	478,000	566,000	124,973	212,973	0.118	0.140
6/30/06-07	420,219	442,769	602,540	684,133	603,000	684,000	160,231	241,231	0.143	0.163
6/30/07-08	425,998	383,951	554,936	646,405	555,000	646,000	171,049	262,049	0.130	0.152
6/30/08-09	420,566	748,785	1,150,969	1,076,132	1,076,000	1,151,000	327,215	402,215	0.256	0.274
6/30/09-10	433,206	432,341	793,193	884,532	793,000	885,000	360,659	452,659	0.183	0.204
6/30/10-11	444,673	445,050	984,441	964,861	965,000	984,000	519,950	538,950	0.217	0.221
6/30/11-12	467,753	427,078	1,318,865	1,161,079	1,161,000	1,319,000	733,922	891,922	0.248	0.282
6/30/12-13	495,398	283,404	1,928,608	1,388,640	1,389,000	1,929,000	1,105,596	1,645,596	0.280	0.389
Total	9,204,235	30,088,038	36,523,084	33,555,853	35,704,758	38,935,091	5,616,719	8,847,053		
Tot 6/30/84-13	9,204,235	27,632,950	36,195,573	33,555,853	32,839,000	35,936,086	5,206,050	8,303,136	0.357	0.390

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) Sum of Section 5, Exhibit 1, Page 2, Column 3 and Section 5, Exhibit 1, Page 9, Column 8

(4) From Section 5, Exhibit 1, Page 2, Column 8

(5) From Section 5, Exhibit 1, Page 3, Column 8

(6), (7) Selected based on (3), (4), and (5)

(8) = (6) - (3)

(9) = (7) - (3)

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Amherst) - Cluster 4
Indemnity

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Accident Year	Payroll (000's)	Paid Loss Excluding Lump Sum	Paid LDF	Adjstmnt for Extra Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/11-12	Paid Counts 7/1/12-13	Average Outstanding Claim	Average Age
All Prior Yrs		2,044,611							1	1		78
6/30/82-83		134,406	1.017	1.000	136,718	0	136,718		0	0		
6/30/83-84		160,531	1.017	1.000	163,292	27,500	190,792		0	0		
6/30/84-85	176,924	1,792,424	1.017	1.200	2,187,907	44,000	2,231,907	1.262	1	1	395,483	74
6/30/85-86	188,662	1,414,227	1.017	1.400	2,013,974	210,000	2,223,974	1.179	0	0		
6/30/86-87	212,277	2,061,400	1.017	1.400	2,935,602	258,000	3,193,602	1.504	1	1	874,202	62
6/30/87-88	243,118	2,006,043	1.017	1.000	2,040,550	88,500	2,129,050	0.876	1	1	34,506	63
6/30/88-89	248,990	1,767,742	1.017	1.000	1,798,150	68,000	1,866,150	0.749	1	1	30,407	64
6/30/89-90	250,404	471,448	1.022	1.000	481,955	50,590	532,545	0.213	0	0		
6/30/90-91	235,170	2,066,375	1.033	1.000	2,133,553	208,500	2,342,053	0.996	1	1	67,178	74
6/30/91-92	235,607	2,153,822	1.058	1.100	2,506,128	249,000	2,755,128	1.169	1	1	352,306	72
6/30/92-93	241,161	292,355	1.082	1.000	316,259	158,010	474,269	0.197	0	0		
6/30/93-94	254,321	580,633	1.105	1.200	769,991	130,300	900,291	0.354	0	0		
6/30/94-95	256,665	624,606	1.128	1.000	704,356	137,200	841,556	0.328	0	0		
6/30/95-96	265,739	475,722	1.151	1.000	547,419	116,000	663,419	0.250	0	0		
6/30/96-97	296,336	472,528	1.177	1.000	555,967	40,000	595,967	0.201	1	0		
6/30/97-98	296,982	320,304	1.203	1.000	385,294	143,500	528,794	0.178	0	0		
6/30/98-99	299,530	477,169	1.231	1.000	587,226	194,468	781,693	0.261	1	0		
6/30/99-00	323,627	1,036,650	1.261	1.000	1,306,946	181,957	1,488,903	0.460	0	0		
6/30/00-01	338,348	1,141,100	1.293	1.000	1,475,385	174,789	1,650,174	0.488	1	1	334,285	51
6/30/01-02	329,555	582,625	1.313	1.000	764,936	198,703	963,639	0.292	1	0		
6/30/02-03	329,179	589,299	1.334	1.000	786,004	270,533	1,056,536	0.321	1	2	98,352	58
6/30/03-04	344,547	212,295	1.362	1.000	289,059	60,038	349,097	0.101	0	0		
6/30/04-05	325,530	457,755	1.385	1.000	633,773	181,989	815,762	0.251	1	0		
6/30/05-06	403,750	276,027	1.412	1.000	389,622	87,891	477,513	0.118	0	0		
6/30/06-07	420,219	324,328	1.429	1.000	463,526	139,013	602,540	0.143	1	0		
6/30/07-08	425,998	321,451	1.448	1.000	465,519	89,417	554,936	0.130	2	1	144,068	52
6/30/08-09	420,566	656,285	1.508	1.000	989,829	161,140	1,150,969	0.274	6	4	83,386	57
6/30/09-10	433,206	344,751	1.659	1.000	571,967	221,225	793,193	0.183	9	5	45,443	53
6/30/10-11	444,673	445,050	1.956	1.000	870,314	114,127	984,441	0.221	15	7	60,752	48
6/30/11-12	467,753	427,078	2.670	1.000	1,140,223	178,643	1,318,865	0.282	64	14	50,939	53
6/30/12-13	495,398	283,404	5.687	1.000	1,611,641	316,967	1,928,608	0.389		78	17,029	47
Total	9,204,235	26,414,444			32,023,084	4,500,000	36,523,084		110	119		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3), (4) From Section 5, Exhibit 1, Page 7

(5) Based on information from the MA WCRIB

(6) = (3) x (4) x (5)

(7) From Section 5, Exhibit 1, Page 9, Column 13

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10), (11) Provided by Commonwealth of Massachusetts

(12) = Maximum of [{(6) - (3)} / (11)] and 0

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Amherst) - Cluster 4
Indemnity

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident Year	Payroll (000's)	A Priori Loss Rate	Paid Loss Excluding Lump Sum	Paid LDF	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Ultimate Loss Cost Excluding Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	176,924	0.884	1,792,424	1.017	1,818,872	44,000	1,862,872	1.053	1.028
6/30/85-86	188,662	0.626	1,414,227	1.017	1,434,198	210,000	1,644,198	0.872	0.760
6/30/86-87	212,277	0.828	2,061,400	1.017	2,091,122	258,000	2,349,122	1.107	0.985
6/30/87-88	243,118	0.801	2,006,043	1.017	2,038,974	88,500	2,127,474	0.875	0.839
6/30/88-89	248,990	0.715	1,767,742	1.017	1,797,848	68,000	1,865,848	0.749	0.722
6/30/89-90	250,404	0.281	471,448	1.022	486,788	50,590	537,378	0.215	0.194
6/30/90-91	235,170	0.900	2,066,375	1.033	2,133,002	208,500	2,341,502	0.996	0.907
6/30/91-92	235,607	1.045	2,153,822	1.058	2,288,394	249,000	2,537,394	1.077	0.971
6/30/92-93	241,161	0.131	292,355	1.082	316,251	158,010	474,261	0.197	0.131
6/30/93-94	254,321	0.296	580,633	1.105	652,221	130,300	782,521	0.308	0.256
6/30/94-95	256,665	0.267	624,606	1.128	702,336	137,200	839,536	0.327	0.274
6/30/95-96	265,739	0.202	475,722	1.151	545,996	116,000	661,996	0.249	0.205
6/30/96-97	296,336	0.184	472,528	1.177	554,505	40,000	594,505	0.201	0.187
6/30/97-98	296,982	0.131	320,304	1.203	385,861	143,500	529,361	0.178	0.130
6/30/98-99	299,530	0.192	477,169	1.231	584,761	194,468	779,228	0.260	0.195
6/30/99-00	323,627	0.379	1,036,650	1.261	1,290,033	181,957	1,471,991	0.455	0.399
6/30/00-01	338,348	0.408	1,141,100	1.293	1,453,966	174,789	1,628,754	0.481	0.430
6/30/01-02	329,555	0.225	582,625	1.313	759,380	198,703	958,083	0.291	0.230
6/30/02-03	329,179	0.231	589,299	1.334	779,808	270,533	1,050,341	0.319	0.237
6/30/03-04	344,547	0.092	212,295	1.362	296,499	60,038	356,537	0.103	0.086
6/30/04-05	325,530	0.168	457,755	1.385	609,566	181,989	791,554	0.243	0.187
6/30/05-06	403,750	0.171	276,027	1.412	477,726	87,891	565,617	0.140	0.118
6/30/06-07	420,219	0.175	324,328	1.429	545,120	139,013	684,133	0.163	0.130
6/30/07-08	425,998	0.179	321,451	1.448	556,988	89,417	646,405	0.152	0.131
6/30/08-09	420,566	0.183	656,285	1.508	914,992	161,140	1,076,132	0.256	0.218
6/30/09-10	433,206	0.185	344,751	1.659	663,306	221,225	884,532	0.204	0.153
6/30/10-11	444,673	0.187	445,050	1.956	850,734	114,127	964,861	0.217	0.191
6/30/11-12	467,753	0.190	427,078	2.670	982,437	178,643	1,161,079	0.248	0.210
6/30/12-13	495,398	0.193	283,404	5.687	1,071,673	316,967	1,388,640	0.280	0.216
Total	9,204,235		24,074,896		29,083,353	4,472,500	33,555,853		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 5, Exhibit 1, Page 4, Column 11

(4) From Section 5, Exhibit 1, Page 2, Column 3

(5) From Section 5, Exhibit 1, Page 2, Column 4

(6) = (4) + [{1 - {1 / (5)}} x (3) x (2) x 10]

(7) From Section 5, Exhibit 1, Page 9, Column 13

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10) = (6) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Amherst) - Cluster 4
Indemnity

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Exp Ult Loss Excluding Lump Sum	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									0.884	0.884
6/30/85-86									0.626	0.626
6/30/86-87									0.828	0.828
6/30/87-88									0.801	0.801
6/30/88-89									0.715	0.715
6/30/89-90									0.281	0.281
6/30/90-91	235,170	2,133,553	0.907	0.953	0.864	1.257	1.087	0.163	0.910	0.900
6/30/91-92	235,607	2,506,128	1.064	1.045	1.112	1.245	1.384	0.150	1.060	1.045
6/30/92-93	241,161	316,259	0.131	1.219	0.160	1.232	0.197	0.130	0.136	0.131
6/30/93-94	254,321	769,991	0.303	1.203	0.364	1.220	0.444	0.133	0.305	0.296
6/30/94-95	256,665	704,356	0.274	1.192	0.327	1.208	0.395	0.135	0.276	0.267
6/30/95-96	265,739	547,419	0.206	1.183	0.244	1.196	0.291	0.138	0.210	0.202
6/30/96-97	296,336	555,967	0.188	1.171	0.220	1.184	0.260	0.141	0.192	0.184
6/30/97-98	296,982	385,294	0.130	1.156	0.150	1.173	0.176	0.144	0.137	0.131
6/30/98-99	299,530	587,226	0.196	1.141	0.224	1.161	0.260	0.147	0.200	0.192
6/30/99-00	323,627	1,306,946	0.404	1.122	0.453	1.149	0.521	0.151	0.395	0.379
6/30/00-01	338,348	1,475,385	0.436	1.094	0.477	1.138	0.543	0.157	0.410	0.408
6/30/01-02	329,555	764,936	0.232	1.072	0.249	1.127	0.280	0.161	0.232	0.225
6/30/02-03	329,179	786,004	0.239	1.069	0.255	1.116	0.285	0.164	0.232	0.231
6/30/03-04	344,547	289,059	0.084	1.069	0.090	1.105	0.099	0.165	0.096	0.092
6/30/04-05	325,530	633,773	0.195	1.062	0.207	1.094	0.226	0.168	0.190	0.168
6/30/05-06	403,750	389,622	0.097	1.051	0.101	1.083	0.110	0.171	0.192	0.171
6/30/06-07	420,219	463,526	0.110	1.040	0.115	1.072	0.123	0.175	0.194	0.175
6/30/07-08	425,998	465,519	0.109	1.028	0.112	1.062	0.119	0.179	0.196	0.179
6/30/08-09	420,566	989,829	0.235	1.016	0.239	1.051	0.251	0.183	0.198	0.183
6/30/09-10	433,206	571,967	0.132	1.012	0.134	1.041	0.139	0.185	0.199	0.185
6/30/10-11	444,673	870,314	0.196	1.014	0.198	1.030	0.204	0.187	0.199	0.187
6/30/11-12	467,753	1,140,223	0.244	1.007	0.245	1.020	0.250	0.190	0.200	0.190
6/30/12-13	495,398	1,611,641	0.325	1.000	0.325	1.010	0.329	0.193		0.193
Total	7,883,861	20,264,936								

Trend Last 4 (ex 12-13):	4.8%	Avg 3 (x12-13):	0.198
Trend Last 8 (ex 12-13):	7.1%	Avg 5 (x12-13):	0.193
Trend Last 12 (ex 12-13):	-3.7%	Avg 10 (x12-13):	0.181
Prior Selected Trend:	0.0%	Prior Sel Avg:	0.200
Selected Trend:	1.0%	Sel. Loss Cost:	0.195

NOTES:
(2) Provided by Commonwealth of Massachusetts
(3) From Section 5, Exhibit 1, Page 2, Column 6
(4) = (3) / (2) / 10
(5) Based on information from the MA WCRIB
(6) = (4) x (5)
(7) Based on Selected Trend from (6)
(8) = (6) x (7)
(9) = Sel. Loss Cost / [(5) * (7)]
(10) From Aon analysis as of June 30, 2012
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Amherst) - Cluster 4
Indemnity

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend	0.940	
(2)	Credibility	15%	
(3)	Average Pmt Trend Statewide	0.960	
(4)	Credibility Weighted Trend	0.957	
		(Low)	(High)
(5)	Selected Range	0.948	0.976
(6)	Incremental Paid for 2012	33,791	33,791
(7)	Estimated Reserve	609,900	1,386,996
(8)	Paid to Date (82 & Prior)	2,044,611	2,044,611
(9)	Est Ult Paid for 1982 & Prior	2,654,511	3,431,607

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	32,719	32,835
(11)	Projected Number of Years	6	6
(12)	Estimated Reserve	196,314	197,012
(13)	Paid to Date (82 & Prior)	2,044,611	2,010,820
(14)	Est Ult Paid for 1982 & Prior	2,240,925	2,207,832
(14a)	Paid Counts During Fiscal Year	1	1
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	2,447,718	2,574,965
(16)	Lump Sum Ultimates	88,040	88,040
(17)	Ult Loss Including Lump Sums	**2,535,758**	**2,663,005**
(18)	Implied Tail	1.197	1.259
(19)	Ult Loss Inc Lump Sums @ 6/12	2,492,484	2,614,353

NOTES:

(1) From Section 5, Exhibit 1, Page 6
(2) = (Average of Section 5, Exhibit 1, Page 6, Column 3 / 3,000,000) ^ 0.5
(3) Average Statewide Trend
(4) = (1) x (2) + (4) x {1 - (2)}
(5) Selected judgmentally based on (4)
(6), (14a) Provided by Commonwealth of Massachusetts
(7) = (6) x (5) / {1 - (5)}
(8), (16) From Section 5, Exhibit 1, Page 2, Column 3
(9) = (7) + (8)
(10) Avg of 3 latest years from Section 5, Exhibit 1, Page 6, Column 3
(11) Selected judgmentally
(12) = (10 x (11)
(14) = (12) + (13)
(15) = Average of (9) and (14)
(16) From Section 5, Exhibit 1, Page 9, Column 13
(17) = (15) + (16)
(18) = (15) / (8)
(19) From Aon analysis as of June 30, 2012

University of Massachusetts (Amherst) - Cluster 4
Indemnity

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paids	LN	Average Observed Trend		Trend Calculations
1992	1	105,743	11.569			
1993	2	106,772	11.578	1.010		
1994	3	104,490	11.557	0.979		
1995	4	93,231	11.443	0.892		
1996	5	83,819	11.336	0.899		
1997	6	71,966	11.184	0.859		
1998	7	75,700	11.235	1.052		
1999	8	69,564	11.150	0.919		
2000	9	65,140	11.084	0.936	n =	22
2001	10	69,462	11.149	1.066	S(x) =	44,055
2002	11	72,621	11.193	1.045	S(x-sq) =	88,221,023
2003	12	73,534	11.206	1.013	S(xy) =	483,438
2004	13	73,411	11.204	0.998	S(y) =	241
2005	14	77,899	11.263	1.061	D =	19,481
2006	15	44,021	10.692	0.565	slope =	-0.065
2007	16	28,745	10.266	0.653	Avg Trend =	0.935
2008	17	31,541	10.359	1.097		
2009	18	31,382	10.354	0.995		
2010	19	34,140	10.438	1.088		
2011	20	31,644	10.362	0.927		
2012	21	32,723	10.396	1.034		
2013	22	33,791	10.428	1.033		
					Selected Trend:	**0.940**

NOTES:

(3) 2013 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2012

(4) LN [(3)]

(5) Eg. 2013: 1.033 = 33791 / 32723

Commonwealth of Massachusetts Workers Compensation
University of Massachusetts (Amherst) - Cluster 4
INDEMNITY
Paid Loss Development
Paid Loss (Excluding Lump Sum)

Acc Yr Ending	*12*	*24*	*36*	*48*	*60*	*72*	*84*	*96*	*108*	*120*	*132*	*144*	*156*	*168*	*180*	*192*	*204*	*216*	*228*	*240*	*252*	*264*	*276*	*288*	*300*	*312*	*324*	*336*	*348*	*360*	*372*
June-83	9,901	27,199	38,094	47,389	62,514	76,567	110,541	128,600	128,600	128,600	128,600	134,406	134,406	134,406	134,406	134,406	134,406	134,406	134,406	134,406	134,406	134,406	134,406	134,406	134,406	134,406	134,406	134,406	134,406	134,406	134,406
June-84	12,002	32,972	46,180	57,447	75,782	92,840	110,643	140,015	147,985	160,531	160,531	160,531	160,531	160,531	160,531	160,531	160,531	160,531	160,531	160,531	160,531	160,531	160,531	160,531	160,531	160,531	160,531	160,531	160,531	160,531	
June-85	96,162	264,176	369,998	460,278	608,898	675,356	769,715	839,890	909,635	972,316	1,027,903	1,068,427	1,096,448	1,126,464	1,157,182	1,193,170	1,230,415	1,270,584	1,311,388	1,352,093	1,394,014	1,437,567	1,483,096	1,530,726	1,581,634	1,636,270	1,687,070	1,738,901	1,792,424			
June-86	62,242	170,991	239,486	289,205	386,115	436,793	545,340	637,721	703,230	742,718	771,694	801,514	833,158	865,475	902,795	941,906	984,064	1,026,987	1,069,806	1,113,907	1,159,474	1,207,370	1,257,125	1,309,416	1,362,366	1,414,227	1,414,227	1,414,227				
June-87	114,930	315,736	434,426	540,241	638,550	728,426	816,220	883,030	959,990	1,087,438	1,157,085	1,228,783	1,294,957	1,353,217	1,408,627	1,466,232	1,524,982	1,583,672	1,643,019	1,705,167	1,769,184	1,838,793	1,908,370	1,966,226	1,996,908	2,028,636	2,061,400					
June-88	145,512	388,262	580,167	742,458	913,661	1,023,389	1,122,499	1,187,899	1,243,915	1,301,898	1,363,345	1,426,364	1,496,845	1,538,376	1,582,716	1,627,788	1,673,942	1,720,105	1,757,371	1,788,805	1,821,696	1,856,017	1,892,584	1,933,305	1,969,091	2,006,043						
June-89	149,323	412,040	585,718	734,611	862,714	940,958	1,000,308	1,091,299	1,155,714	1,209,050	1,258,035	1,312,045	1,364,494	1,425,132	1,470,732	1,496,093	1,522,212	1,550,498	1,578,865	1,608,540	1,639,511	1,670,871	1,702,101	1,734,395	1,767,742							
June-90	147,842	316,313	418,270	483,765	493,004	500,207	470,618	470,618	471,448	471,448	471,448	471,448	471,448	471,448	471,448	471,448	471,448	471,448	471,448	471,448	471,448	471,448	471,448	471,448							
June-91	221,834	616,722	912,374	1,121,784	1,264,030	1,316,233	1,389,392	1,447,121	1,486,680	1,550,949	1,590,832	1,657,948	1,707,507	1,756,977	1,801,084	1,841,720	1,882,581	1,912,600	1,943,013	1,973,183	2,003,226	2,034,294	2,066,375									
June-92	172,146	475,588	707,613	916,461	996,673	1,097,913	1,173,097	1,245,955	1,399,954	1,481,116	1,564,487	1,649,535	1,732,053	1,809,950	1,869,935	1,921,123	1,976,310	2,034,348	2,068,242	2,095,831	2,124,362	2,153,822									
June-93	81,038	222,727	276,572	310,192	330,479	348,662	351,823	276,708	276,708	292,355	292,355	292,355	292,355	292,355	292,355	292,355	292,355	292,355	292,355	292,355	292,355										
June-94	106,895	214,659	321,406	344,959	362,159	373,504	398,819	422,133	440,603	460,274	479,091	498,642	518,380	538,584	559,634	580,633	580,633	580,633	580,633	580,633											
June-95	150,379	381,117	506,335	558,037	585,924	605,733	622,315	624,606	624,606	624,606	624,606	624,606	624,606	624,606	624,606	624,606	624,606	624,606	624,606												
June-96	188,667	308,485	416,852	435,702	459,899	469,932	470,598	475,072	475,222	475,722	475,722	475,722	475,722	475,722	475,722	475,722	475,722	475,722	475,722												
June-97	106,252	219,810	296,841	353,903	388,354	412,255	429,409	446,564	464,289	472,427	472,427	472,427	472,427	472,427	472,427	472,528	472,528														
June-98	89,150	206,061	269,266	292,631	307,643	318,681	318,681	318,681	319,304	320,304	320,304	320,304	320,304	320,304	320,304	320,304															
June-99	79,713	235,741	363,483	410,110	440,701	457,432	467,619	476,062	476,685	476,775	476,815	476,815	476,815	476,815	477,169	477,169															
June-00	199,557	423,727	611,687	721,978	842,583	936,681	993,407	1,021,874	1,036,650	1,036,650	1,036,650	1,036,650	1,036,650	1,036,650																	
June-01	195,155	433,892	620,127	728,970	802,692	874,675	926,705	967,811	1,019,057	1,061,416	1,087,275	1,114,014	1,141,100																		
June-02	134,258	318,384	436,848	510,454	554,485	576,982	577,623	579,568	581,568	581,568	582,625	582,625																			
June-03	110,118	229,192	295,970	379,354	446,784	478,317	500,756	523,384	546,666	569,968	589,299																				
June-04	119,754	192,578	206,484	211,562	212,295	212,295	212,295	212,295	212,295	212,295																					
June-05	118,177	251,133	297,710	349,273	395,191	448,261	457,017	457,755	457,755																						
June-06	109,288	227,014	271,354	276,027	276,027	276,027	276,027	276,027																							
June-07	130,909	212,144	272,353	307,382	318,762	324,328	324,328																								
June-08	136,833	207,607	263,568	288,690	304,525	321,451																									
June-09	157,647	372,637	490,926	555,124	656,285																										
June-10	84,674	225,140	286,244	344,751																											
June-11	203,344	361,140	445,050																												
June-12	198,403	427,078																													
June-13	283,404																														

Age-to-Age Factors

Acc Yr Ending	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*
June-83	2.747	1.401	1.244	1.319	1.225	1.444	1.163	1.000	1.000	1.000	1.045	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
June-84	2.747	1.401	1.244	1.319	1.225	1.192	1.265	1.057	1.085	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
June-85	2.747	1.401	1.244	1.323	1.109	1.140	1.091	1.083	1.069	1.057	1.039	1.026	1.027	1.027	1.031	1.031	1.033	1.032	1.031	1.031	1.031	1.032	1.032	1.033	1.035	1.031	1.031	1.031			
June-86	2.747	1.401	1.208	1.335	1.131	1.249	1.169	1.103	1.056	1.039	1.039	1.039	1.039	1.043	1.043	1.045	1.044	1.042	1.041	1.041	1.041	1.041	1.042	1.040	1.038	1.000	1.000				
June-87	2.747	1.376	1.244	1.182	1.141	1.121	1.082	1.087	1.133	1.064	1.062	1.054	1.045	1.041	1.041	1.040	1.038	1.037	1.038	1.038	1.039	1.038	1.030	1.016	1.016	1.016					
June-88	2.668	1.494	1.280	1.231	1.120	1.097	1.058	1.047	1.047	1.047	1.046	1.049	1.028	1.029	1.028	1.028	1.028	1.022	1.018	1.018	1.019	1.020	1.022	1.019	1.019						
June-89	2.759	1.422	1.254	1.174	1.091	1.063	1.091	1.059	1.046	1.041	1.043	1.040	1.044	1.032	1.017	1.017	1.019	1.018	1.019	1.019	1.019	1.019	1.019	1.019							
June-90	2.140	1.322	1.157	1.019	1.015	0.941	1.000	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
June-91	2.780	1.479	1.230	1.127	1.041	1.056	1.042	1.027	1.043	1.026	1.042	1.030	1.029	1.025	1.023	1.022	1.016	1.016	1.016	1.015	1.016	1.016									
June-92	2.763	1.488	1.295	1.088	1.102	1.068	1.062	1.124	1.058	1.056	1.054	1.050	1.045	1.033	1.027	1.029	1.029	1.017	1.013	1.014	1.014										
June-93	2.748	1.242	1.122	1.065	1.055	1.009	0.786	1.000	1.057	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
June-94	2.008	1.497	1.073	1.050	1.031	1.068	1.058	1.044	1.045	1.041	1.041	1.040	1.039	1.039	1.038	1.000	1.000	1.000	1.000												
June-95	2.534	1.329	1.102	1.050	1.034	1.027	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000													
June-96	1.635	1.351	1.045	1.056	1.022	1.001	1.010	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000														
June-97	2.069	1.350	1.192	1.097	1.062	1.042	1.040	1.040	1.018	1.000	1.000	1.000	1.000	1.000	1.000	1.000															
June-98	2.311	1.307	1.087	1.051	1.036	1.000	1.000	1.002	1.003	1.000	1.000	1.000	1.000	1.000	1.000																
June-99	2.957	1.542	1.128	1.075	1.038	1.022	1.018	1.001	1.000	1.000	1.000	1.000	1.001	1.000																	
June-00	2.123	1.444	1.180	1.167	1.112	1.061	1.029	1.014	1.000	1.000	1.000	1.000	1.000																		
June-01	2.223	1.429	1.176	1.101	1.090	1.059	1.044	1.053	1.042	1.024	1.025	1.024																			
June-02	2.371	1.372	1.168	1.086	1.041	1.001	1.003	1.003	1.000	1.002	1.000																				
June-03	2.081	1.291	1.282	1.178	1.071	1.047	1.045	1.044	1.043	1.034																					
June-04	1.608	1.072	1.025	1.003	1.000	1.000	1.000	1.000	1.000																						
June-05	2.125	1.185	1.173	1.131	1.134	1.020	1.002	1.000																							
June-06	2.077	1.195	1.017	1.000	1.000	1.000	1.000																								
June-07	1.621	1.284	1.129	1.037	1.017	1.000																									
June-08	1.517	1.270	1.095	1.055	1.056																										
June-09	2.364	1.317	1.131	1.182																											
June-10	2.659	1.271	1.204																												
June-11	1.776	1.232																													
June-12	2.153																														

Averages	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*To Ult*
Simple Avg																															
All Yrs	2.327	1.351	1.169	1.130	1.077	1.069	1.044	1.034	1.034	1.021	1.022	1.019	1.017	1.016	1.016	1.014	1.015	1.014	1.015	1.016	1.018	1.018	1.018	1.018	1.018	1.009	1.008	1.010	1.000	1.000	
Latest 5	2.094	1.275	1.115	1.081	1.041	1.013	1.010	1.020	1.017	1.012	1.005	1.005	1.000	1.000	1.008	1.000	1.006	1.007	1.006	1.010	1.010	1.013	1.018	1.022	1.025	1.021	1.009				
Latest 3	2.196	1.274	1.143	1.091	1.024	1.007	1.001	1.015	1.014	1.020	1.008	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.004	1.010	1.010	1.011	1.013	1.018	1.024	1.016	1.010	1.010			
Volume Wtd																															
All Yrs	2.268	1.365	1.179	1.125	1.075	1.060	1.044	1.045	1.040	1.029	1.030	1.028	1.026	1.024	1.023	1.022	1.022	1.020	1.020	1.022	1.023	1.024	1.026	1.023	1.024	1.016	1.015	1.026	1.000		
Latest 5	2.041	1.275	1.118	1.098	1.050	1.018	1.013	1.028	1.019	1.012	1.008	1.008	1.000	1.000	1.009	1.000	1.015	1.012	1.011	1.014	1.016	1.022	1.025	1.024	1.025	1.016					
Latest 3	2.083	1.275	1.142	1.112	1.025	1.008	1.001	1.020	1.017	1.021	1.010	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.009	1.013	1.013	1.015	1.018	1.018	1.023	1.016	1.016	1.026			

Dev Factor Selection																															
Industry 1	2.781	1.499	1.187	1.084	1.039	1.019	1.012																								
Industry 2		1.746	1.300	1.126	1.062	1.029	1.020	1.009	1.008	1.005	1.006	1.010	1.003	1.002	1.004	1.003	1.001	1.001	1.001	1.001											
Prior	*2.130*	*1.371*	*1.178*	*1.100*	*1.044*	*1.014*	*1.025*	*1.019*	*1.017*	*1.018*	*1.017*	*1.009*	*1.028*	*1.025*	*1.024*	*1.023*	*1.023*	*1.021*	*1.021*	*1.022*	*1.024*	*1.027*	*1.010*	*1.005*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	1.018	
Selected	2.130	1.365	1.179	1.100	1.041	1.013	1.013	1.020	1.017	1.021	1.016	1.015	1.026	1.024	1.023	1.022	1.022	1.020	1.020	1.022	1.023	1.024	1.010	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.017
FacToUlt	5.687	2.670	1.956	1.659	1.508	1.448	1.429	1.412	1.385	1.362	1.334	1.313	1.293	1.261	1.231	1.203	1.177	1.151	1.128	1.105	1.082	1.058	1.033	1.022	1.017	1.017	1.017	1.017	1.017	1.017	1.017
Percent of Ult	17.6%	37.5%	51.1%	60.3%	66.3%	69.1%	70.0%	70.8%	72.2%	73.4%	75.0%	76.2%	77.3%	79.3%	81.3%	83.1%	85.0%	86.9%	88.7%	90.5%	92.4%	94.5%	96.9%	97.8%	98.3%	98.3%	98.3%	98.3%	98.3%	98.3%	98.3%

University of Massachusetts (Amherst) - Cluster 4

Indemnity

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Ultimate Loss		Ultimate Loss		Change in Ultimate Loss		Change in Ultimate Loss	
Accident	As of 6/12		As of 6/13		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	2,492,484	2,614,353	2,535,758	2,663,005	43,273	1.7%	48,652	1.9%
6/30/82-83	138,000	140,000	138,000	140,000	0	0.0%	0	0.0%
6/30/83-84	192,000	196,000	192,000	196,000	0	0.0%	0	0.0%
6/30/84-85	1,810,000	2,168,000	1,863,000	2,232,000	53,000	2.9%	64,000	3.0%
6/30/85-86	1,645,000	1,934,945	1,644,000	1,934,086	(1,000)	-0.1%	(859)	0.0%
6/30/86-87	2,317,000	3,149,000	2,349,000	3,194,000	32,000	1.4%	45,000	1.4%
6/30/87-88	2,092,000	2,093,000	2,127,000	2,129,000	35,000	1.7%	36,000	1.7%
6/30/88-89	1,842,000	1,842,000	1,866,000	1,866,000	24,000	1.3%	24,000	1.3%
6/30/89-90	538,000	545,000	533,000	537,000	(5,000)	-0.9%	(8,000)	-1.5%
6/30/90-91	2,365,000	2,366,000	2,342,000	2,342,000	(23,000)	-1.0%	(24,000)	-1.0%
6/30/91-92	2,572,000	2,788,000	2,537,000	2,755,000	(35,000)	-1.4%	(33,000)	-1.2%
6/30/92-93	455,000	473,000	455,000	473,000	0	0.0%	0	0.0%
6/30/93-94	719,000	747,000	719,000	747,000	0	0.0%	0	0.0%
6/30/94-95	770,000	800,000	770,000	800,000	0	0.0%	0	0.0%
6/30/95-96	598,000	622,000	598,000	622,000	0	0.0%	0	0.0%
6/30/96-97	518,000	539,000	518,000	539,000	0	0.0%	0	0.0%
6/30/97-98	469,000	487,000	469,000	487,000	0	0.0%	0	0.0%
6/30/98-99	802,000	803,000	779,000	782,000	(23,000)	-2.9%	(21,000)	-2.6%
6/30/99-00	1,522,000	1,540,000	1,472,000	1,489,000	(50,000)	-3.3%	(51,000)	-3.3%
6/30/00-01	1,628,000	1,649,000	1,629,000	1,650,000	1,000	0.1%	1,000	0.1%
6/30/01-02	979,000	983,000	958,000	964,000	(21,000)	-2.1%	(19,000)	-1.9%
6/30/02-03	977,000	981,000	1,050,000	1,057,000	73,000	7.5%	76,000	7.7%
6/30/03-04	357,000	367,000	349,000	357,000	(8,000)	-2.2%	(10,000)	-2.7%
6/30/04-05	829,000	838,000	792,000	816,000	(37,000)	-4.5%	(22,000)	-2.6%
6/30/05-06	494,000	610,000	478,000	566,000	(16,000)	-3.2%	(44,000)	-7.2%
6/30/06-07	634,000	742,000	603,000	684,000	(31,000)	-4.9%	(58,000)	-7.8%
6/30/07-08	580,000	708,000	555,000	646,000	(25,000)	-4.3%	(62,000)	-8.8%
6/30/08-09	1,224,000	1,267,000	1,076,000	1,151,000	(148,000)	-12.1%	(116,000)	-9.2%
6/30/09-10	1,091,000	1,237,000	793,000	885,000	(298,000)	-27.3%	(352,000)	-28.5%
6/30/10-11	1,101,000	1,166,000	965,000	984,000	(136,000)	-12.4%	(182,000)	-15.6%
6/30/11-12	1,230,000	1,411,000	1,161,000	1,319,000	(69,000)	-5.6%	(92,000)	-6.5%
6/30/12-13								
Total	34,980,484	37,806,298	34,315,758	37,006,091	(664,727)	-1.9%	(800,207)	-2.1%

NOTES:

(2), (3) From Aon analysis as of June 30, 2012

(4), (5) From Section 5, Exhibit 1, Page 1, Columns 6, 7

(6) = (4) - (2)

(7) = (4) / (2) - 1

(8) = (5) - (3)

(9) = (5) / (3) - 1

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Amherst) - Cluster 4
Indemnity

Calculation of Ultimate Lump Sum Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Accident Year	Paid Loss Excluding Lump Sum	Implied Cumulative LDF	Ult Loss Excluding Lump Sum	Selected Incr Lump Sum % Outstdg	Cumulative Lump Sum % Outstdg	Total Lump Sum Outstdg	Paid Lump Sum to Date	Est Ult Lump Sum - Incr Method	Ultimate Lump Sum Percentage	Lump Sum LDF	Est Ult Lump Sum - Paid Method	Selected Est Ultimate Lump Sums	Prior Est Ultimate Lump Sums
All Prior Yrs	2,044,611	1.228	2,511,341	0.0%	0.0%	0	88,040	88,040	3.5%	1.000	88,040	88,040	88,040
6/30/82-83	134,406	1.017	136,718	0.0%	0.0%	0	0	0	0.0%	1.000	0	0	0
6/30/83-84	160,531	1.017	163,292	0.0%	0.0%	0	27,500	27,500	16.8%	1.000	27,500	27,500	27,500
6/30/84-85	1,792,424	1.221	2,187,907	0.0%	0.0%	0	44,000	44,000	2.0%	1.000	44,000	44,000	44,000
6/30/85-86	1,414,227	1.424	2,013,974	0.0%	0.0%	0	210,000	210,000	10.4%	1.000	210,000	210,000	210,000
6/30/86-87	2,061,400	1.424	2,935,602	0.0%	0.0%	0	258,000	258,000	8.8%	1.000	258,000	258,000	258,000
6/30/87-88	2,006,043	1.017	2,040,550	0.0%	0.0%	0	88,500	88,500	4.3%	1.000	88,500	88,500	88,500
6/30/88-89	1,767,742	1.017	1,798,150	0.0%	0.0%	0	68,000	68,000	3.8%	1.000	68,000	68,000	68,000
6/30/89-90	471,448	1.022	481,955	0.0%	0.0%	0	50,590	50,590	10.5%	1.000	50,590	50,590	50,590
6/30/90-91	2,066,375	1.033	2,133,553	0.0%	0.0%	0	208,500	208,500	9.8%	1.000	208,500	208,500	208,500
6/30/91-92	2,153,822	1.164	2,506,128	0.0%	0.0%	0	249,000	249,000	9.9%	1.000	249,000	249,000	249,000
6/30/92-93	292,355	1.082	316,259	0.0%	0.0%	0	158,010	158,010	50.0%	1.000	158,010	158,010	158,010
6/30/93-94	580,633	1.326	769,991	0.0%	0.0%	0	130,300	130,300	16.9%	1.000	130,300	130,300	130,300
6/30/94-95	624,606	1.128	704,356	0.0%	0.0%	0	137,200	137,200	19.5%	1.000	137,200	137,200	137,200
6/30/95-96	475,722	1.151	547,419	0.0%	0.0%	0	116,000	116,000	21.2%	1.000	116,000	116,000	116,000
6/30/96-97	472,528	1.177	555,967	0.0%	0.0%	0	40,000	40,000	7.2%	1.000	40,000	40,000	40,000
6/30/97-98	320,304	1.203	385,294	0.0%	0.0%	0	143,500	143,500	37.2%	1.000	143,500	143,500	144,218
6/30/98-99	477,169	1.231	587,226	0.0%	0.0%	0	193,500	193,500	33.0%	1.010	195,435	194,468	195,748
6/30/99-00	1,036,650	1.261	1,306,946	0.1%	0.1%	1,307	179,500	180,807	13.8%	1.020	183,108	181,957	184,253
6/30/00-01	1,141,100	1.293	1,475,385	0.2%	0.3%	4,426	170,000	174,426	11.8%	1.030	175,151	174,789	177,864
6/30/01-02	582,625	1.313	764,936	0.3%	0.6%	4,590	192,500	197,090	25.8%	1.041	200,316	198,703	201,320
6/30/02-03	589,299	1.334	786,004	0.4%	1.0%	7,860	259,972	267,832	34.1%	1.051	273,233	270,533	202,158
6/30/03-04	212,295	1.362	289,059	0.5%	1.5%	4,336	56,000	60,336	20.9%	1.067	59,739	60,038	61,974
6/30/04-05	457,755	1.385	633,773	0.7%	2.2%	13,943	166,950	180,893	28.5%	1.097	183,084	181,989	189,227
6/30/05-06	276,027	1.412	389,622	0.7%	2.9%	11,299	77,000	88,299	22.7%	1.136	87,484	87,891	93,048
6/30/06-07	324,328	1.429	463,526	0.8%	3.7%	17,150	118,441	135,592	29.3%	1.203	142,435	139,013	157,181
6/30/07-08	321,451	1.448	465,519	1.0%	4.7%	21,930	62,500	84,430	18.1%	1.510	94,404	89,417	112,285
6/30/08-09	656,285	1.508	989,829	1.0%	5.7%	56,785	92,500	149,285	15.1%	1.870	172,994	161,140	328,786
6/30/09-10	344,751	1.659	571,967	2.9%	8.6%	49,266	87,591	136,856	23.9%	3.489	305,594	221,225	521,331
6/30/10-11	445,050	1.956	870,314	4.5%	13.1%	114,127	0	114,127	13.1%	6.260	0	114,127	180,116
6/30/11-12	427,078	2.670	1,140,223	2.6%	15.7%	178,643	0	178,643	15.7%	16.720	0	178,643	256,933
6/30/12-13	283,404	5.687	1,611,641	4.0%	19.7%	316,967	0	316,967	19.7%	16.720	0	316,967	
Total	26,414,444		34,534,425			802,629	3,673,594	4,476,223	13.0%		4,090,120	4,588,040	4,880,083

NOTES:

(2) From Section 5, Exhibit 1, Page 2, Column 3
(3) = (4) / (2)
(4) From Section 5, Exhibit 1, Page 2, Column 6
(5) From Section 5, Exhibit 1, Page 11
(6) Downward sum of (5)
(7) = (6) x (4)
(8) From Section 5, Exhibit 1, Page 10
(9) = (7) + (8)
(10) = (9) / (4)
(11) From Section 5, Exhibit 1, Page 12
(12) = (8) x (11)
(13) Selected based on (9) and (12)
(14) From Aon analysis as of June 30, 2012

Commonwealth of Massachusetts Workers Compensation
University of Massachusetts (Amherst) - Cluster 4
INDEMNITY
Lump Sum Development
Incremental Lump Sum Payments

Acc Yr Ending	*0-12*	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*372-384*
All Prior Yrs	0	0	0	0	0	0	0	0	7,000	0	0	0	0	0	54,000	0	0	0	0	0	0	0	0	0	27,040	0	0	0	0	0	0	0
Jun-83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jun-84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27,500	0	0	0	0	0	0	0	0	0	0	0	0	0		
Jun-85	0	0	0	0	0	16,500	0	0	0	0	0	27,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Jun-86	0	0	0	0	0	0	0	50,000	0	10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150,000	0	0					
Jun-87	0	0	0	0	0	10,000	37,500	0	10,000	0	0	0	19,000	46,500	0	0	0	0	0	0	0	0	0	135,000	0	0	0					
Jun-88	0	0	0	12,500	12,500	0	43,500	0	0	0	0	0	0	0	0	0	0	0	20,000	0	0	0	0	0	0	0						
Jun-89	0	0	0	0	14,000	0	0	9,000	45,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
Jun-90	0	0	0	33,000	8,000	9,590	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
Jun-91	0	0	0	30,000	20,000	60,000	46,500	0	27,000	0	0	0	0	0	25,000	0	0	0	0	0	0	0	0									
Jun-92	0	5,000	0	100,500	0	0	0	27,500	0	0	0	0	0	36,000	0	0	0	0	80,000	0	0	0										
Jun-93	0	20,010	43,000	10,000	0	10,000	0	75,000	0	0	0	0	0	0	0	0	0	0	0	0	0											
Jun-94	0	0	0	0	0	0	0	0	0	10,300	0	0	0	0	0	120,000	0	0	0	0												
Jun-95	0	37,200	35,000	40,000	25,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0													
Jun-96	0	0	16,000	0	25,000	37,500	37,500	0	0	0	0	0	0	0	0	0	0	0														
Jun-97	0	0	0	0	0	0	0	0	0	40,000	0	0	0	0	0	0	0															
Jun-98	0	0	88,500	0	30,000	25,000	0	0	0	0	0	0	0	0	0	0																
Jun-99	0	40,000	93,500	27,500	0	22,500	0	0	0	10,000	0	0	0	0	0																	
Jun-00	0	0	23,000	27,500	75,000	0	24,000	0	30,000	0	0	0	0	0																		
Jun-01	0	17,500	72,500	50,000	0	30,000	0	0	0	0	0	0	0																			
Jun-02	0	24,000	18,000	52,500	63,000	35,000	0	0	0	0	0	0																				
Jun-03	0	9,000	26,500	32,000	30,000	92,472	0	0	0	0	70,000																					
Jun-04	0	6,000	0	0	50,000	0	0	0	0	0																						
Jun-05	0	24,450	18,500	0	35,000	12,000	65,000	12,000	0																							
Jun-06	0	35,000	28,000	14,000	0	0	0	0																								
Jun-07	0	0	0	60,000	40,000	15,000	3,441																									
Jun-08	0	0	17,500	45,000	0	0																										
Jun-09	0	62,500	30,000	0	0																											
Jun-10	0	62,591	25,000	0																												
Jun-11	0	0	0																													
Jun-12	0	0																														
Jun-13	0																															

Cumulative Lump Sum Payments

Acc Yr Ending	*12*	*24*	*36*	*48*	*60*	*72*	*84*	*96*	*108*	*120*	*132*	*144*	*156*	*168*	*180*	*192*	*204*	*216*	*228*	*240*	*252*	*264*	*276*	*288*	*300*	*312*	*324*	*336*	*348*	*360*	*372*	*384*
All Prior Yrs	0	0	0	0	0	0	0	0	7,000	7,000	7,000	7,000	7,000	7,000	61,000	61,000	61,000	61,000	61,000	61,000	61,000	61,000	61,000	61,000	88,040	88,040	88,040	88,040	88,040	88,040	88,040	88,040
Jun-83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jun-84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500		
Jun-85	0	0	0	0	0	16,500	16,500	16,500	16,500	16,500	16,500	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000				
Jun-86	0	0	0	0	0	0	0	0	50,000	50,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	210,000	210,000	210,000				
Jun-87	0	0	0	0	0	10,000	47,500	47,500	57,500	57,500	57,500	57,500	76,500	123,000	123,000	123,000	123,000	123,000	123,000	123,000	123,000	123,000	123,000	258,000	258,000	258,000	258,000					
Jun-88	0	0	0	12,500	25,000	25,000	68,500	68,500	68,500	68,500	68,500	68,500	68,500	68,500	68,500	68,500	68,500	68,500	88,500	88,500	88,500	88,500	88,500	88,500	88,500	88,500						
Jun-89	0	0	0	0	14,000	14,000	14,000	23,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000							
Jun-90	0	0	0	33,000	41,000	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590								
Jun-91	0	0	0	30,000	50,000	110,000	156,500	156,500	183,500	183,500	183,500	183,500	183,500	183,500	208,500	208,500	208,500	208,500	208,500	208,500	208,500	208,500	208,500									
Jun-92	0	5,000	5,000	105,500	105,500	105,500	105,500	133,000	133,000	133,000	133,000	133,000	133,000	169,000	169,000	169,000	169,000	169,000	249,000	249,000	249,000	249,000										
Jun-93	0	20,010	63,010	73,010	73,010	83,010	83,010	158,010	158,010	158,010	158,010	158,010	158,010	158,010	158,010	158,010	158,010	158,010	158,010	158,010	158,010											
Jun-94	0	0	0	0	0	0	0	0	0	10,300	10,300	10,300	10,300	10,300	10,300	130,300	130,300	130,300	130,300	130,300												
Jun-95	0	37,200	72,200	112,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200													
Jun-96	0	0	16,000	16,000	41,000	78,500	116,000	116,000	116,000	116,000	116,000	116,000	116,000	116,000	116,000	116,000	116,000	116,000														
Jun-97	0	0	0	0	0	0	0	0	0	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000															
Jun-98	0	0	88,500	88,500	118,500	143,500	143,500	143,500	143,500	143,500	143,500	143,500	143,500	143,500	143,500	143,500																
Jun-99	0	40,000	133,500	161,000	161,000	183,500	183,500	183,500	183,500	193,500	193,500	193,500	193,500	193,500	193,500																	
Jun-00	0	0	23,000	50,500	125,500	125,500	149,500	149,500	179,500	179,500	179,500	179,500	179,500	179,500																		
Jun-01	0	17,500	90,000	140,000	140,000	170,000	170,000	170,000	170,000	170,000	170,000	170,000	170,000																			
Jun-02	0	24,000	42,000	94,500	157,500	192,500	192,500	192,500	192,500	192,500	192,500	192,500																				
Jun-03	0	9,000	35,500	67,500	97,500	189,972	189,972	189,972	189,972	189,972	259,972																					
Jun-04	0	6,000	6,000	6,000	56,000	56,000	56,000	56,000	56,000	56,000																						
Jun-05	0	24,450	42,950	42,950	77,950	89,950	154,950	166,950	166,950																							
Jun-06	0	35,000	63,000	77,000	77,000	77,000	77,000	77,000																								
Jun-07	0	0	0	60,000	100,000	115,000	118,441																									
Jun-08	0	0	17,500	62,500	62,500	62,500																										
Jun-09	0	62,500	92,500	92,500	92,500																											
Jun-10	0	62,591	87,591	87,591																												
Jun-11	0	0	0																													
Jun-12	0	0																														
Jun-13	0																															

Commonwealth of Massachusetts Workers Compensation
University of Massachusetts (Amherst) - Cluster 4
INDEMNITY
Lump Sum Development
Incremental Lump Sums as a % of Ultimate Losses Excluding Lump Sums

Acc Yr Ending	0-12	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384
All Prior Yrs	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun-83	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-84	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.168	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Jun-85	0.000	0.000	0.000	0.000	0.000	0.008	0.000	0.000	0.000	0.000	0.000	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
Jun-86	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.025	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.074	0.000	0.000				
Jun-87	0.000	0.000	0.000	0.000	0.000	0.003	0.013	0.000	0.003	0.000	0.000	0.000	0.006	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.046	0.000	0.000	0.000					
Jun-88	0.000	0.000	0.000	0.006	0.006	0.000	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000						
Jun-89	0.000	0.000	0.000	0.000	0.008	0.000	0.000	0.005	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000							
Jun-90	0.000	0.000	0.000	0.068	0.017	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000								
Jun-91	0.000	0.000	0.000	0.014	0.009	0.028	0.022	0.000	0.013	0.000	0.000	0.000	0.000	0.000	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000									
Jun-92	0.000	0.002	0.000	0.040	0.000	0.000	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.014	0.000	0.000	0.000	0.000	0.032	0.000	0.000	0.000										
Jun-93	0.000	0.063	0.136	0.032	0.000	0.032	0.000	0.237	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000											
Jun-94	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.000	0.000	0.000	0.000	0.000	0.156	0.000	0.000	0.000	0.000												
Jun-95	0.000	0.053	0.050	0.057	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000													
Jun-96	0.000	0.000	0.029	0.000	0.046	0.069	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000														
Jun-97	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.000															
Jun-98	0.000	0.000	0.230	0.000	0.078	0.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																
Jun-99	0.000	0.068	0.159	0.047	0.000	0.038	0.000	0.000	0.000	0.017	0.000	0.000	0.000	0.000	0.000																	
Jun-00	0.000	0.000	0.018	0.021	0.057	0.000	0.018	0.000	0.023	0.000	0.000	0.000	0.000	0.000																		
Jun-01	0.000	0.012	0.049	0.034	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000																			
Jun-02	0.000	0.031	0.024	0.069	0.082	0.046	0.000	0.000	0.000	0.000	0.000	0.000																				
Jun-03	0.000	0.011	0.034	0.041	0.038	0.118	0.000	0.000	0.000	0.000	0.089																					
Jun-04	0.000	0.021	0.000	0.000	0.173	0.000	0.000	0.000	0.000	0.000																						
Jun-05	0.000	0.039	0.029	0.000	0.055	0.019	0.103	0.019	0.000																							
Jun-06	0.000	0.090	0.072	0.036	0.000	0.000	0.000	0.000																								
Jun-07	0.000	0.000	0.000	0.129	0.086	0.032	0.007																									
Jun-08	0.000	0.000	0.038	0.097	0.000	0.000																										
Jun-09	0.000	0.063	0.030	0.000	0.000																											
Jun-10	0.000	0.109	0.044	0.000																												
Jun-11	0.000	0.000	0.000																													
Jun-12	0.000	0.000																														
Jun-13	0.000																															

Averages		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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384
Simple Avg																																
All Yrs (ex P)	0.000	0.019	0.032	0.025	0.026	0.019	0.010	0.011	0.004	0.005	0.004	0.001	0.000	0.002	0.001	0.010	0.011	0.000	0.003	0.000	0.000	0.000	0.000	0.006	0.000	0.012	0.000	0.000	0.000	0.000	0.000	
Latest 5	0.000	0.035	0.022	0.052	0.028	0.010	0.022	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.031	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.009	0.000	0.015	0.000					
Latest 3	0.000	0.036	0.025	0.032	0.029	0.011	0.037	0.006	0.000	0.000	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.000			
Olympic Avg																																
All Yrs (ex P)	0.000	0.016	0.026	0.022	0.021	0.016	0.007	0.002	0.003	0.002	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Latest 10	0.000	0.028	0.025	0.034	0.040	0.019	0.003	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000										
Latest 5	0.000	0.021	0.023	0.044	0.018	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					

Dev Factor Selection																																
Prior	NA	0.040	0.029	0.045	0.028	0.034	0.010	0.008	0.007	0.007	0.005	0.004	0.003	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Selected	NA	0.040	0.026	0.045	0.029	0.010	0.010	0.008	0.007	0.007	0.005	0.004	0.003	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FacToUlt	NA	0.197	0.157	0.131	0.086	0.057	0.047	0.037	0.029	0.022	0.015	0.010	0.006	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Commonwealth of Massachusetts Workers Compensation
University of Massachusetts (Amherst) - Cluster 4
INDEMNITY
Paid Loss Development
Paid Loss - Lump Sum only

Acc Yr Ending	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384
All Prior Yrs	0	0	0	0	0	0	0	0	7,000	7,000	7,000	7,000	7,000	7,000	61,000	61,000	61,000	61,000	61,000	61,000	61,000	61,000	61,000	61,000	88,040	88,040	88,040	88,040	88,040	88,040	88,040	88,040
Jun-83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jun-84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500		
Jun-85	0	0	0	0	0	16,500	16,500	16,500	16,500	16,500	16,500	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000			
Jun-86	0	0	0	0	0	0	0	0	50,000	50,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	210,000	210,000	210,000				
Jun-87	0	0	0	0	0	10,000	47,500	47,500	57,500	57,500	57,500	57,500	76,500	123,000	123,000	123,000	123,000	123,000	123,000	123,000	123,000	123,000	123,000	258,000	258,000	258,000	258,000					
Jun-88	0	0	0	12,500	25,000	25,000	68,500	68,500	68,500	68,500	68,500	68,500	68,500	68,500	68,500	68,500	68,500	68,500	88,500	88,500	88,500	88,500	88,500	88,500	88,500	88,500						
Jun-89	0	0	0	0	14,000	14,000	14,000	23,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000	68,000							
Jun-90	0	0	0	33,000	41,000	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590	50,590								
Jun-91	0	0	0	30,000	50,000	110,000	156,500	156,500	183,500	183,500	183,500	183,500	183,500	183,500	208,500	208,500	208,500	208,500	208,500	208,500	208,500	208,500	208,500									
Jun-92	0	5,000	5,000	105,500	105,500	105,500	105,500	133,000	133,000	133,000	133,000	133,000	133,000	133,000	169,000	169,000	169,000	169,000	249,000	249,000	249,000	249,000										
Jun-93	0	20,010	63,010	73,010	73,010	83,010	83,010	158,010	158,010	158,010	158,010	158,010	158,010	158,010	158,010	158,010	158,010	158,010	158,010	158,010	158,010											
Jun-94	0	0	0	0	0	0	0	0	0	10,300	10,300	10,300	10,300	10,300	10,300	10,300	130,300	130,300	130,300	130,300												
Jun-95	0	37,200	72,200	112,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200	137,200													
Jun-96	0	0	16,000	16,000	41,000	78,500	116,000	116,000	116,000	116,000	116,000	116,000	116,000	116,000	116,000	116,000	116,000	116,000														
Jun-97	0	0	0	0	0	0	0	0	0	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000															
Jun-98	0	0	88,500	88,500	118,500	143,500	143,500	143,500	143,500	143,500	143,500	143,500	143,500	143,500	143,500	143,500																
Jun-99	0	40,000	133,500	161,000	161,000	183,500	183,500	183,500	183,500	193,500	193,500	193,500	193,500	193,500	193,500																	
Jun-00	0	0	23,000	50,500	125,500	125,500	149,500	149,500	179,500	179,500	179,500	179,500	179,500	179,500																		
Jun-01	0	17,500	90,000	140,000	140,000	170,000	170,000	170,000	170,000	170,000	170,000	170,000	170,000																			
Jun-02	0	24,000	42,000	94,500	157,500	192,500	192,500	192,500	192,500	192,500	192,500	192,500																				
Jun-03	0	9,000	35,500	67,500	97,500	189,972	189,972	189,972	189,972	189,972	259,972																					
Jun-04	0	6,000	6,000	6,000	56,000	56,000	56,000	56,000	56,000	56,000																						
Jun-05	0	24,450	42,950	42,950	77,950	89,950	154,950	166,950	166,950																							
Jun-06	0	35,000	63,000	77,000	77,000	77,000	77,000	77,000																								
Jun-07	0	0	0	60,000	100,000	115,000	118,441																									
Jun-08	0	0	17,500	62,500	62,500	62,500																										
Jun-09	0	62,500	92,500	92,500	92,500																											
Jun-10	0	62,591	87,591	87,591																												
Jun-11	0	0	0																													
Jun-12	0	0																														
Jun-13	0																															

Age-to-Age Factors

Acc Yr Ending	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	To Ult
All Prior Yrs									1.000	1.000	1.000	1.000	1.000	8.714	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.443	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-83																																
Jun-84																	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Jun-85						1.000	1.000	1.000	1.000	1.000	2.667	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
Jun-86									1.000	1.200	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	3.500	1.000	1.000					
Jun-87						4.750	1.000	1.211	1.000	1.000	1.000	1.330	1.608	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	2.098	1.000	1.000	1.000						
Jun-88				2.000	1.000	2.740	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.292	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
Jun-89					1.000	1.000	1.643	2.957	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
Jun-90				1.242	1.234	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
Jun-91				1.667	2.200	1.423	1.000	1.173	1.000	1.000	1.000	1.000	1.000	1.136	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
Jun-92		1.000	21.100	1.000	1.000	1.000	1.261	1.000	1.000	1.000	1.000	1.000	1.271	1.000	1.000	1.000	1.000	1.473	1.000	1.000	1.000											
Jun-93		3.149	1.159	1.000	1.137	1.000	1.904	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000												
Jun-94										1.000	1.000	1.000	1.000	1.000	12.650	1.000	1.000	1.000	1.000													
Jun-95		1.941	1.554	1.223	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000														
Jun-96			1.000	2.563	1.915	1.478	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000																
Jun-97										1.000	1.000	1.000	1.000	1.000	1.000	1.000																
Jun-98			1.000	1.339	1.211	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000																	
Jun-99		3.338	1.206	1.000	1.140	1.000	1.000	1.000	1.054	1.000	1.000	1.000	1.000	1.000																		
Jun-00			2.196	2.485	1.000	1.191	1.000	1.201	1.000	1.000	1.000	1.000	1.000																			
Jun-01		5.143	1.556	1.000	1.214	1.000	1.000	1.000	1.000	1.000	1.000	1.000																				
Jun-02		1.750	2.250	1.667	1.222	1.000	1.000	1.000	1.000	1.000	1.000																					
Jun-03		3.944	1.901	1.444	1.948	1.000	1.000	1.000	1.000	1.368																						
Jun-04		1.000	1.000	9.333	1.000	1.000	1.000	1.000	1.000																							
Jun-05		1.757	1.000	1.815	1.154	1.723	1.077	1.000																								
Jun-06		1.800	1.222	1.000	1.000	1.000	1.000																									
Jun-07				1.667	1.150	1.030																										
Jun-08			3.571	1.000	1.000																											
Jun-09		1.480	1.000	1.000																												
Jun-10		1.399	1.000																													
Jun-11																																
Jun-12																																

Averages	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	To Ult
Simple Avg																																
All Yrs (ex P)		2.308	2.732	1.866	1.238	1.367	1.099	1.141	1.003	1.030	1.093	1.019	1.055	1.009	1.832	1.000	1.000	1.064	1.000	1.000	1.000	1.000	1.157	1.000	1.500	1.000	1.000	1.000	1.000	#DIV/0!		
Latest 5		1.440	1.698	1.296	1.061	1.151	1.015	1.000	1.000	1.074	1.000	1.000	1.000	1.000	3.330	1.000	1.000	1.095	1.000	1.000	1.000	1.000	1.220	1.000	1.500	1.000						
Latest 3		1.440	1.857	1.222	1.050	1.251	1.026	1.000	1.000	1.123	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.833	1.000	1.000	1.000				
Volume Wtd																																
All Yrs (ex P)		2.559	1.609	1.323	1.226	1.130	1.058	1.075	1.028	1.037	1.014	1.010	1.050	1.016	1.086	1.020	1.000	1.080	1.000	1.000	1.000	1.000	1.292	1.000	1.314	1.000	1.000	1.000	1.000			
Latest 5		1.580	1.457	1.224	1.072	1.130	1.018	1.000	1.000	1.076	1.000	1.000	1.000	1.000	1.268	1.000	1.000	1.100	1.000	1.000	1.000	1.000	1.346	1.000	1.314	1.000						
Latest 3		1.440	1.228	1.186	1.063	1.243	1.042	1.000	1.000	1.127	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.369	1.000	1.000	1.000				

Dev Factor Selection																																
Prior	1.000	2.784	1.978	2.518	1.293	1.257	1.061	1.052	1.029	1.015	1.010	1.010	1.010	1.010	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Selected	1.000	2.671	1.794	1.866	1.238	1.256	1.058	1.036	1.028	1.015	1.010	1.010	1.010	1.010	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
FacToUlt	16.720	16.720	6.260	3.489	1.870	1.510	1.203	1.136	1.097	1.067	1.051	1.041	1.030	1.020	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Percent of Ult	6.0%	6.0%	16.0%	28.7%	53.5%	66.2%	83.2%	88.0%	91.2%	93.7%	95.1%	96.1%	97.1%	98.0%	99.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

University of Massachusetts (Amherst) - Cluster 4

Indemnity

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At: 4%	6%
384	100.0%	1.7%	0.0%	0.5%	0.3%	1.000	1.000
372	98.3%	0.0%	1.7%	0.0%	0.0%	0.981	0.971
360	98.3%	0.0%	1.7%	0.0%	0.0%	0.943	0.916
348	98.3%	0.0%	1.7%	0.0%	0.0%	0.907	0.864
336	98.3%	0.0%	1.7%	0.0%	0.0%	0.872	0.816
324	98.3%	0.0%	1.7%	0.0%	0.0%	0.838	0.769
312	98.3%	0.0%	1.7%	0.0%	0.0%	0.806	0.726
300	98.3%	0.5%	1.7%	0.2%	0.1%	0.775	0.685
288	97.8%	1.0%	2.2%	0.4%	0.2%	0.798	0.719
276	96.9%	2.3%	3.1%	1.0%	0.6%	0.833	0.768
264	94.5%	2.1%	5.5%	0.9%	0.6%	0.877	0.829
252	92.4%	2.0%	7.6%	0.9%	0.6%	0.881	0.835
240	90.5%	1.8%	9.5%	0.8%	0.6%	0.875	0.825
228	88.7%	1.8%	11.3%	0.9%	0.6%	0.863	0.809
216	86.9%	1.9%	13.1%	1.0%	0.7%	0.851	0.792
204	85.0%	1.9%	15.0%	1.0%	0.7%	0.839	0.775
192	83.1%	1.9%	16.9%	1.0%	0.8%	0.826	0.758
180	81.3%	1.9%	18.7%	1.1%	0.8%	0.812	0.741
168	79.3%	2.0%	20.7%	1.2%	0.9%	0.800	0.724
156	77.3%	1.2%	22.7%	0.7%	0.6%	0.788	0.708
144	76.2%	1.2%	23.8%	0.8%	0.6%	0.768	0.683
132	75.0%	1.5%	25.0%	1.0%	0.8%	0.750	0.660
120	73.4%	1.2%	26.6%	0.8%	0.7%	0.736	0.643
108	72.2%	1.4%	27.8%	1.0%	0.8%	0.720	0.622
96	70.8%	0.9%	29.2%	0.7%	0.6%	0.706	0.605
84	70.0%	0.9%	30.0%	0.7%	0.6%	0.688	0.583
72	69.1%	2.7%	30.9%	2.2%	2.0%	0.671	0.562
60	66.3%	6.0%	33.7%	5.1%	4.6%	0.672	0.566
48	60.3%	9.1%	39.7%	8.0%	7.5%	0.697	0.601
36	51.1%	13.7%	48.9%	12.4%	11.8%	0.728	0.642
24	37.5%	19.9%	62.5%	18.7%	18.2%	0.762	0.686
12	17.6%	17.6%	82.4%	17.2%	17.1%	0.792	0.725
Total		100.0%					

NOTES:

(2) = 1 / Section 5, Exhibit 1, Page 2, Column 4

(3) Incremental % based on (2)

(4) = 1 - (2)

(5) = [(3) / 1.04] ^ {[(1) - 6] / 12}

(6) = [(3) / 1.06] ^ {[(1) - 6] / 12}

(7), (8) Discount factor based on (5), (6)

University of Massachusetts (Amherst) - Cluster 4
Indemnity

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	403,107	530,354		359,234	472,632
6/30/82-83	3,594	5,594	0.981	3,524	5,485
6/30/83-84	3,969	7,969	0.943	3,742	7,514
6/30/84-85	26,576	395,576	0.907	24,094	358,630
6/30/85-86	19,773	309,860	0.872	17,237	270,115
6/30/86-87	29,600	874,600	0.838	24,811	733,094
6/30/87-88	32,457	34,457	0.806	26,159	27,771
6/30/88-89	30,258	30,258	0.775	23,449	23,449
6/30/89-90	10,962	14,962	0.798	8,747	11,939
6/30/90-91	67,125	67,125	0.833	55,908	55,908
6/30/91-92	134,178	352,178	0.877	117,675	308,863
6/30/92-93	4,635	22,635	0.881	4,085	19,949
6/30/93-94	8,067	36,067	0.875	7,056	31,550
6/30/94-95	8,194	38,194	0.863	7,075	32,978
6/30/95-96	6,278	30,278	0.851	5,340	25,755
6/30/96-97	5,473	26,473	0.839	4,589	22,200
6/30/97-98	5,196	23,196	0.826	4,290	19,150
6/30/98-99	108,331	111,331	0.812	88,017	90,454
6/30/99-00	255,850	272,850	0.800	204,662	218,260
6/30/00-01	317,900	338,900	0.788	250,378	266,917
6/30/01-02	182,875	188,875	0.768	140,507	145,117
6/30/02-03	200,729	207,729	0.750	150,606	155,858
6/30/03-04	80,705	88,705	0.736	59,430	65,321
6/30/04-05	167,295	191,295	0.720	120,450	137,730
6/30/05-06	124,973	212,973	0.706	88,226	150,350
6/30/06-07	160,231	241,231	0.688	110,175	165,871
6/30/07-08	171,049	262,049	0.671	114,711	175,738
6/30/08-09	327,215	402,215	0.672	219,963	270,380
6/30/09-10	360,659	452,659	0.697	251,411	315,543
6/30/10-11	519,950	538,950	0.728	378,683	392,521
6/30/11-12	733,922	891,922	0.762	558,959	679,293
6/30/12-13	1,105,596	1,645,596	0.792	875,822	1,303,595
Total	5,616,719	8,847,053		4,309,015	6,959,929
			(7) Total Discount Factor:	0.767	0.787

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	403,107	530,354
(9) Projected Number of Years:	6	6
(10) Projected Paid Loss per Year:	67,184	88,392
(11) Discounted Value at 4%:	359,234	472,632

NOTES:
(2), (3) From Section 5, Exhibit 1, Page 1, Columns 8, 9
(4) From Section 5, Exhibit 1, Page 13, Column 7
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

University of Massachusetts (Amherst) - Cluster 4
Indemnity

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	403,107	530,354		340,279	447,693
6/30/82-83	3,594	5,594	0.971	3,491	5,433
6/30/83-84	3,969	7,969	0.916	3,637	7,302
6/30/84-85	26,576	395,576	0.864	22,974	341,952
6/30/85-86	19,773	309,860	0.816	16,125	252,694
6/30/86-87	29,600	874,600	0.769	22,773	672,873
6/30/87-88	32,457	34,457	0.726	23,557	25,009
6/30/88-89	30,258	30,258	0.685	20,718	20,718
6/30/89-90	10,962	14,962	0.719	7,881	10,757
6/30/90-91	67,125	67,125	0.768	51,578	51,578
6/30/91-92	134,178	352,178	0.829	111,272	292,058
6/30/92-93	4,635	22,635	0.835	3,869	18,894
6/30/93-94	8,067	36,067	0.825	6,657	29,762
6/30/94-95	8,194	38,194	0.809	6,632	30,912
6/30/95-96	6,278	30,278	0.792	4,970	23,971
6/30/96-97	5,473	26,473	0.775	4,244	20,528
6/30/97-98	5,196	23,196	0.758	3,938	17,582
6/30/98-99	108,331	111,331	0.741	80,240	82,462
6/30/99-00	255,850	272,850	0.724	185,319	197,633
6/30/00-01	317,900	338,900	0.708	225,213	240,091
6/30/01-02	182,875	188,875	0.683	124,957	129,057
6/30/02-03	200,729	207,729	0.660	132,517	137,138
6/30/03-04	80,705	88,705	0.643	51,885	57,029
6/30/04-05	167,295	191,295	0.622	104,138	119,077
6/30/05-06	124,973	212,973	0.605	75,665	128,944
6/30/06-07	160,231	241,231	0.583	93,389	140,599
6/30/07-08	171,049	262,049	0.562	96,189	147,362
6/30/08-09	327,215	402,215	0.566	185,360	227,845
6/30/09-10	360,659	452,659	0.601	216,650	271,915
6/30/10-11	519,950	538,950	0.642	333,997	346,202
6/30/11-12	733,922	891,922	0.686	503,402	611,775
6/30/12-13	1,105,596	1,645,596	0.725	801,833	1,193,468
Total	5,616,719	8,847,053		3,865,349	6,300,313
			(7) Total Discount Factor:	0.688	0.712

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	403,107	530,354
(9) Projected Number of Years:	6	6
(10) Projected Paid Loss per Year:	67,184	88,392
(11) Discounted Value at 6%:	340,279	447,693

NOTES:
(2), (3) From Section 5, Exhibit 1, Page 1, Columns 8, 9
(4) From Section 5, Exhibit 1, Page 13, Column 8
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Amherst) - Cluster 4
Total Indemnity (Including Lump Sums) + Medical

Calculation of Fiscal Year 7/1/13 - 14 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Cumulative	Incremental Paid		Estimated Payments from		FY 7/1/13 - 6/30/14	
Accident	Est Ult Losses	Est Ult Losses	Paid Losses	Reserves	Reserves	Percent	as a % of	as a % of	7/1/13 - 6/30/14		as a % of Reserves	
Year	(Low)	(High)	to Date	(Low)	(High)	Paid	Ultimates	Reserves	(Low)	(High)	(Low)	(High)
All Prior Yrs	2,650,821	2,781,333	2,241,784	409,037	539,549				31,763	34,940	7.8%	6.5%
6/30/82-83	229,124	232,535	225,530	3,594	7,005	97.7%	0.0%	0.0%	0	0	0.0%	0.0%
6/30/83-84	224,907	230,112	220,938	3,969	9,174	97.1%	0.0%	0.0%	0	0	0.0%	0.0%
6/30/84-85	1,937,805	2,307,546	1,910,488	27,317	397,058	90.0%	0.5%	5.0%	1,366	19,860	5.0%	5.0%
6/30/85-86	1,696,741	1,987,349	1,676,445	20,296	310,904	91.0%	0.5%	5.6%	1,129	17,292	5.6%	5.6%
6/30/86-87	2,547,000	3,392,000	2,515,270	31,730	876,730	84.7%	0.5%	3.3%	1,037	28,658	3.3%	3.3%
6/30/87-88	2,353,000	2,355,000	2,317,900	35,100	37,100	98.5%	0.5%	32.6%	11,444	12,096	32.6%	32.6%
6/30/88-89	2,166,000	2,167,000	2,132,172	33,828	34,828	98.4%	0.5%	31.6%	10,675	10,990	31.6%	31.6%
6/30/89-90	691,890	697,463	679,355	12,535	18,108	97.8%	0.5%	22.7%	2,842	4,105	22.7%	22.7%
6/30/90-91	2,856,000	2,856,000	2,782,174	73,826	73,826	97.4%	0.5%	19.3%	14,280	14,280	19.3%	19.3%
6/30/91-92	3,096,000	3,314,000	2,952,949	143,051	361,051	92.1%	0.5%	6.4%	9,095	22,955	6.4%	6.4%
6/30/92-93	719,696	740,317	712,440	7,256	27,877	97.6%	0.5%	20.8%	1,508	5,792	20.8%	20.8%
6/30/93-94	1,224,000	1,253,000	1,204,525	19,476	48,476	97.3%	0.5%	18.2%	3,550	8,835	18.2%	18.2%
6/30/94-95	1,078,423	1,111,476	1,067,175	11,248	44,301	97.5%	0.5%	19.7%	2,217	8,732	19.7%	19.7%
6/30/95-96	844,425	870,865	835,707	8,718	35,158	97.4%	0.5%	19.5%	1,704	6,872	19.5%	19.5%
6/30/96-97	707,847	730,726	700,495	7,352	30,232	97.4%	0.5%	19.1%	1,407	5,786	19.1%	19.1%
6/30/97-98	666,000	684,000	651,847	14,153	32,153	96.6%	0.5%	14.6%	2,063	4,687	14.6%	14.6%
6/30/98-99	1,004,000	1,007,000	884,936	119,064	122,064	88.0%	2.0%	16.7%	19,860	20,360	16.7%	16.7%
6/30/99-00	1,853,000	1,870,000	1,576,962	276,038	293,038	84.7%	2.0%	13.1%	36,118	38,342	13.1%	13.1%
6/30/00-01	2,038,000	2,059,000	1,694,820	343,180	364,180	82.7%	2.0%	11.6%	39,754	42,186	11.6%	11.6%
6/30/01-02	1,422,000	1,429,000	1,206,810	215,190	222,190	84.7%	2.0%	13.0%	28,054	28,966	13.0%	13.0%
6/30/02-03	1,326,000	1,333,000	1,102,507	223,493	230,493	82.9%	2.0%	11.7%	26,180	27,000	11.7%	11.7%
6/30/03-04	509,000	519,000	414,340	94,660	104,660	80.6%	2.0%	10.3%	9,764	10,796	10.3%	10.3%
6/30/04-05	1,114,000	1,140,000	912,330	201,670	227,670	81.0%	2.0%	10.5%	21,175	23,905	10.5%	10.5%
6/30/05-06	810,000	912,000	640,143	169,857	271,857	74.3%	2.0%	7.8%	13,244	21,196	7.8%	7.8%
6/30/06-07	850,000	965,000	650,460	199,540	314,540	71.7%	2.0%	7.1%	14,090	22,210	7.1%	7.1%
6/30/07-08	1,028,000	1,120,000	773,367	254,633	346,633	72.0%	2.0%	7.1%	18,193	24,767	7.1%	7.1%
6/30/08-09	1,690,000	1,799,000	1,264,379	425,621	534,621	72.5%	2.0%	7.3%	30,930	38,850	7.3%	7.3%
6/30/09-10	1,170,000	1,297,000	718,346	451,654	578,654	58.2%	5.0%	12.0%	54,073	69,277	12.0%	12.0%
6/30/10-11	1,481,000	1,510,000	779,473	701,527	730,527	52.1%	5.0%	10.4%	73,261	76,289	10.4%	10.4%
6/30/11-12	1,786,000	1,978,000	783,510	1,002,490	1,194,490	41.6%	10.5%	18.0%	180,160	214,665	18.0%	18.0%
6/30/12-13	1,992,000	2,554,000	428,348	1,563,652	2,125,652	18.8%	22.8%	28.1%	439,042	596,841	28.1%	28.1%
Total	45,762,678	49,202,722	38,657,924	7,104,754	10,544,799				1,099,976	1,461,533	15.5%	13.9%

NOTES:

(2) Exhibit 1, Page 1, Column (4) + Exhibit 2, Page 1, Column (4)
(3) Exhibit 1, Page 1, Column (5) + Exhibit 2, Page 1, Column (5)
(4) Exhibit 1, Page 1, Column (2) + Exhibit 2, Page 1, Column (2)
(5) = (2) - (4)
(6) = (3) - (4)
(7) = (4) / Average of Columns (2), (3)
(8) = (7) - Prior Year's (7)
(9) = (8) / (1.00 - (7))
(10) = (5) * (9)
(11) = (6) * (9)
(12) = (10) / (5)
(13) = (11) / (6)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Amherst) - Cluster 4
Medical

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Paid Loss	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		109,133			115,063	118,328	5,930	9,196		
6/30/82-83		91,124	91,619		91,124	92,535	0	1,411		
6/30/83-84		32,907	33,119		32,907	34,112	0	1,205		
6/30/84-85	176,924	74,065	74,616	74,731	74,805	75,546	741	1,481	0.042	0.043
6/30/85-86	188,662	52,218	52,660	52,772	52,741	53,263	522	1,044	0.028	0.028
6/30/86-87	212,277	195,870	197,722	197,719	198,000	198,000	2,130	2,130	0.093	0.093
6/30/87-88	243,118	223,356	225,694	225,673	226,000	226,000	2,644	2,644	0.093	0.093
6/30/88-89	248,990	296,430	299,832	300,526	300,000	301,000	3,570	4,570	0.120	0.121
6/30/89-90	250,404	157,317	159,281	159,911	158,890	160,463	1,573	3,146	0.063	0.064
6/30/90-91	235,170	507,299	514,147	514,101	514,000	514,000	6,701	6,701	0.219	0.219
6/30/91-92	235,607	550,127	559,227	559,099	559,000	559,000	8,873	8,873	0.237	0.237
6/30/92-93	241,161	262,075	267,209	267,155	264,696	267,317	2,621	5,242	0.110	0.111
6/30/93-94	254,321	493,591	505,777	505,471	505,000	506,000	11,409	12,409	0.199	0.199
6/30/94-95	256,665	305,369	314,472	314,301	308,423	311,476	3,054	6,107	0.120	0.121
6/30/95-96	265,739	243,985	252,515	252,427	246,425	248,865	2,440	4,880	0.093	0.094
6/30/96-97	296,336	187,967	195,511	195,637	189,847	191,726	1,880	3,759	0.064	0.065
6/30/97-98	296,982	188,043	196,568	196,746	197,000	197,000	8,957	8,957	0.066	0.066
6/30/98-99	299,530	214,267	224,906	225,034	225,000	225,000	10,733	10,733	0.075	0.075
6/30/99-00	323,627	360,812	381,339	380,799	381,000	381,000	20,188	20,188	0.118	0.118
6/30/00-01	338,348	383,719	409,229	408,589	409,000	409,000	25,281	25,281	0.121	0.121
6/30/01-02	329,555	431,685	464,987	463,854	464,000	465,000	32,315	33,315	0.141	0.141
6/30/02-03	329,179	253,237	275,500	275,866	276,000	276,000	22,763	22,763	0.084	0.084
6/30/03-04	344,547	146,045	160,474	162,188	160,000	162,000	13,955	15,955	0.046	0.047
6/30/04-05	325,530	287,625	322,362	324,471	322,000	324,000	34,375	36,375	0.099	0.100
6/30/05-06	403,750	287,115	332,040	345,847	332,000	346,000	44,885	58,885	0.082	0.086
6/30/06-07	420,219	207,690	246,760	280,654	247,000	281,000	39,310	73,310	0.059	0.067
6/30/07-08	425,998	389,416	473,176	473,766	473,000	474,000	83,584	84,584	0.111	0.111
6/30/08-09	420,566	515,594	647,898	614,103	614,000	648,000	98,406	132,406	0.146	0.154
6/30/09-10	433,206	286,005	377,079	411,665	377,000	412,000	90,995	125,995	0.087	0.095
6/30/10-11	444,673	334,423	515,854	526,011	516,000	526,000	181,577	191,577	0.116	0.118
6/30/11-12	467,753	356,432	658,771	624,669	625,000	659,000	268,568	302,568	0.134	0.141
6/30/12-13	495,398	144,944	603,038	624,575	603,000	625,000	458,056	480,056	0.122	0.126
Total	9,204,235	8,569,886	10,033,381	9,958,360	10,057,920	10,267,631	1,488,035	1,697,746		
Tot 6/30/84-13	9,204,235	8,336,722	9,908,644	9,958,360	9,818,826	10,022,656	1,482,104	1,685,934	0.107	0.109

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 5, Exhibit 2, Page 2, Column 3

(4) From Section 5, Exhibit 2, Page 2, Column 8

(5) From Section 5, Exhibit 2, Page 3, Column 8

(6), (7) Selected based on (3), (4), and (5)

(8) = (6) - (3)

(9) = (7) - (3)

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Amherst) - Cluster 4
Medical

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Accident Year	Payroll (000's)	Paid Loss	Paid LDF	Adjustment for Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/11-12	Paid Counts 7/1/12-13	Average Outstanding Claim
All Prior Yrs		109,133							0	1	
6/30/82-83		91,124	1.005	1.000	91,619	N/A	91,619		0	0	
6/30/83-84		32,907	1.006	1.000	33,119	N/A	33,119		0	0	
6/30/84-85	176,924	74,065	1.007	1.000	74,616	N/A	74,616	0.042	0	0	
6/30/85-86	188,662	52,218	1.008	1.000	52,660	N/A	52,660	0.028	0	0	
6/30/86-87	212,277	195,870	1.009	1.000	197,722	N/A	197,722	0.093	2	0	
6/30/87-88	243,118	223,356	1.010	1.000	225,694	N/A	225,694	0.093	2	2	1,169
6/30/88-89	248,990	296,430	1.011	1.000	299,832	N/A	299,832	0.120	0	0	
6/30/89-90	250,404	157,317	1.012	1.000	159,281	N/A	159,281	0.064	0	0	
6/30/90-91	235,170	507,299	1.013	1.000	514,147	N/A	514,147	0.219	1	0	
6/30/91-92	235,607	550,127	1.017	1.000	559,227	N/A	559,227	0.237	1	1	9,099
6/30/92-93	241,161	262,075	1.020	1.000	267,209	N/A	267,209	0.111	0	0	
6/30/93-94	254,321	493,591	1.025	1.000	505,777	N/A	505,777	0.199	1	1	12,186
6/30/94-95	256,665	305,369	1.030	1.000	314,472	N/A	314,472	0.123	0	0	
6/30/95-96	265,739	243,985	1.035	1.000	252,515	N/A	252,515	0.095	0	0	
6/30/96-97	296,336	187,967	1.040	1.000	195,511	N/A	195,511	0.066	0	0	
6/30/97-98	296,982	188,043	1.045	1.000	196,568	N/A	196,568	0.066	1	1	8,525
6/30/98-99	299,530	214,267	1.050	1.000	224,906	N/A	224,906	0.075	1	1	10,639
6/30/99-00	323,627	360,812	1.057	1.000	381,339	N/A	381,339	0.118	2	3	6,842
6/30/00-01	338,348	383,719	1.066	1.000	409,229	N/A	409,229	0.121	2	2	12,755
6/30/01-02	329,555	431,685	1.077	1.000	464,987	N/A	464,987	0.141	4	3	11,101
6/30/02-03	329,179	253,237	1.088	1.000	275,500	N/A	275,500	0.084	1	2	11,132
6/30/03-04	344,547	146,045	1.099	1.000	160,474	N/A	160,474	0.047	0	0	
6/30/04-05	325,530	287,625	1.121	1.000	322,362	N/A	322,362	0.099	1	0	
6/30/05-06	403,750	287,115	1.156	1.000	332,040	N/A	332,040	0.082	1	0	
6/30/06-07	420,219	207,690	1.188	1.000	246,760	N/A	246,760	0.059	3	3	13,023
6/30/07-08	425,998	389,416	1.215	1.000	473,176	N/A	473,176	0.111	5	2	41,880
6/30/08-09	420,566	515,594	1.257	1.000	647,898	N/A	647,898	0.154	7	7	18,901
6/30/09-10	433,206	286,005	1.318	1.000	377,079	N/A	377,079	0.087	15	6	15,179
6/30/10-11	444,673	334,423	1.543	1.000	515,854	N/A	515,854	0.116	93	23	7,888
6/30/11-12	467,753	356,432	1.848	1.000	658,771	N/A	658,771	0.141	185	93	3,251
6/30/12-13	495,398	144,944	4.160	1.000	603,038	N/A	603,038	0.122		221	2,073
Total	9,204,235	8,569,886			10,033,381		10,033,381		328	372	

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3), (4) From Section 5, Exhibit 2, Page 7

(5) Based on information from the MA WCRIB 9/1/12 filing. Consideration for development beyond 252 months made in selection of LDF's.

(6) = (3) x (4) x (5)

(7) Lump Sum Payments are considered in the Indemnity analysis (Section 1)

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10), (11) Provided by Commonwealth of Massachusetts

(12) = Maximum of [{(6) - (3)} / (11)] and 0

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Amherst) - Cluster 4
Medical

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident Year	Payroll (000's)	A Priori Loss Rate	Paid Loss	Paid LDF	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Ultimate Loss Cost Excluding Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	176,924	0.051	74,065	1.007	74,731	N/A	74,731	0.042	0.042
6/30/85-86	188,662	0.035	52,218	1.008	52,772	N/A	52,772	0.028	0.028
6/30/86-87	212,277	0.093	195,870	1.009	197,719	N/A	197,719	0.093	0.093
6/30/87-88	243,118	0.092	223,356	1.010	225,673	N/A	225,673	0.093	0.093
6/30/88-89	248,990	0.145	296,430	1.011	300,526	N/A	300,526	0.121	0.121
6/30/89-90	250,404	0.084	157,317	1.012	159,911	N/A	159,911	0.064	0.064
6/30/90-91	235,170	0.217	507,299	1.013	514,101	N/A	514,101	0.219	0.219
6/30/91-92	235,607	0.234	550,127	1.017	559,099	N/A	559,099	0.237	0.237
6/30/92-93	241,161	0.110	262,075	1.020	267,155	N/A	267,155	0.111	0.111
6/30/93-94	254,321	0.194	493,591	1.025	505,471	N/A	505,471	0.199	0.199
6/30/94-95	256,665	0.120	305,369	1.030	314,301	N/A	314,301	0.122	0.122
6/30/95-96	265,739	0.094	243,985	1.035	252,427	N/A	252,427	0.095	0.095
6/30/96-97	296,336	0.067	187,967	1.040	195,637	N/A	195,637	0.066	0.066
6/30/97-98	296,982	0.068	188,043	1.045	196,746	N/A	196,746	0.066	0.066
6/30/98-99	299,530	0.076	214,267	1.050	225,034	N/A	225,034	0.075	0.075
6/30/99-00	323,627	0.115	360,812	1.057	380,799	N/A	380,799	0.118	0.118
6/30/00-01	338,348	0.118	383,719	1.066	408,589	N/A	408,589	0.121	0.121
6/30/01-02	329,555	0.136	431,685	1.077	463,854	N/A	463,854	0.141	0.141
6/30/02-03	329,179	0.085	253,237	1.088	275,866	N/A	275,866	0.084	0.084
6/30/03-04	344,547	0.052	146,045	1.099	162,188	N/A	162,188	0.047	0.047
6/30/04-05	325,530	0.105	287,625	1.121	324,471	N/A	324,471	0.100	0.100
6/30/05-06	403,750	0.108	287,115	1.156	345,847	N/A	345,847	0.086	0.086
6/30/06-07	420,219	0.110	207,690	1.188	280,654	N/A	280,654	0.067	0.067
6/30/07-08	425,998	0.112	389,416	1.215	473,766	N/A	473,766	0.111	0.111
6/30/08-09	420,566	0.115	515,594	1.257	614,103	N/A	614,103	0.146	0.146
6/30/09-10	433,206	0.120	286,005	1.318	411,665	N/A	411,665	0.095	0.095
6/30/10-11	444,673	0.123	334,423	1.543	526,011	N/A	526,011	0.118	0.118
6/30/11-12	467,753	0.125	356,432	1.848	624,669	N/A	624,669	0.134	0.134
6/30/12-13	495,398	0.127	144,944	4.160	624,575	N/A	624,575	0.126	0.126
Total	9,204,235		8,336,722		9,958,360		9,958,360		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 5, Exhibit 2, Page 4, Column 11

(4) From Section 5, Exhibit 2, Page 2, Column 3

(5) From Section 5, Exhibit 2, Page 2, Column 4

(6) = (4) + [{1 - {1 / (5)}} x (3) x (2) x 10]

(7) Lump Sum Payments are considered in the Indemnity analysis (Section 1)

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10) = (6) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Amherst) - Cluster 4
Medical

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Expected Ult Loss	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									0.051	0.051
6/30/85-86									0.035	0.035
6/30/86-87									0.093	0.093
6/30/87-88									0.092	0.092
6/30/88-89									0.145	0.145
6/30/89-90									0.084	0.084
6/30/90-91	235,170	514,147	0.219	1.194	0.261	1.577	0.412	0.069	0.218	0.217
6/30/91-92	235,607	559,227	0.237	1.189	0.282	1.546	0.436	0.071	0.235	0.234
6/30/92-93	241,161	267,209	0.111	1.189	0.132	1.516	0.200	0.072	0.110	0.110
6/30/93-94	254,321	505,777	0.199	1.178	0.234	1.486	0.348	0.074	0.192	0.194
6/30/94-95	256,665	314,472	0.123	1.170	0.143	1.457	0.209	0.076	0.121	0.120
6/30/95-96	265,739	252,515	0.095	1.155	0.110	1.428	0.157	0.079	0.095	0.094
6/30/96-97	296,336	195,511	0.066	1.137	0.075	1.400	0.105	0.082	0.067	0.067
6/30/97-98	296,982	196,568	0.066	1.135	0.075	1.373	0.103	0.083	0.068	0.068
6/30/98-99	299,530	224,906	0.075	1.135	0.085	1.346	0.115	0.085	0.075	0.076
6/30/99-00	323,627	381,339	0.118	1.135	0.134	1.319	0.176	0.087	0.114	0.115
6/30/00-01	338,348	409,229	0.121	1.109	0.134	1.294	0.174	0.091	0.116	0.118
6/30/01-02	329,555	464,987	0.141	1.101	0.155	1.268	0.197	0.093	0.130	0.136
6/30/02-03	329,179	275,500	0.084	1.073	0.090	1.243	0.112	0.097	0.085	0.085
6/30/03-04	344,547	160,474	0.047	1.046	0.049	1.219	0.059	0.102	0.053	0.052
6/30/04-05	325,530	322,362	0.099	1.036	0.103	1.195	0.123	0.105	0.107	0.105
6/30/05-06	403,750	332,040	0.082	1.032	0.085	1.172	0.099	0.108	0.110	0.108
6/30/06-07	420,219	246,760	0.059	1.032	0.061	1.149	0.070	0.110	0.112	0.110
6/30/07-08	425,998	473,176	0.111	1.032	0.115	1.126	0.129	0.112	0.114	0.112
6/30/08-09	420,566	647,898	0.154	1.027	0.158	1.104	0.175	0.115	0.117	0.115
6/30/09-10	433,206	377,079	0.087	1.000	0.087	1.082	0.094	0.120	0.123	0.120
6/30/10-11	444,673	515,854	0.116	1.000	0.116	1.061	0.123	0.123	0.125	0.123
6/30/11-12	467,753	658,771	0.141	1.000	0.141	1.040	0.147	0.125	0.127	0.125
6/30/12-13	495,398	603,038	0.122	1.000	0.122	1.020	0.124	0.127		0.127
Total	7,883,861	8,898,839								

Trend Last 4 (ex 12-13):	-0.6%	Avg 3 (x12-13):	0.121
Trend Last 8 (ex 12-13):	6.4%	Avg 5 (x12-13):	0.134
Trend Last 12 (ex 12-13):	1.3%	Avg 10 (x12-13):	0.113
Prior Selected Trend:	2.0%	Prior Sel Avg:	0.130
Selected Trend:	2.0%	Sel. Loss Cost:	0.130

NOTES:
(2) Provided by Commonwealth of Massachusetts
(3) From Section 5, Exhibit 2, Page 2, Column 6
(4) = (3) / (2) / 10
(5) Based on information from the MA WCIRB
(6) = (4) x (5)
(7) Based on Selected Trend from (6)
(8) = (6) x (7)
(9) = Sel. Loss Cost / [(5) * (7)]
(10) From Aon analysis as of June 30, 2012
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Amherst) - Cluster 4
Medical

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend	0.950	
(2)	Credibility	11%	
(3)	Average Pmt Trend Statewide	0.950	
(4)	Credibility Weighted Trend	0.950	
		(Low)	(High)
(5)	Selected Range	0.941	0.960
(6)	Incremental Paid for 2013	720	720
(7)	Estimated Reserve	11,381	17,058
(8)	Paid to Date (82 & Prior)	109,133	109,133
(9)	Est Ult Paid for 1982 & Prior	120,514	126,191

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	240	1,027
(11)	Projected Number of Years	2	2
(12)	Estimated Reserve	480	2,053
(13)	Paid to Date (82 & Prior)	109,133	108,413
(14)	Est Ult Paid for 1982 & Prior	109,613	110,466
(14a)	Paid Counts During Fiscal Year	1	0
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	115,063	118,328
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	**115,063**	**118,328**
(18)	Implied Tail	1.054	1.084
(19)	Ult Loss Inc Lump Sums @ 6/12	108,413	110,490

NOTES:

(1) From Section 5, Exhibit 2, Page 6
(2) = (Average of Section 5, Exhibit 2, Page 6, Column 3 / 175,000) ^ 0.5
(3) Average Statewide Trend
(4) = (1) x (2) + (4) x {1 - (2)}
(5) Selected judgmentally based on (4)
(6), (14a) Provided by Commonwealth of Massachusetts
(7) = (6) x (5) / {1 - (5)}
(8), (16) From Section 5, Exhibit 2, Page 2, Column 3
(9) = (7) + (8)
(10) Avg of 3 latest years from Section 5, Exhibit 2, Page 6, Column 3
(11) Selected judgmentally
(12) = (10 x (11)
(14) = (12) + (13)
(15) = Average of (9) and (14)
(16) Lump Sums are considered in Indemnity analysis (Section 1)
(17) = (15) + (16)
(18) = (15) / (8)
(19) From Prior Aon Analysis as of June 30, 2012

University of Massachusetts (Amherst) - Cluster 4
Medical

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paids	LN	Average Observed Trend		Trend Calculations
1992	1	9,975	9.208			
1993	2	1,394	7.240	0.140		
1994	3	30,337	10.320	21.763		
1995	4	-7,026		-0.232		
1996	5	2,087	7.643	-0.297		
1997	6	418	6.035	0.200		
1998	7	0				
1999	8	390	5.966			
2000	9	1,546	7.343	3.964	n =	14
2001	10	0			S(x) =	28,028
2002	11	0			S(x-sq) =	56,112,690
2003	12	0			S(xy) =	205,935
2004	13	1,400	7.244		S(y) =	103
2005	14	0			D =	8,876
2006	15	424	6.050		slope =	0
2007	16	284	5.649	0.670	Avg Trend =	0.932
2008	17	1,845	7.520	6.499		
2009	18	3,150	8.055	1.707		
2010	19	3,080	8.033	0.978		
2011	20	0				
2012	21	0				
2013	22	720	6.579			
					Selected Trend:	**0.950**

NOTES:

(3) 2013 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2012

(4) LN [(3)]

(5) Eg. 2010: 0.978 = 3080 / 3150

Commonwealth of Massachusetts Workers Compensation
University of Massachusetts (Amherst) - Cluster 4
MEDICAL
Paid Loss Development
Paid Loss (Excluding Lump Sum)

Acc Yr Ending	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372
June-83	7,015	19,272	26,992	33,578	44,296	54,254	69,123	86,430	87,691	89,009	91,124	91,124	91,124	91,124	91,124	91,124	91,124	91,124	91,124	91,124	91,124	91,124	91,124	91,124	91,124	91,124	91,124	91,124	91,124	91,124	91,124
June-84	2,065	5,673	7,945	9,884	13,039	15,948	22,112	25,109	27,259	27,620	27,620	29,236	29,236	29,236	29,774	29,774	33,170	32,907	32,907	32,907	32,907	32,907	32,907	32,907	32,907	32,907	32,907	32,907	32,907	32,907	
June-85	5,341	14,673	20,551	25,565	32,019	36,080	42,108	45,751	51,440	65,690	69,695	65,951	67,047	67,047	67,068	67,485	69,103	70,526	70,577	71,427	71,777	71,777	71,777	73,027	73,027	73,027	74,065	74,065	74,065		
June-86	4,254	11,686	16,367	29,076	33,757	37,603	39,971	43,583	45,896	47,123	47,123	47,123	47,123	47,123	48,153	48,153	48,153	48,153	48,503	49,375	49,375	49,375	50,070	50,670	50,670	52,218	52,218	52,218			
June-87	17,332	47,614	74,474	96,432	115,240	124,178	130,253	135,326	138,193	142,828	144,778	146,075	148,983	150,159	151,984	152,431	153,300	154,154	156,424	159,661	167,912	175,836	182,412	189,688	194,323	195,870	195,870				
June-88	21,776	71,312	105,389	144,783	150,052	156,889	162,436	164,340	165,770	169,300	170,433	171,904	172,900	173,563	174,460	176,155	179,540	184,256	189,906	193,501	195,901	201,522	207,981	215,719	220,354	223,356					
June-89	31,748	113,449	180,690	213,618	227,584	232,537	247,318	252,055	260,621	266,739	270,947	278,041	284,182	288,891	291,536	292,751	293,625	293,975	294,069	294,094	295,364	295,364	296,430	296,430	296,430						
June-90	19,060	117,509	146,705	152,013	155,556	157,028	157,217	157,317	157,317	157,317	157,317	157,317	157,317	157,317	157,317	157,317	157,317	157,317	157,317	157,317	157,317	157,317	157,317	157,317							
June-91	49,629	201,675	266,883	315,231	324,767	338,441	344,037	344,920	345,667	349,590	353,310	355,602	356,167	359,042	361,717	364,813	366,594	376,706	462,325	499,976	507,147	507,299	507,299								
June-92	93,121	216,421	309,712	382,754	413,527	441,551	469,869	498,257	502,052	506,299	508,720	511,219	517,091	518,976	521,249	523,045	528,030	532,841	536,465	544,719	549,635	550,127									
June-93	81,970	229,344	254,404	256,957	260,901	261,422	261,544	261,544	261,544	262,036	262,075	262,075	262,075	262,075	262,075	262,075	262,075	262,075	262,075	262,075	262,075										
June-94	77,508	161,802	222,213	282,819	289,168	318,109	326,227	327,931	339,521	345,752	357,217	392,989	403,792	437,920	445,327	454,454	462,395	472,317	484,855	493,591											
June-95	86,716	239,689	284,148	295,763	301,706	303,344	303,490	305,369	305,369	305,369	305,369	305,369	305,369	305,369	305,369	305,369	305,369	305,369	305,369												
June-96	81,054	187,654	205,831	215,693	219,869	225,627	237,068	241,239	242,923	243,938	243,985	243,985	243,985	243,985	243,985	243,985	243,985	243,985													
June-97	61,666	103,895	129,694	181,008	185,516	187,189	187,267	187,617	187,617	187,967	187,967	187,967	187,967	187,967	187,967	187,967	187,967														
June-98	40,014	98,284	119,324	134,344	139,107	141,779	147,819	148,338	149,621	183,281	184,542	185,346	186,264	187,193	188,013	188,043															
June-99	57,055	145,931	161,873	165,175	173,370	179,001	181,785	183,278	186,735	189,893	194,365	198,821	204,465	208,778	214,267																
June-00	78,904	144,101	178,359	211,117	245,711	260,589	272,440	284,728	298,320	311,888	326,984	344,501	356,294	360,812																	
June-01	78,435	185,081	235,180	264,482	271,555	289,614	313,258	334,076	349,005	361,767	371,025	374,808	383,719																		
June-02	42,493	107,557	182,137	222,791	235,866	244,961	262,574	293,121	350,090	378,624	404,630	431,685																			
June-03	25,041	124,452	162,035	187,240	223,402	231,574	235,669	238,598	245,618	250,270	253,237																				
June-04	58,014	123,410	131,529	133,995	134,242	145,534	145,992	146,045	146,045	146,045																					
June-05	90,145	204,953	256,853	271,491	281,203	284,263	285,428	287,625	287,625																						
June-06	104,747	269,295	283,925	286,559	286,907	286,907	287,115	287,115																							
June-07	90,114	168,280	184,018	193,167	200,918	206,920	207,690																								
June-08	174,365	329,758	353,009	367,373	382,156	389,416																									
June-09	175,201	332,994	476,353	502,636	515,594																										
June-10	71,728	205,753	256,446	286,005																											
June-11	188,496	302,104	334,423																												
June-12	156,195	356,432																													
June-13	144,944																														

Age-to-Age Factors

Acc Yr Ending	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372
June-83	2.747	1.401	1.244	1.319	1.225	1.274	1.250	1.015	1.015	1.024	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
June-84	2.747	1.400	1.244	1.319	1.223	1.387	1.136	1.086	1.013	1.000	1.059	1.000	1.000	1.018	1.000	1.114	0.992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
June-85	2.747	1.401	1.244	1.252	1.127	1.167	1.087	1.124	1.277	1.061	0.946	1.017	1.000	1.000	1.006	1.024	1.021	1.001	1.012	1.005	1.000	1.000	1.017	1.000	1.000	1.014	1.000	1.000			
June-86	2.747	1.401	1.777	1.161	1.114	1.063	1.090	1.053	1.027	1.000	1.000	1.000	1.000	1.022	1.000	1.000	1.000	1.007	1.018	1.000	1.000	1.014	1.012	1.000	1.031	1.000	1.000				
June-87	2.747	1.564	1.295	1.195	1.078	1.049	1.039	1.021	1.034	1.014	1.009	1.020	1.008	1.012	1.003	1.006	1.006	1.015	1.021	1.052	1.047	1.037	1.040	1.024	1.008	1.000					
June-88	3.275	1.478	1.374	1.036	1.046	1.035	1.012	1.009	1.021	1.007	1.009	1.006	1.004	1.005	1.010	1.019	1.026	1.031	1.019	1.012	1.029	1.032	1.037	1.021	1.014						
June-89	3.573	1.593	1.182	1.065	1.022	1.064	1.019	1.034	1.023	1.016	1.026	1.022	1.017	1.009	1.004	1.003	1.001	1.000	1.000	1.004	1.000	1.004	1.000	1.000							
June-90	6.165	1.248	1.036	1.023	1.009	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
June-91	4.064	1.323	1.181	1.030	1.042	1.017	1.003	1.002	1.011	1.011	1.006	1.002	1.008	1.007	1.009	1.005	1.028	1.227	1.081	1.014	1.000	1.000									
June-92	2.324	1.431	1.236	1.080	1.068	1.064	1.060	1.008	1.008	1.005	1.005	1.011	1.004	1.004	1.003	1.010	1.009	1.007	1.015	1.009	1.001										
June-93	2.798	1.109	1.010	1.015	1.002	1.000	1.000	1.000	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
June-94	2.088	1.373	1.273	1.022	1.100	1.026	1.005	1.035	1.018	1.033	1.100	1.027	1.085	1.017	1.020	1.017	1.021	1.027	1.018												
June-95	2.764	1.185	1.041	1.020	1.005	1.000	1.006	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000													
June-96	2.315	1.097	1.048	1.019	1.026	1.051	1.018	1.007	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000														
June-97	1.685	1.248	1.396	1.025	1.009	1.000	1.002	1.000	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000															
June-98	2.456	1.214	1.126	1.035	1.019	1.043	1.004	1.009	1.225	1.007	1.004	1.005	1.005	1.004	1.000																
June-99	2.558	1.109	1.020	1.050	1.032	1.016	1.008	1.019	1.017	1.024	1.023	1.028	1.021	1.026																	
June-00	1.826	1.238	1.184	1.164	1.061	1.045	1.045	1.048	1.045	1.048	1.054	1.034	1.013																		
June-01	2.360	1.271	1.125	1.027	1.067	1.082	1.066	1.045	1.037	1.026	1.010	1.024																			
June-02	2.531	1.693	1.223	1.059	1.039	1.072	1.116	1.194	1.082	1.069	1.067																				
June-03	4.970	1.302	1.156	1.193	1.037	1.018	1.012	1.029	1.019	1.012																					
June-04	2.127	1.066	1.019	1.002	1.084	1.003	1.000	1.000	1.000																						
June-05	2.274	1.253	1.057	1.036	1.011	1.004	1.008	1.000																							
June-06	2.571	1.054	1.009	1.001	1.000	1.001	1.000																								
June-07	1.867	1.094	1.050	1.040	1.030	1.004																									
June-08	1.891	1.071	1.041	1.040	1.019																										
June-09	1.901	1.431	1.055	1.026																											
June-10	2.869	1.246	1.115																												
June-11	1.603	1.107																													
June-12	2.282																														

Averages	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	To Ult
Simple Avg																															
All Yrs	2.696	1.290	1.170	1.084	1.057	1.059	1.041	1.032	1.040	1.017	1.016	1.010	1.009	1.007	1.003	1.013	1.007	1.024	1.015	1.009	1.008	1.010	1.013	1.007	1.009	1.003	1.000	1.000	1.000	1.000	
Latest 5	2.109	1.190	1.054	1.029	1.029	1.006	1.027	1.054	1.036	1.036	1.032	1.018	1.008	1.006	1.004	1.003	1.006	1.052	1.023	1.006	1.006	1.015	1.018	1.009	1.010	1.003					
Latest 3	2.251	1.261	1.070	1.035	1.016	1.003	1.003	1.010	1.033	1.035	1.044	1.029	1.013	1.010	1.000	1.000	1.007	1.009	1.011	1.008	1.000	1.001	1.012	1.015	1.017	1.005	1.000	1.000			
Volume Wtd																															
All Yrs	2.337	1.242	1.120	1.050	1.039	1.035	1.029	1.028	1.030	1.019	1.022	1.013	1.014	1.007	1.005	1.007	1.010	1.037	1.023	1.010	1.007	1.009	1.015	1.010	1.009	1.002	1.000	1.000	1.000		
Latest 5	1.994	1.198	1.053	1.028	1.021	1.006	1.029	1.061	1.043	1.039	1.036	1.021	1.008	1.006	1.007	1.005	1.008	1.052	1.029	1.008	1.004	1.011	1.017	1.011	1.011	1.002					
Latest 3	2.076	1.269	1.065	1.033	1.015	1.003	1.003	1.010	1.045	1.039	1.044	1.029	1.013	1.011	1.000	1.000	1.010	1.012	1.013	1.009	1.001	1.001	1.012	1.013	1.013	1.003	1.000	1.000			

Dev Factor Selection

Industry 1	1.968	1.143	1.054	1.030	1.018	1.014	1.012																								
Industry 2		1.266	1.074	1.040	1.013	1.011	1.010	1.015	1.008	1.013	1.013	1.009	1.008	1.008	1.008	1.005	1.004	1.002	1.004	1.005											
Prior	*2.124*	*1.190*	*1.172*	*1.046*	*1.035*	*1.028*	*1.041*	*1.057*	*1.020*	*1.010*	*1.010*	*1.010*	*1.009*	*1.006*	*1.004*	*1.005*	*1.005*	*1.005*	*1.005*	*1.005*	*1.003*	*1.003*	*1.001*	*1.001*	*1.001*	*1.001*	*1.001*	*1.001*	*1.001*	1.006	
Selected	2.251	1.198	1.170	1.049	1.034	1.023	1.027	1.032	1.020	1.010	1.010	1.010	1.009	1.007	1.004	1.005	1.005	1.005	1.005	1.005	1.003	1.003	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.005
FacToUlt	4.160	1.848	1.543	1.318	1.257	1.215	1.188	1.156	1.121	1.099	1.088	1.077	1.066	1.057	1.050	1.045	1.040	1.035	1.030	1.025	1.020	1.017	1.013	1.012	1.011	1.010	1.009	1.008	1.007	1.006	1.005
Percent of Ult	24.0%	54.1%	64.8%	75.8%	79.6%	82.3%	84.2%	86.5%	89.2%	91.0%	91.9%	92.8%	93.8%	94.6%	95.3%	95.7%	96.1%	96.6%	97.1%	97.6%	98.1%	98.4%	98.7%	98.8%	98.9%	99.0%	99.1%	99.2%	99.3%	99.4%	99.5%

University of Massachusetts (Amherst) - Cluster 4
Medical

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Ultimate Loss		Ultimate Loss		Change in Ultimate Loss		Change in Ultimate Loss	
Accident	As of 6/12		As of 6/13		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	108,413	110,490	115,063	118,328	6,650	6.1%	7,839	7.1%
6/30/82-83	91,124	92,625	91,124	92,535	0	0.0%	(90)	-0.1%
6/30/83-84	32,907	34,145	32,907	34,112	0	0.0%	(33)	-0.1%
6/30/84-85	74,805	75,546	74,805	75,546	0	0.0%	0	0.0%
6/30/85-86	52,741	53,263	52,741	53,263	0	0.0%	0	0.0%
6/30/86-87	198,000	198,000	198,000	198,000	0	0.0%	0	0.0%
6/30/87-88	223,000	223,000	226,000	226,000	3,000	1.3%	3,000	1.3%
6/30/88-89	300,000	301,000	300,000	301,000	0	0.0%	0	0.0%
6/30/89-90	158,890	160,463	158,890	160,463	0	0.0%	0	0.0%
6/30/90-91	516,000	516,000	514,000	514,000	(2,000)	-0.4%	(2,000)	-0.4%
6/30/91-92	560,000	560,000	559,000	559,000	(1,000)	-0.2%	(1,000)	-0.2%
6/30/92-93	264,696	267,317	264,696	267,317	0	0.0%	0	0.0%
6/30/93-94	499,000	499,000	505,000	506,000	6,000	1.2%	7,000	1.4%
6/30/94-95	308,423	311,476	308,423	311,476	0	0.0%	0	0.0%
6/30/95-96	246,425	248,865	246,425	248,865	0	0.0%	0	0.0%
6/30/96-97	189,847	191,726	189,847	191,726	0	0.0%	0	0.0%
6/30/97-98	197,000	198,000	197,000	197,000	0	0.0%	(1,000)	-0.5%
6/30/98-99	220,000	221,000	225,000	225,000	5,000	2.3%	4,000	1.8%
6/30/99-00	379,000	379,000	381,000	381,000	2,000	0.5%	2,000	0.5%
6/30/00-01	403,000	403,000	409,000	409,000	6,000	1.5%	6,000	1.5%
6/30/01-02	439,000	440,000	464,000	465,000	25,000	5.7%	25,000	5.7%
6/30/02-03	275,000	275,000	276,000	276,000	1,000	0.4%	1,000	0.4%
6/30/03-04	163,000	166,000	160,000	162,000	(3,000)	-1.8%	(4,000)	-2.4%
6/30/04-05	340,000	342,000	322,000	324,000	(18,000)	-5.3%	(18,000)	-5.3%
6/30/05-06	353,000	370,000	332,000	346,000	(21,000)	-5.9%	(24,000)	-6.5%
6/30/06-07	262,000	306,000	247,000	281,000	(15,000)	-5.7%	(25,000)	-8.2%
6/30/07-08	497,000	501,000	473,000	474,000	(24,000)	-4.8%	(27,000)	-5.4%
6/30/08-09	635,000	688,000	614,000	648,000	(21,000)	-3.3%	(40,000)	-5.8%
6/30/09-10	412,000	457,000	377,000	412,000	(35,000)	-8.5%	(45,000)	-9.8%
6/30/10-11	567,000	577,000	516,000	526,000	(51,000)	-9.0%	(51,000)	-8.8%
6/30/11-12	605,000	633,000	625,000	659,000	20,000	3.3%	26,000	4.1%
6/30/12-13								
Total	9,571,270	9,798,915	9,454,920	9,642,631	(116,350)	-1.2%	(156,284)	-1.6%

NOTES:

(2), (3) From Aon analysis as of June 30, 2012

(4), (5) From Section 5, Exhibit 2, Page 1, Columns 6, 7

(6) = (4) - (2)

(7) = (4) / (2) - 1

(8) = (5) - (3)

(9) = (5) / (3) - 1

University of Massachusetts (Amherst) - Cluster 4
Medical

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At: 4%	6%
384	100.0%	0.5%	0.0%	0.2%	0.1%	1.000	1.000
372	99.5%	0.1%	0.5%	0.0%	0.0%	0.981	0.971
360	99.4%	0.1%	0.6%	0.0%	0.0%	0.949	0.925
348	99.3%	0.1%	0.7%	0.0%	0.0%	0.921	0.886
336	99.2%	0.1%	0.8%	0.0%	0.0%	0.897	0.852
324	99.1%	0.1%	0.9%	0.0%	0.0%	0.875	0.821
312	99.0%	0.1%	1.0%	0.0%	0.0%	0.855	0.794
300	98.9%	0.1%	1.1%	0.0%	0.0%	0.836	0.768
288	98.8%	0.1%	1.2%	0.0%	0.0%	0.818	0.744
276	98.7%	0.3%	1.3%	0.1%	0.1%	0.801	0.722
264	98.4%	0.3%	1.6%	0.1%	0.1%	0.808	0.734
252	98.1%	0.5%	1.9%	0.2%	0.1%	0.808	0.735
240	97.6%	0.5%	2.4%	0.2%	0.2%	0.818	0.750
228	97.1%	0.5%	2.9%	0.2%	0.2%	0.819	0.752
216	96.6%	0.5%	3.4%	0.2%	0.2%	0.815	0.747
204	96.1%	0.5%	3.9%	0.3%	0.2%	0.809	0.738
192	95.7%	0.4%	4.3%	0.2%	0.2%	0.800	0.726
180	95.3%	0.7%	4.7%	0.4%	0.3%	0.787	0.709
168	94.6%	0.9%	5.4%	0.5%	0.4%	0.784	0.705
156	93.8%	0.9%	6.2%	0.6%	0.4%	0.784	0.707
144	92.8%	0.9%	7.2%	0.6%	0.5%	0.784	0.707
132	91.9%	0.9%	8.1%	0.6%	0.5%	0.779	0.701
120	91.0%	1.8%	9.0%	1.2%	1.0%	0.773	0.693
108	89.2%	2.8%	10.8%	2.0%	1.7%	0.782	0.706
96	86.5%	2.3%	13.5%	1.7%	1.5%	0.799	0.728
84	84.2%	1.9%	15.8%	1.4%	1.3%	0.799	0.728
72	82.3%	2.7%	17.7%	2.2%	2.0%	0.791	0.717
60	79.6%	3.7%	20.4%	3.1%	2.9%	0.790	0.716
48	75.8%	11.0%	24.2%	9.6%	9.0%	0.793	0.721
36	64.8%	10.7%	35.2%	9.7%	9.3%	0.831	0.771
24	54.1%	30.1%	45.9%	28.4%	27.6%	0.842	0.785
12	24.0%	24.0%	76.0%	23.6%	23.3%	0.877	0.832
Total		100.0%					

NOTES:

(2) = 1 / Section 5, Exhibit 2, Page 2, Column 4

(3) Incremental % based on (2)

(4) = 1 - (2)

(5) = [(3) / 1.04] ^ {[(1) - 6] / 12}

(6) = [(3) / 1.06] ^ {[(1) - 6] / 12}

(7), (8) Discount factor based on (5), (6)

University of Massachusetts (Amherst) - Cluster 4
Medical

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	5,930	9,196		5,705	8,845
6/30/82-83	0	1,411	0.981	0	1,383
6/30/83-84	0	1,205	0.949	0	1,143
6/30/84-85	741	1,481	0.921	682	1,365
6/30/85-86	522	1,044	0.897	468	937
6/30/86-87	2,130	2,130	0.875	1,864	1,864
6/30/87-88	2,644	2,644	0.855	2,260	2,260
6/30/88-89	3,570	4,570	0.836	2,984	3,819
6/30/89-90	1,573	3,146	0.818	1,286	2,573
6/30/90-91	6,701	6,701	0.801	5,366	5,366
6/30/91-92	8,873	8,873	0.808	7,170	7,170
6/30/92-93	2,621	5,242	0.808	2,118	4,236
6/30/93-94	11,409	12,409	0.818	9,336	10,155
6/30/94-95	3,054	6,107	0.819	2,502	5,004
6/30/95-96	2,440	4,880	0.815	1,989	3,979
6/30/96-97	1,880	3,759	0.809	1,520	3,040
6/30/97-98	8,957	8,957	0.800	7,164	7,164
6/30/98-99	10,733	10,733	0.787	8,443	8,443
6/30/99-00	20,188	20,188	0.784	15,819	15,819
6/30/00-01	25,281	25,281	0.784	19,831	19,831
6/30/01-02	32,315	33,315	0.784	25,322	26,106
6/30/02-03	22,763	22,763	0.779	17,739	17,739
6/30/03-04	13,955	15,955	0.773	10,783	12,329
6/30/04-05	34,375	36,375	0.782	26,893	28,458
6/30/05-06	44,885	58,885	0.799	35,851	47,034
6/30/06-07	39,310	73,310	0.799	31,406	58,570
6/30/07-08	83,584	84,584	0.791	66,084	66,874
6/30/08-09	98,406	132,406	0.790	77,697	104,542
6/30/09-10	90,995	125,995	0.793	72,196	99,965
6/30/10-11	181,577	191,577	0.831	150,906	159,217
6/30/11-12	268,568	302,568	0.842	226,006	254,617
6/30/12-13	458,056	480,056	0.877	401,721	421,015
Total	1,488,035	1,697,746		1,239,112	1,410,862
			(7) Total Discount Factor:	0.833	0.831

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	5,930	9,196
(9) Projected Number of Years:	2	2
(10) Projected Paid Loss per Year:	2,965	4,598
(11) Discounted Value at 4%:	5,705	8,845

NOTES:
(2), (3) From Section 5, Exhibit 2, Page 1, Columns 8, 9
(4) From Section 5, Exhibit 2, Page 9, Column 7
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

University of Massachusetts (Amherst) - Cluster 4
Medical

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	5,930	9,196		5,599	8,682
6/30/82-83	0	1,411	0.971	0	1,370
6/30/83-84	0	1,205	0.925	0	1,115
6/30/84-85	741	1,481	0.886	656	1,312
6/30/85-86	522	1,044	0.852	445	889
6/30/86-87	2,130	2,130	0.821	1,749	1,749
6/30/87-88	2,644	2,644	0.794	2,098	2,098
6/30/88-89	3,570	4,570	0.768	2,742	3,510
6/30/89-90	1,573	3,146	0.744	1,171	2,342
6/30/90-91	6,701	6,701	0.722	4,839	4,839
6/30/91-92	8,873	8,873	0.734	6,511	6,511
6/30/92-93	2,621	5,242	0.735	1,926	3,853
6/30/93-94	11,409	12,409	0.750	8,553	9,303
6/30/94-95	3,054	6,107	0.752	2,295	4,590
6/30/95-96	2,440	4,880	0.747	1,821	3,643
6/30/96-97	1,880	3,759	0.738	1,386	2,773
6/30/97-98	8,957	8,957	0.726	6,504	6,504
6/30/98-99	10,733	10,733	0.709	7,608	7,608
6/30/99-00	20,188	20,188	0.705	14,241	14,241
6/30/00-01	25,281	25,281	0.707	17,879	17,879
6/30/01-02	32,315	33,315	0.707	22,834	23,541
6/30/02-03	22,763	22,763	0.701	15,963	15,963
6/30/03-04	13,955	15,955	0.693	9,669	11,055
6/30/04-05	34,375	36,375	0.706	24,279	25,691
6/30/05-06	44,885	58,885	0.728	32,694	42,891
6/30/06-07	39,310	73,310	0.728	28,637	53,406
6/30/07-08	83,584	84,584	0.717	59,949	60,667
6/30/08-09	98,406	132,406	0.716	70,446	94,786
6/30/09-10	90,995	125,995	0.721	65,615	90,852
6/30/10-11	181,577	191,577	0.771	140,075	147,789
6/30/11-12	268,568	302,568	0.785	210,737	237,416
6/30/12-13	458,056	480,056	0.832	380,968	399,265
Total	1,488,035	1,697,746		1,149,890	1,308,133
			(7) Total Discount Factor:	0.773	0.771

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	5,930	9,196
(9) Projected Number of Years:	2	2
(10) Projected Paid Loss per Year:	2,965	4,598
(11) Discounted Value at 6%:	5,599	8,682

NOTES:
(2), (3) From Section 5, Exhibit 2, Page 1, Columns 8, 9
(4) From Section 5, Exhibit 2, Page 9, Column 8
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Medical Center) - Cluster 4

Indemnity

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Pd Loss Including Lump Sum	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		1,329,412			1,329,412	1,329,412	0	0		
6/30/82-83		306,340	307,616		306,340	313,999	0	7,659		
6/30/83-84		1,443,839	1,449,574		1,472,716	1,501,593	28,877	57,754		
6/30/84-85	116,303	852,745	856,683	858,144	869,800	886,855	17,055	34,110	0.748	0.763
6/30/85-86	123,981	2,517,941	2,529,324	2,531,835	2,529,000	2,532,000	11,059	14,059	2.040	2.042
6/30/86-87	139,388	3,357,682	3,984,840	3,371,783	3,372,000	3,678,312	14,318	320,629	2.419	2.639
6/30/87-88	159,499	3,025,877	3,301,572	3,037,647	3,038,000	3,169,609	12,123	143,733	1.905	1.987
6/30/88-89	180,644	2,623,646	2,634,202	2,638,269	2,676,119	2,754,828	52,473	131,182	1.481	1.525
6/30/89-90	142,494	3,243,583	3,271,107	3,281,556	3,308,455	3,405,762	64,872	162,179	2.322	2.390
6/30/90-91	143,694	1,101,823	1,116,729	1,116,620	1,123,859	1,156,914	22,036	55,091	0.782	0.805
6/30/91-92	155,170	1,518,304	1,547,308	1,546,844	1,548,670	1,594,219	30,366	75,915	0.998	1.027
6/30/92-93	163,283	638,167	654,971	654,681	650,930	670,075	12,763	31,908	0.399	0.410
6/30/93-94	177,184	1,815,015	1,877,190	1,875,113	1,875,000	1,877,000	59,985	61,985	1.058	1.059
6/30/94-95	188,391	521,127	536,077	536,008	536,000	536,000	14,873	14,873	0.285	0.285
6/30/95-96	201,751	491,723	508,082	508,137	501,557	511,392	9,834	19,669	0.249	0.253
6/30/96-97	231,872	422,390	430,056	431,000	430,838	439,286	8,448	16,896	0.186	0.189
6/30/97-98	232,237	545,727	577,318	576,607	556,642	567,556	10,915	21,829	0.240	0.244
6/30/98-99	232,075	631,601	653,685	653,931	654,000	654,000	22,399	22,399	0.282	0.282
6/30/99-00	211,819	687,583	728,256	726,709	727,000	728,000	39,417	40,417	0.343	0.344
6/30/00-01	215,099	737,973	775,601	774,662	775,000	776,000	37,027	38,027	0.360	0.361
6/30/01-02	227,797	341,709	363,795	364,656	364,000	365,000	22,291	23,291	0.160	0.160
6/30/02-03	242,008	872,848	946,482	942,790	943,000	946,000	70,152	73,152	0.390	0.391
6/30/03-04	276,758	962,971	1,043,915	1,041,443	1,041,000	1,044,000	78,029	81,029	0.376	0.377
6/30/04-05	260,378	201,102	221,720	257,587	222,000	258,000	20,898	56,898	0.085	0.099
6/30/05-06	317,741	778,823	886,620	880,997	881,000	887,000	102,177	108,177	0.277	0.279
6/30/06-07	325,922	368,698	424,706	475,504	425,000	476,000	56,302	107,302	0.130	0.146
6/30/07-08	354,130	1,252,172	1,462,657	1,421,806	1,422,000	1,463,000	169,828	210,828	0.402	0.413
6/30/08-09	362,309	470,532	571,233	618,513	571,000	619,000	100,468	148,468	0.158	0.171
6/30/09-10	383,298	502,360	691,322	749,556	691,000	750,000	188,640	247,640	0.180	0.196
6/30/10-11	394,924	497,595	835,752	860,576	836,000	861,000	338,405	363,405	0.212	0.218
6/30/11-12	381,943	412,366	1,006,612	1,064,287	1,007,000	1,064,000	594,634	651,634	0.264	0.279
6/30/12-13	384,763	159,666	884,636	991,675	885,000	992,000	725,334	832,334	0.230	0.258
Total	6,926,856	34,633,339	37,079,641	34,788,937	37,569,338	38,807,812	2,935,999	4,174,473		
Tot 6/30/84-13	6,926,856	31,553,748	35,322,452	34,788,937	34,460,870	35,662,809	2,907,122	4,109,061	0.497	0.515

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) Sum of Section 6, Exhibit 1, Page 2, Column 3 and Section 6, Exhibit 1, Page 9, Column 8

(4) From Section 6, Exhibit 1, Page 2, Column 8

(5) From Section 6, Exhibit 1, Page 3, Column 8

(6), (7) Selected based on (3), (4), and (5)

(8) = (6) - (3)

(9) = (7) - (3)

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Medical Center) - Cluster 4
Indemnity

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Accident Year	Payroll (000's)	Paid Loss Excluding Lump Sum	Paid LDF	Adjstmnt for Extra Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/11-12	Paid Counts 7/1/12-13	Average Outstanding Claim	Average Age
All Prior Yrs		1,242,912							0	0		
6/30/82-83		271,340	1.005	1.000	272,616	35,000	307,616		0	0		
6/30/83-84		1,219,902	1.005	1.000	1,225,637	223,937	1,449,574		0	0		
6/30/84-85	116,303	837,745	1.005	1.000	841,683	15,000	856,683	0.737	0	0		
6/30/85-86	123,981	2,421,446	1.005	1.000	2,432,829	96,495	2,529,324	2.040	0	0		
6/30/86-87	139,388	3,049,764	1.005	1.200	3,676,922	307,918	3,984,840	2.859	1	1	627,158	82
6/30/87-88	159,499	2,621,395	1.005	1.100	2,897,090	404,482	3,301,572	2.070	1	1	275,695	85
6/30/88-89	180,644	2,245,396	1.005	1.000	2,255,952	378,250	2,634,202	1.458	0	0		
6/30/89-90	142,494	2,830,333	1.010	1.000	2,857,857	413,250	3,271,107	2.296	0	0		
6/30/90-91	143,694	887,647	1.017	1.000	902,553	214,176	1,116,729	0.777	0	0		
6/30/91-92	155,170	1,163,553	1.025	1.000	1,192,557	354,751	1,547,308	0.997	0	0		
6/30/92-93	163,283	494,916	1.034	1.000	511,720	143,251	654,971	0.401	0	0		
6/30/93-94	177,184	1,403,763	1.044	1.000	1,465,938	411,252	1,877,190	1.059	1	1	62,175	71
6/30/94-95	188,391	273,127	1.055	1.000	288,077	248,000	536,077	0.285	0	0		
6/30/95-96	201,751	253,697	1.064	1.000	270,056	238,026	508,082	0.252	0	0		
6/30/96-97	231,872	113,590	1.067	1.000	121,256	308,800	430,056	0.185	0	0		
6/30/97-98	232,237	445,227	1.071	1.000	476,818	100,500	577,318	0.249	0	0		
6/30/98-99	232,075	289,851	1.076	1.000	311,935	341,750	653,685	0.282	0	1	22,084	53
6/30/99-00	211,819	489,166	1.083	1.000	529,839	198,417	728,256	0.344	1	0		
6/30/00-01	215,099	431,926	1.083	1.000	467,839	307,761	775,601	0.361	0	0		
6/30/01-02	227,797	246,210	1.085	1.000	267,144	96,651	363,795	0.160	0	0		
6/30/02-03	242,008	771,432	1.092	1.000	842,669	103,813	946,482	0.391	1	1	71,237	52
6/30/03-04	276,758	635,971	1.115	1.000	708,985	334,931	1,043,915	0.377	0	0		
6/30/04-05	260,378	134,102	1.138	1.000	152,605	69,114	221,720	0.085	1	1	18,503	59
6/30/05-06	317,741	498,323	1.191	1.000	593,469	293,151	886,620	0.279	0	0		
6/30/06-07	325,922	238,698	1.206	1.000	287,968	136,737	424,706	0.130	0	0		
6/30/07-08	354,130	692,172	1.241	1.000	859,122	603,535	1,462,657	0.413	1	4	41,738	53
6/30/08-09	362,309	337,031	1.213	1.000	408,685	162,548	571,233	0.158	5	2	35,827	46
6/30/09-10	383,298	373,360	1.361	1.000	508,069	183,253	691,322	0.180	4	2	67,355	52
6/30/10-11	394,924	447,595	1.529	1.000	684,547	151,204	835,752	0.212	12	4	59,238	59
6/30/11-12	381,943	317,366	1.975	1.000	626,814	379,798	1,006,612	0.264	76	13	23,804	48
6/30/12-13	384,763	159,666	3.868	1.000	617,542	267,095	884,636	0.230		51	8,978	45
Total	6,926,856	27,838,621			29,556,793	7,522,848	37,079,641		104	82		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3), (4) From Section 6, Exhibit 1, Page 7

(5) Based on information from the MA WCRIB

(6) = (3) x (4) x (5)

(7) From Section 6, Exhibit 1, Page 9, Column 13

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10), (11) Provided by Commonwealth of Massachusetts

(12) = Maximum of [{(6) - (3)} / (11)] and 0

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Medical Center) - Cluster 4
Indemnity

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident Year	Payroll (000's)	A Priori Loss Rate	Paid Loss Excluding Lump Sum	Paid LDF	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Ultimate Loss Cost Excluding Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	116,303	0.992	837,745	1.005	843,144	15,000	858,144	0.738	0.725
6/30/85-86	123,981	2.395	2,421,446	1.005	2,435,340	96,495	2,531,835	2.042	1.964
6/30/86-87	139,388	2.162	3,049,764	1.005	3,063,865	307,918	3,371,783	2.419	2.198
6/30/87-88	159,499	1.577	2,621,395	1.005	2,633,165	404,482	3,037,647	1.904	1.651
6/30/88-89	180,644	1.730	2,245,396	1.005	2,260,019	378,250	2,638,269	1.460	1.251
6/30/89-90	142,494	2.767	2,830,333	1.010	2,868,306	413,250	3,281,556	2.303	2.013
6/30/90-91	143,694	0.623	887,647	1.017	902,444	214,176	1,116,620	0.777	0.628
6/30/91-92	155,170	0.756	1,163,553	1.025	1,192,093	354,751	1,546,844	0.997	0.768
6/30/92-93	163,283	0.308	494,916	1.034	511,430	143,251	654,681	0.401	0.313
6/30/93-94	177,184	0.800	1,403,763	1.044	1,463,861	411,252	1,875,113	1.058	0.826
6/30/94-95	188,391	0.152	273,127	1.055	288,008	248,000	536,008	0.285	0.153
6/30/95-96	201,751	0.134	253,697	1.064	270,111	238,026	508,137	0.252	0.134
6/30/96-97	231,872	0.059	113,590	1.067	122,200	308,800	431,000	0.186	0.053
6/30/97-98	232,237	0.201	445,227	1.071	476,107	100,500	576,607	0.248	0.205
6/30/98-99	232,075	0.136	289,851	1.076	312,181	341,750	653,931	0.282	0.135
6/30/99-00	211,819	0.241	489,166	1.083	528,292	198,417	726,709	0.343	0.249
6/30/00-01	215,099	0.212	431,926	1.083	466,901	307,761	774,662	0.360	0.217
6/30/01-02	227,797	0.122	246,210	1.085	268,005	96,651	364,656	0.160	0.118
6/30/02-03	242,008	0.330	771,432	1.092	838,977	103,813	942,790	0.390	0.347
6/30/03-04	276,758	0.248	635,971	1.115	706,513	334,931	1,041,443	0.376	0.255
6/30/04-05	260,378	0.172	134,102	1.138	188,473	69,114	257,587	0.099	0.072
6/30/05-06	317,741	0.176	498,323	1.191	587,846	293,151	880,997	0.277	0.185
6/30/06-07	325,922	0.179	238,698	1.206	338,767	136,737	475,504	0.146	0.104
6/30/07-08	354,130	0.183	692,172	1.241	818,271	603,535	1,421,806	0.401	0.231
6/30/08-09	362,309	0.187	337,031	1.213	455,965	162,548	618,513	0.171	0.126
6/30/09-10	383,298	0.190	373,360	1.361	566,303	183,253	749,556	0.196	0.148
6/30/10-11	394,924	0.191	447,595	1.529	709,372	151,204	860,576	0.218	0.180
6/30/11-12	381,943	0.195	317,366	1.975	684,489	379,798	1,064,287	0.279	0.179
6/30/12-13	384,763	0.198	159,666	3.868	724,581	267,095	991,675	0.258	0.188
Total	6,926,856		25,104,467		27,525,026	7,263,911	34,788,937		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 6, Exhibit 1, Page 4, Column 11

(4) From Section 6, Exhibit 1, Page 2, Column 3

(5) From Section 6, Exhibit 1, Page 2, Column 4

(6) = (4) + [{1 - {1 / (5)}} x (3) x (2) x 10]

(7) From Section 6, Exhibit 1, Page 9, Column 13

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10) = (6) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Medical Center) - Cluster 4
Indemnity

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Exp Ult Loss Excluding Lump Sum	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									0.992	0.992
6/30/85-86									2.395	2.395
6/30/86-87									2.162	2.162
6/30/87-88									1.577	1.577
6/30/88-89									1.730	1.730
6/30/89-90									2.767	2.767
6/30/90-91	143,694	902,553	0.628	0.953	0.598	1.257	0.752	0.167	0.629	0.623
6/30/91-92	155,170	1,192,557	0.769	1.045	0.803	1.245	1.000	0.154	0.764	0.756
6/30/92-93	163,283	511,720	0.313	1.219	0.382	1.232	0.471	0.133	0.312	0.308
6/30/93-94	177,184	1,465,938	0.827	1.203	0.995	1.220	1.215	0.136	0.798	0.800
6/30/94-95	188,391	288,077	0.153	1.192	0.182	1.208	0.220	0.139	0.153	0.152
6/30/95-96	201,751	270,056	0.134	1.183	0.158	1.196	0.189	0.141	0.135	0.134
6/30/96-97	231,872	121,256	0.052	1.171	0.061	1.184	0.073	0.144	0.059	0.059
6/30/97-98	232,237	476,818	0.205	1.156	0.237	1.173	0.278	0.148	0.202	0.201
6/30/98-99	232,075	311,935	0.134	1.141	0.153	1.161	0.178	0.151	0.137	0.136
6/30/99-00	211,819	529,839	0.250	1.122	0.281	1.149	0.323	0.155	0.241	0.241
6/30/00-01	215,099	467,839	0.217	1.094	0.238	1.138	0.271	0.161	0.213	0.212
6/30/01-02	227,797	267,144	0.117	1.072	0.126	1.127	0.142	0.166	0.123	0.122
6/30/02-03	242,008	842,669	0.348	1.069	0.372	1.116	0.415	0.168	0.312	0.330
6/30/03-04	276,758	708,985	0.256	1.069	0.274	1.105	0.302	0.169	0.250	0.248
6/30/04-05	260,378	152,605	0.059	1.062	0.062	1.094	0.068	0.172	0.175	0.172
6/30/05-06	317,741	593,469	0.187	1.051	0.196	1.083	0.213	0.176	0.179	0.176
6/30/06-07	325,922	287,968	0.088	1.040	0.092	1.072	0.098	0.179	0.183	0.179
6/30/07-08	354,130	859,122	0.243	1.028	0.249	1.062	0.265	0.183	0.186	0.183
6/30/08-09	362,309	408,685	0.113	1.016	0.115	1.051	0.120	0.187	0.190	0.187
6/30/09-10	383,298	508,069	0.133	1.012	0.134	1.041	0.140	0.190	0.193	0.190
6/30/10-11	394,924	684,547	0.173	1.014	0.176	1.030	0.181	0.191	0.195	0.191
6/30/11-12	381,943	626,814	0.164	1.007	0.165	1.020	0.169	0.195	0.198	0.195
6/30/12-13	384,763	617,542	0.160	1.000	0.160	1.010	0.162	0.198		0.198
Total	6,064,547	13,096,206								

Trend Last 4 (ex 12-13):	14.6%	Avg 3 (x12-13):	0.163
Trend Last 8 (ex 12-13):	8.2%	Avg 5 (x12-13):	0.175
Trend Last 12 (ex 12-13):	-3.1%	Avg 10 (x12-13):	0.197
Prior Selected Trend:	1.0%	Prior Sel Avg:	0.200
Selected Trend:	1.0%	Sel. Loss Cost:	0.200

NOTES:
(2) Provided by Commonwealth of Massachusetts
(3) From Section 6, Exhibit 1, Page 2, Column 6
(4) = (3) / (2) / 10
(5) Based on information from the MA WCRIB
(6) = (4) x (5)
(7) Based on Selected Trend from (6)
(8) = (6) x (7)
(9) = Sel. Loss Cost / [(5) * (7)]
(10) From Aon analysis as of June 30, 2012
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Medical Center) - Cluster 4
Indemnity

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend		0.860	
(2)	Credibility		10%	
(3)	Average Pmt Trend Statewide		0.960	
(4)	Credibility Weighted Trend		0.950	
		(Low)		(High)
(5)	Selected Range	0.940		0.969
(6)	Incremental Paid for 2013	0		0
(7)	Estimated Reserve	0		0
(8)	Paid to Date (82 & Prior)	1,242,912		1,242,912
(9)	Est Ult Paid for 1982 & Prior	1,242,912		1,242,912

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	0	0
(11)	Projected Number of Years	1	1
(12)	Estimated Reserve	0	0
(13)	Paid to Date (82 & Prior)	1,242,912	1,242,912
(14)	Est Ult Paid for 1982 & Prior	1,242,912	1,242,912
(14a)	Paid Counts During Fiscal Year	0	0
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	1,242,912	1,242,912
(16)	Lump Sum Ultimates	86,500	86,500
(17)	Ult Loss Including Lump Sums	**1,329,412**	**1,329,412**
(18)	Implied Tail	1.000	1.000
(19)	Ult Loss Inc Lump Sums @ 6/12	1,329,412	1,329,412

NOTES:

(1) From Section 6, Exhibit 1, Page 6
(2) = (Average of Section 6, Exhibit 1, Page 6, Column 3 / 3,000,000) ^ 0.5
(3) Average Statewide Trend
(4) = (1) x (2) + (4) x {1 - (2)}
(5) Selected judgmentally based on (4)
(6), (14a) Provided by Commonwealth of Massachusetts
(7) = (6) x (5) / {1 - (5)}
(8), (16) From Section 6, Exhibit 1, Page 2, Column 3
(9) = (7) + (8)
(10) Avg of 3 latest years from Section 6, Exhibit 1, Page 6, Column 3
(11) Selected judgmentally
(12) = (10 x (11)
(14) = (12) + (13)
(15) = Average of (9) and (14)
(16) From Section 6, Exhibit 1, Page 9, Column 13
(17) = (15) + (16)
(18) = (15) / (8)
(19) From Aon analysis as of June 30, 2012

University of Massachusetts (Medical Center) - Cluster 4
Indemnity

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paids	LN	Average Observed Trend		Trend Calculations
1992	1	92,878	11.439			
1993	2	83,290	11.330	0.897		
1994	3	82,744	11.324	0.993		
1995	4	76,872	11.250	0.929		
1996	5	73,496	11.205	0.956		
1997	6	42,425	10.655	0.577		
1998	7	43,683	10.685	1.030		
1999	8	44,262	10.698	1.013		
2000	9	49,469	10.809	1.118	n =	12
2001	10	47,733	10.773	0.965	S(x) =	23,970
2002	11	28,782	10.268	0.603	S(x-sq) =	47,880,218
2003	12	12,543	9.437	0.436	S(xy) =	259,401
2004	13	0			S(y) =	130
2005	14	0			D =	1,716
2006	15	0			slope =	-0.137
2007	16	0			Avg Trend =	0.863
2008	17	0				
2009	18	0				
2010	19	0				
2011	20	0				
2012	21	0				
2013	22	0				
					Selected Trend:	**0.860**

NOTES:

(3) 2013 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2012

(4) LN [(3)]

(5) Eg. 2003: 0.436 = 12543 / 28782

Commonwealth of Massachusetts Workers Compensation
University of Massachusetts (Medical Center) - Cluster 4
INDEMNITY
Paid Loss Development
Paid Loss (Excluding Lump Sum)

Accident Yr End	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372
June-83	20,333	51,116	80,072	103,773	130,398	141,779	176,965	199,729	221,812	232,715	258,415	258,415	263,521	253,827	259,034	264,240	271,340	271,340	271,340	271,340	271,340	271,340	271,340	271,340	271,340	271,340	271,340	271,340	271,340	271,340	271,340
June-84	57,600	144,806	226,837	293,981	343,659	432,433	537,475	627,523	702,624	756,969	803,646	836,058	882,478	912,918	944,937	977,381	1,013,642	1,052,979	1,095,405	1,138,804	1,183,544	1,219,902	1,219,902	1,219,902	1,219,902	1,219,902	1,219,902	1,219,902	1,219,902	1,219,902	
June-85	63,759	160,290	251,092	325,415	403,737	509,752	570,921	613,784	663,935	693,110	702,075	726,654	753,001	779,914	809,196	840,064	837,165	837,745	837,745	837,745	837,745	837,745	837,745	837,745	837,745	837,745	837,745	837,745	837,745		
June-86	154,113	387,438	606,915	783,976	961,962	1,132,149	1,274,833	1,393,763	1,502,381	1,636,065	1,751,114	1,854,218	1,962,657	2,114,127	2,191,041	2,271,411	2,297,923	2,325,043	2,352,163	2,379,342	2,408,086	2,421,446	2,421,446	2,421,446	2,421,446	2,421,446	2,421,446	2,421,446				
June-87	166,736	419,172	641,668	854,284	1,072,274	1,249,198	1,388,337	1,542,716	1,758,390	1,875,672	1,986,394	2,093,920	2,135,258	2,199,362	2,260,862	2,284,043	2,302,892	2,321,741	2,340,539	2,359,336	2,708,676	2,762,266	2,818,196	2,874,830	2,931,224	2,989,542	3,049,764				
June-88	174,358	435,032	660,480	866,856	1,054,956	1,195,356	1,302,385	1,395,569	1,488,786	1,568,531	1,652,757	1,723,638	1,803,152	1,884,392	1,957,379	2,019,197	2,082,510	2,146,026	2,212,010	2,280,936	2,353,096	2,428,406	2,506,612	2,583,636	2,620,881	2,621,395					
June-89	244,759	583,650	955,229	1,207,778	1,405,394	1,580,598	1,710,863	1,867,443	1,974,910	2,078,269	2,163,384	2,208,386	2,233,112	2,239,652	2,239,652	2,245,396	2,245,396	2,245,396	2,245,396	2,245,396	2,245,396	2,245,396	2,245,396	2,245,396	2,245,396						
June-90	351,648	811,854	1,353,747	1,739,540	2,053,362	2,300,598	2,503,649	2,605,537	2,726,706	2,654,988	2,740,214	2,830,333	2,830,333	2,830,333	2,830,333	2,830,333	2,830,333	2,830,333	2,830,333	2,830,333	2,830,333	2,830,333	2,830,333	2,830,333	2,830,333						
June-91	156,076	357,539	517,757	630,387	728,239	832,901	871,395	947,686	887,647	887,647	887,647	887,647	887,647	887,647	887,647	887,647	887,647	887,647	887,647	887,647	887,647	887,647	887,647								
June-92	261,100	669,245	900,334	1,044,793	1,152,142	1,241,017	1,237,974	1,112,699	1,137,295	1,163,553	1,163,553	1,163,553	1,163,553	1,163,553	1,163,553	1,163,553	1,163,553	1,163,553	1,163,553	1,163,553	1,163,553	1,163,553									
June-93	206,631	396,390	480,534	554,071	597,393	614,181	494,916	494,916	494,916	494,916	494,916	494,916	494,916	494,916	494,916	494,916	494,916	494,916	494,916	494,916	494,916										
June-94	247,518	643,612	941,958	1,088,319	1,200,112	1,123,946	1,143,130	1,179,142	1,181,321	1,181,499	1,181,499	1,246,051	1,265,620	1,286,180	1,304,675	1,323,640	1,345,114	1,364,136	1,383,838	1,403,763											
June-95	205,179	254,027	345,287	415,297	285,940	285,940	285,940	286,111	286,111	286,111	286,111	273,127	273,127	273,127	273,127	273,127	273,127	273,127	273,127												
June-96	155,417	406,013	576,300	245,663	246,118	246,118	246,697	246,697	253,697	253,697	253,697	253,697	253,697	253,697	253,697	253,697	253,697	253,697													
June-97	97,433	256,318	57,502	85,876	119,079	124,761	113,590	113,590	113,590	113,590	113,590	113,590	113,590	113,590	113,590	113,590	113,590														
June-98	240,727	143,983	232,600	419,169	444,399	445,227	445,227	445,227	445,227	445,227	445,227	445,227	445,227	445,227	445,227	445,227															
June-99	58,149	198,506	223,119	274,795	288,604	286,087	287,457	287,658	287,796	287,796	287,796	287,796	287,796	289,251	289,851																
June-00	139,725	319,021	396,283	425,910	459,317	480,109	487,559	487,559	487,559	487,559	487,559	487,559	489,166	489,166																	
June-01	103,272	231,200	298,053	357,230	397,007	413,694	429,139	431,926	431,926	431,926	431,926	431,926	431,926																		
June-02	111,843	169,158	211,386	237,447	244,070	244,070	244,070	244,070	246,210	246,210	246,210	246,210																			
June-03	103,346	214,476	266,732	299,619	422,566	501,970	559,245	599,400	671,238	720,943	771,432																				
June-04	158,939	366,873	493,674	593,313	624,409	635,971	635,971	635,971	635,971	635,971																					
June-05	66,383	103,442	111,589	111,589	111,589	111,589	111,589	125,745	134,102																						
June-06	148,922	299,710	423,237	498,323	498,323	498,323	498,323	498,323																							
June-07	129,667	222,028	238,698	238,698	238,698	238,698	238,698																								
June-08	199,585	456,548	645,562	768,096	799,003	692,172																									
June-09	126,394	222,250	303,425	345,595	337,031																										
June-10	173,596	323,966	367,986	373,360																											
June-11	204,108	361,900	447,595																												
June-12	169,232	317,366																													
June-13	159,666																														

Age-to-Age Factors

Acc Yr Ending	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372
June-83	2.514	1.566	1.296	1.257	1.087	1.248	1.129	1.111	1.049	1.110	1.000	1.020	0.963	1.021	1.020	1.027	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
June-84	2.514	1.566	1.296	1.169	1.258	1.243	1.168	1.120	1.077	1.062	1.040	1.056	1.034	1.035	1.034	1.037	1.039	1.040	1.040	1.039	1.031	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
June-85	2.514	1.566	1.296	1.241	1.263	1.120	1.075	1.082	1.044	1.013	1.035	1.036	1.036	1.038	1.038	0.997	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
June-86	2.514	1.566	1.292	1.227	1.177	1.126	1.093	1.078	1.089	1.070	1.059	1.058	1.077	1.036	1.037	1.012	1.012	1.012	1.012	1.012	1.006	1.000	1.000	1.000	1.000	1.000	1.000				
June-87	2.514	1.531	1.331	1.255	1.165	1.111	1.111	1.140	1.067	1.059	1.054	1.020	1.030	1.028	1.010	1.008	1.008	1.008	1.008	1.148	1.020	1.020	1.020	1.020	1.020	1.020					
June-88	2.495	1.518	1.312	1.217	1.133	1.090	1.072	1.067	1.054	1.054	1.043	1.046	1.045	1.039	1.032	1.031	1.030	1.031	1.031	1.032	1.032	1.032	1.031	1.014	1.000						
June-89	2.385	1.637	1.264	1.164	1.125	1.082	1.092	1.058	1.052	1.041	1.021	1.011	1.003	1.000	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
June-90	2.309	1.667	1.285	1.180	1.120	1.088	1.041	1.047	0.974	1.032	1.033	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
June-91	2.291	1.448	1.218	1.155	1.144	1.046	1.088	0.937	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
June-92	2.563	1.345	1.160	1.103	1.077	0.998	0.899	1.022	1.023	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
June-93	1.918	1.212	1.153	1.078	1.028	0.806	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
June-94	2.600	1.464	1.155	1.103	0.937	1.017	1.032	1.002	1.000	1.000	1.055	1.016	1.016	1.014	1.015	1.016	1.014	1.014	1.014												
June-95	1.238	1.359	1.203	0.689	1.000	1.000	1.001	1.000	1.000	1.000	0.955	1.000	1.000	1.000	1.000	1.000	1.000	1.000													
June-96	2.612	1.419	0.426	1.002	1.000	1.002	1.000	1.028	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000														
June-97	2.631	0.224	1.493	1.387	1.048	0.910	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000															
June-98	0.598	1.615	1.802	1.060	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000																
June-99	3.414	1.124	1.232	1.050	0.991	1.005	1.001	1.000	1.000	1.000	1.000	1.005	1.000	1.002																	
June-00	2.283	1.242	1.075	1.078	1.045	1.016	1.000	1.000	1.000	1.000	1.000	1.003	1.000																		
June-01	2.239	1.289	1.199	1.111	1.042	1.037	1.006	1.000	1.000	1.000	1.000	1.000																			
June-02	1.512	1.250	1.123	1.028	1.000	1.000	1.000	1.009	1.000	1.000	1.000																				
June-03	2.075	1.244	1.123	1.410	1.188	1.114	1.072	1.120	1.074	1.070																					
June-04	2.308	1.346	1.202	1.052	1.019	1.000	1.000	1.000	1.000																						
June-05	1.558	1.079	1.000	1.000	1.000	1.000	1.127	1.066																							
June-06	2.013	1.412	1.177	1.000	1.000	1.000	1.000																								
June-07	1.712	1.075	1.000	1.000	1.000	1.000																									
June-08	2.287	1.414	1.190	1.040	0.866																										
June-09	1.758	1.365	1.139	0.975																											
June-10	1.866	1.136	1.015																												
June-11	1.773	1.237																													
June-12	1.875																														

Averages	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	To Ult
Simple Avg																															
All Yrs	2.163	1.342	1.195	1.112	1.066	1.042	1.042	1.038	1.023	1.024	1.015	1.014	1.011	1.013	1.012	1.009	1.007	1.008	1.009	1.021	1.009	1.006	1.006	1.005	1.003	1.004	1.000	1.000	1.000	1.000	
Latest 5	1.912	1.245	1.104	1.003	0.977	1.023	1.040	1.039	1.015	1.014	1.000	1.002	1.000	1.000	1.003	1.003	1.003	1.003	1.003	1.000	1.006	1.010	1.010	1.007	1.004	1.004					
Latest 3	1.838	1.246	1.114	1.005	0.955	1.000	1.042	1.062	1.025	1.023	1.000	1.003	1.000	1.001	1.000	1.000	1.005	1.005	1.005	1.000	1.000	1.000	1.010	1.011	1.007	1.007	1.000	1.000			
Volume Wtd																															
All Yrs	2.114	1.379	1.185	1.122	1.078	1.055	1.047	1.048	1.029	1.033	1.029	1.019	1.020	1.016	1.014	1.009	1.009	1.010	1.010	1.029	1.011	1.008	1.009	1.008	1.006	1.008	1.000	1.000	1.000		
Latest 5	1.927	1.263	1.124	1.011	0.958	1.029	1.027	1.040	1.020	1.023	1.000	1.002	1.000	1.000	1.008	1.009	1.005	1.005	1.003	1.000	1.008	1.012	1.010	1.009	1.006	1.008					
Latest 3	1.834	1.232	1.129	1.017	0.930	1.000	1.011	1.059	1.032	1.036	1.000	1.003	1.000	1.001	1.000	1.000	1.010	1.009	1.007	1.000	1.000	1.000	1.010	1.012	1.007	1.010	1.000	1.000			

Dev Factor Selection

Industry 1	2.781	1.499	1.187	1.084	1.039	1.019	1.012																								
Industry 2		1.746	1.300	1.126	1.062	1.029	1.020	1.009	1.008	1.005	1.006	1.010	1.003	1.002	1.004	1.003	1.001	1.001	1.001	1.001											
Prior	*1.943*	*1.332*	*1.139*	*1.126*	*1.041*	*1.029*	*1.013*	*1.035*	*1.021*	*1.007*	*1.007*	*1.002*	*1.000*	*1.008*	*1.005*	*1.003*	*1.003*	*1.007*	*1.010*	*1.010*	*1.010*	*1.008*	*1.007*	*1.005*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	1.005	
Selected	1.958	1.291	1.124	1.122	0.977	1.029	1.013	1.047	1.021	1.021	1.007	1.002	1.000	1.006	1.005	1.003	1.003	1.009	1.010	1.010	1.009	1.008	1.007	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.005
FacToUlt	3.868	1.975	1.529	1.361	1.213	1.241	1.206	1.191	1.138	1.115	1.092	1.085	1.083	1.083	1.076	1.071	1.067	1.064	1.055	1.044	1.034	1.025	1.017	1.010	1.005	1.005	1.005	1.005	1.005	1.005	1.005
Percent of Ult	25.9%	50.6%	65.4%	73.5%	82.5%	80.6%	82.9%	84.0%	87.9%	89.7%	91.5%	92.2%	92.3%	92.3%	92.9%	93.4%	93.7%	93.9%	94.8%	95.8%	96.7%	97.6%	98.3%	99.0%	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%	

University of Massachusetts (Medical Center) - Cluster 4

Indemnity

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Ultimate Loss		Ultimate Loss		Change in Ultimate Loss		Change in Ultimate Loss	
Accident	As of 6/12		As of 6/13		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	1,329,412	1,329,412	1,329,412	1,329,412	0	0.0%	0	0.0%
6/30/82-83	306,340	313,999	306,340	313,999	0	0.0%	0	0.0%
6/30/83-84	1,472,716	1,501,593	1,472,716	1,501,593	0	0.0%	0	0.0%
6/30/84-85	869,800	886,855	869,800	886,855	0	0.0%	0	0.0%
6/30/85-86	2,531,000	2,533,000	2,529,000	2,532,000	(2,000)	-0.1%	(1,000)	0.0%
6/30/86-87	3,313,000	3,613,705	3,372,000	3,678,312	59,000	1.8%	64,606	1.8%
6/30/87-88	2,981,000	3,112,547	3,038,000	3,169,609	57,000	1.9%	57,063	1.8%
6/30/88-89	2,676,119	2,754,828	2,676,119	2,754,828	0	0.0%	0	0.0%
6/30/89-90	3,308,455	3,405,762	3,308,455	3,405,762	0	0.0%	0	0.0%
6/30/90-91	1,123,859	1,156,914	1,123,859	1,156,914	0	0.0%	0	0.0%
6/30/91-92	1,548,670	1,594,219	1,548,670	1,594,219	0	0.0%	0	0.0%
6/30/92-93	650,930	670,075	650,930	670,075	0	0.0%	0	0.0%
6/30/93-94	1,870,000	1,873,000	1,875,000	1,877,000	5,000	0.3%	4,000	0.2%
6/30/94-95	538,000	538,000	536,000	536,000	(2,000)	-0.4%	(2,000)	-0.4%
6/30/95-96	501,557	511,392	501,557	511,392	0	0.0%	0	0.0%
6/30/96-97	430,838	439,286	430,838	439,286	0	0.0%	0	0.0%
6/30/97-98	556,642	567,556	556,642	567,556	0	0.0%	0	0.0%
6/30/98-99	655,000	656,000	654,000	654,000	(1,000)	-0.2%	(2,000)	-0.3%
6/30/99-00	728,000	730,000	727,000	728,000	(1,000)	-0.1%	(2,000)	-0.3%
6/30/00-01	778,000	779,000	775,000	776,000	(3,000)	-0.4%	(3,000)	-0.4%
6/30/01-02	366,000	367,000	364,000	365,000	(2,000)	-0.5%	(2,000)	-0.5%
6/30/02-03	895,000	899,000	943,000	946,000	48,000	5.4%	47,000	5.2%
6/30/03-04	1,050,000	1,053,000	1,041,000	1,044,000	(9,000)	-0.9%	(9,000)	-0.9%
6/30/04-05	217,000	260,000	222,000	258,000	5,000	2.3%	(2,000)	-0.8%
6/30/05-06	888,000	891,000	881,000	887,000	(7,000)	-0.8%	(4,000)	-0.4%
6/30/06-07	435,000	489,000	425,000	476,000	(10,000)	-2.3%	(13,000)	-2.7%
6/30/07-08	1,518,000	1,591,000	1,422,000	1,463,000	(96,000)	-6.3%	(128,000)	-8.0%
6/30/08-09	678,000	736,000	571,000	619,000	(107,000)	-15.8%	(117,000)	-15.9%
6/30/09-10	852,000	907,000	691,000	750,000	(161,000)	-18.9%	(157,000)	-17.3%
6/30/10-11	1,049,000	1,056,000	836,000	861,000	(213,000)	-20.3%	(195,000)	-18.5%
6/30/11-12	1,009,000	1,045,000	1,007,000	1,064,000	(2,000)	-0.2%	19,000	1.8%
6/30/12-13								
Total	37,126,338	38,261,143	36,684,338	37,815,812	(442,000)	-1.2%	(445,331)	-1.2%

NOTES:

(2), (3) From Aon analysis as of June 30, 2012

(4), (5) From Section 6, Exhibit 1, Page 1, Columns 6, 7

(6) = (4) - (2)

(7) = (4) / (2) - 1

(8) = (5) - (3)

(9) = (5) / (3) - 1

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Medical Center) - Cluster 4
Indemnity

Calculation of Ultimate Lump Sum Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Accident Year	Paid Loss Excluding Lump Sum	Implied Cumulative LDF	Ult Loss Excluding Lump Sum	Selected Incr Lump Sum % Outstdg	Cumulative Lump Sum % Outstdg	Total Lump Sum Outstdg	Paid Lump Sum to Date	Est Ult Lump Sum - Incr Method	Ultimate Lump Sum Percentage	Lump Sum LDF	Est Ult Lump Sum - Paid Method	Selected Est Ultimate Lump Sums	Prior Est Ultimate Lump Sums
All Prior Yrs	1,242,912	1.000	1,242,912	0.0%	0.0%	0	86,500	86,500	7.0%	1.000	86,500	86,500	86,500
6/30/82-83	271,340	1.005	272,616	0.0%	0.0%	0	35,000	35,000	12.8%	1.000	35,000	35,000	35,000
6/30/83-84	1,219,902	1.005	1,225,637	0.0%	0.0%	0	223,937	223,937	18.3%	1.000	223,937	223,937	223,937
6/30/84-85	837,745	1.005	841,683	0.0%	0.0%	0	15,000	15,000	1.8%	1.000	15,000	15,000	15,000
6/30/85-86	2,421,446	1.005	2,432,829	0.0%	0.0%	0	96,495	96,495	4.0%	1.000	96,495	96,495	96,495
6/30/86-87	3,049,764	1.206	3,676,922	0.0%	0.0%	0	307,918	307,918	8.4%	1.000	307,918	307,918	307,918
6/30/87-88	2,621,395	1.105	2,897,090	0.0%	0.0%	0	404,482	404,482	14.0%	1.000	404,482	404,482	346,482
6/30/88-89	2,245,396	1.005	2,255,952	0.0%	0.0%	0	378,250	378,250	16.8%	1.000	378,250	378,250	378,250
6/30/89-90	2,830,333	1.010	2,857,857	0.0%	0.0%	0	413,250	413,250	14.5%	1.000	413,250	413,250	413,250
6/30/90-91	887,647	1.017	902,553	0.0%	0.0%	0	214,176	214,176	23.7%	1.000	214,176	214,176	214,176
6/30/91-92	1,163,553	1.025	1,192,557	0.0%	0.0%	0	354,751	354,751	29.7%	1.000	354,751	354,751	354,751
6/30/92-93	494,916	1.034	511,720	0.0%	0.0%	0	143,251	143,251	28.0%	1.000	143,251	143,251	143,251
6/30/93-94	1,403,763	1.044	1,465,938	0.0%	0.0%	0	411,252	411,252	28.1%	1.000	411,252	411,252	411,252
6/30/94-95	273,127	1.055	288,077	0.0%	0.0%	0	248,000	248,000	86.1%	1.000	248,000	248,000	248,000
6/30/95-96	253,697	1.064	270,056	0.0%	0.0%	0	238,026	238,026	88.1%	1.000	238,026	238,026	238,026
6/30/96-97	113,590	1.067	121,256	0.0%	0.0%	0	308,800	308,800	254.7%	1.000	308,800	308,800	308,800
6/30/97-98	445,227	1.071	476,818	0.0%	0.0%	0	100,500	100,500	21.1%	1.000	100,500	100,500	100,500
6/30/98-99	289,851	1.076	311,935	0.0%	0.0%	0	341,750	341,750	109.6%	1.000	341,750	341,750	341,750
6/30/99-00	489,166	1.083	529,839	0.0%	0.0%	0	198,417	198,417	37.4%	1.000	198,417	198,417	199,633
6/30/00-01	431,926	1.083	467,839	0.1%	0.1%	368	306,047	306,415	65.5%	1.010	309,107	307,761	309,483
6/30/01-02	246,210	1.085	267,144	0.1%	0.1%	385	95,499	95,884	35.9%	1.020	97,419	96,651	97,239
6/30/02-03	771,432	1.092	842,669	0.1%	0.2%	1,721	101,416	103,137	12.2%	1.030	104,489	103,813	105,012
6/30/03-04	635,971	1.115	708,985	0.2%	0.4%	2,584	327,000	329,584	46.5%	1.041	340,278	334,931	337,501
6/30/04-05	134,102	1.138	152,605	0.1%	0.5%	766	67,000	67,766	44.4%	1.052	70,463	69,114	70,110
6/30/05-06	498,323	1.191	593,469	0.2%	0.7%	4,083	280,500	284,583	48.0%	1.076	301,719	293,151	303,217
6/30/06-07	238,698	1.206	287,968	0.6%	1.3%	3,640	130,000	133,640	46.4%	1.076	139,834	136,737	145,246
6/30/07-08	692,172	1.241	859,122	0.9%	2.2%	18,806	560,000	578,806	67.4%	1.122	628,265	603,535	581,304
6/30/08-09	337,031	1.213	408,685	3.3%	5.5%	22,347	133,501	155,848	38.1%	1.268	169,249	162,548	186,027
6/30/09-10	373,360	1.361	508,069	5.0%	10.5%	53,411	129,000	182,411	35.9%	1.427	184,095	183,253	255,929
6/30/10-11	447,595	1.529	684,547	12.0%	22.5%	154,110	50,000	204,110	29.8%	1.966	98,299	151,204	274,489
6/30/11-12	317,366	1.975	626,814	11.6%	34.1%	213,794	95,000	308,794	49.3%	4.745	450,802	379,798	299,370
6/30/12-13	159,666	3.868	617,542	9.1%	43.3%	267,095	0	267,095	43.3%	4.745	0	267,095	
Total	27,838,621		30,799,705			743,109	6,794,718	7,537,827	24.5%		7,413,774	7,609,348	7,427,899

NOTES:

(2) From Section 6, Exhibit 1, Page 2, Column 3
(3) = (4) / (2)
(4) From Section 6, Exhibit 1, Page 2, Column 6
(5) From Section 6, Exhibit 1, Page 11
(6) Downward sum of (5)
(7) = (6) x (4)
(8) From Section 6, Exhibit 1, Page 10
(9) = (7) + (8)
(10) = (9) / (4)
(11) From Section 6, Exhibit 1, Page 12
(12) = (8) x (11)
(13) Selected based on (9) and (12)
(14) From Aon analysis as of June 30, 2012

Commonwealth of Massachusetts Workers Compensation
University of Massachusetts (Medical Center) - Cluster 4
INDEMNITY
Lump Sum Development
Incremental Lump Sum Payments

Acc Yr Ending	0-12	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384
All Prior Yrs	0	0	0	0	0	0	0	0	0	0	0	0	0	26,500	0	0	0	0	0	0	0	60,000	0	0	0	0	0	0	0	0	0	0
Jun-83	0	0	0	0	0	20,000	0	0	0	0	0	0	0	15,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jun-84	0	0	0	0	25,750	0	0	36,687	25,000	0	35,500	17,000	0	0	0	0	0	0	0	0	0	84,000	0	0	0	0	0	0	0	0		
Jun-85	0	0	0	0	0	0	0	0	0	0	5,000	0	0	0	0	0	0	0	10,000	0	0	0	0	0	0	0	0	0	0			
Jun-86	0	0	0	0	0	0	23,000	15,000	10,995	10,000	0	0	0	37,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Jun-87	0	0	8,323	0	0	43,000	9,000	5,000	0	30,000	38,424	25,671	112,500	36,000	0	0	0	0	0	0	0	0	0	0	0	0	0					
Jun-88	0	0	0	0	10,482	6,500	21,000	46,000	29,000	0	45,000	32,500	0	0	40,000	0	0	0	0	0	0	0	0	0	58,000	58,000	58,000					
Jun-89	0	0	16,000	76,750	27,500	0	75,000	15,000	0	0	143,000	0	25,000	0	0	0	0	0	0	0	0	0	0	0	0	0						
Jun-90	0	0	47,500	50,000	3,000	72,500	51,250	50,500	77,200	51,300	0	10,000	0	0	0	0	0	0	0	0	0	0	0	0	0							
Jun-91	0	6,300	28,000	0	88,376	13,000	30,000	41,500	7,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
Jun-92	0	0	80,001	43,500	79,250	35,000	117,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
Jun-93	0	28,000	1	22,500	52,750	40,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
Jun-94	0	68,500	118,500	39,375	92,877	79,500	0	0	12,500	0	0	0	0	0	0	0	0	0	0	0												
Jun-95	0	158,500	29,500	35,000	25,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0													
Jun-96	0	25,000	162,356	22,670	0	0	0	0	28,000	0	0	0	0	0	0	0	0	0														
Jun-97	15,000	113,800	110,000	0	70,000	0	0	0	0	0	0	0	0	0	0	0	0															
Jun-98	1,500	62,500	15,000	0	21,500	0	0	0	0	0	0	0	0	0	0	0																
Jun-99	0	33,750	125,000	160,000	23,000	0	0	0	0	0	0	0	0	0	0																	
Jun-00	5,000	72,513	47,154	18,750	0	0	25,000	30,000	0	0	0	0	0	0																		
Jun-01	0	71,047	80,000	60,000	0	50,000	0	45,000	0	0	0	0	0																			
Jun-02	0	9,000	38,999	30,000	17,500	0	0	0	0	0	0	0																				
Jun-03	0	16,416	55,000	0	0	0	30,000	0	0	0	0																					
Jun-04	0	65,000	30,000	125,000	55,000	52,000	0	0	0	0																						
Jun-05	0	0	67,000	0	0	0	0	0	0																							
Jun-06	0	15,000	18,000	177,500	40,000	30,000	0	0																								
Jun-07	0	70,000	45,000	15,000	0	0	0																									
Jun-08	0	170,000	150,000	165,000	0	75,000																										
Jun-09	0	0	0	133,501	0																											
Jun-10	0	36,000	93,000	0																												
Jun-11	0	50,000	0																													
Jun-12	0	95,000																														
Jun-13	0																															

Cumulative Lump Sum Payments

Acc Yr Ending	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384
All Prior Yrs	0	0	0	0	0	0	0	0	0	0	0	0	0	26,500	26,500	26,500	26,500	26,500	26,500	26,500	26,500	86,500	86,500	86,500	86,500	86,500	86,500	86,500	86,500	86,500	86,500	86,500
Jun-83	0	0	0	0	0	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	
Jun-84	0	0	0	0	25,750	25,750	25,750	62,437	87,437	87,437	122,937	139,937	139,937	139,937	139,937	139,937	139,937	139,937	139,937	139,937	139,937	223,937	223,937	223,937	223,937	223,937	223,937	223,937	223,937	223,937		
Jun-85	0	0	0	0	0	0	0	0	0	0	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000			
Jun-86	0	0	0	0	0	0	23,000	38,000	48,995	58,995	58,995	58,995	58,995	96,495	96,495	96,495	96,495	96,495	96,495	96,495	96,495	96,495	96,495	96,495	96,495	96,495	96,495	96,495				
Jun-87	0	0	8,323	8,323	8,323	51,323	60,323	65,323	65,323	95,323	133,747	159,418	271,918	307,918	307,918	307,918	307,918	307,918	307,918	307,918	307,918	307,918	307,918	307,918	307,918	307,918	307,918					
Jun-88	0	0	0	0	10,482	16,982	37,982	83,982	112,982	112,982	157,982	190,482	190,482	190,482	230,482	230,482	230,482	230,482	230,482	230,482	230,482	230,482	230,482	288,482	346,482	404,482						
Jun-89	0	0	16,000	92,750	120,250	120,250	195,250	210,250	210,250	210,250	353,250	353,250	378,250	378,250	378,250	378,250	378,250	378,250	378,250	378,250	378,250	378,250	378,250	378,250	378,250							
Jun-90	0	0	47,500	97,500	100,500	173,000	224,250	274,750	351,950	403,250	403,250	413,250	413,250	413,250	413,250	413,250	413,250	413,250	413,250	413,250	413,250	413,250	413,250	413,250								
Jun-91	0	6,300	34,300	34,300	122,676	135,676	165,676	207,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176									
Jun-92	0	0	80,001	123,501	202,751	237,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751										
Jun-93	0	28,000	28,001	50,501	103,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251											
Jun-94	0	68,500	187,000	226,375	319,252	398,752	398,752	398,752	411,252	411,252	411,252	411,252	411,252	411,252	411,252	411,252	411,252	411,252	411,252	411,252												
Jun-95	0	158,500	188,000	223,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000													
Jun-96	0	25,000	187,356	210,026	210,026	210,026	210,026	210,026	238,026	238,026	238,026	238,026	238,026	238,026	238,026	238,026	238,026	238,026														
Jun-97	15,000	128,800	238,800	238,800	308,800	308,800	308,800	308,800	308,800	308,800	308,800	308,800	308,800	308,800	308,800	308,800	308,800															
Jun-98	1,500	64,000	79,000	79,000	100,500	100,500	100,500	100,500	100,500	100,500	100,500	100,500	100,500	100,500	100,500	100,500																
Jun-99	0	33,750	158,750	318,750	341,750	341,750	341,750	341,750	341,750	341,750	341,750	341,750	341,750	341,750	341,750																	
Jun-00	5,000	77,513	124,667	143,417	143,417	143,417	168,417	198,417	198,417	198,417	198,417	198,417	198,417	198,417																		
Jun-01	0	71,047	151,047	211,047	211,047	261,047	261,047	306,047	306,047	306,047	306,047	306,047	306,047																			
Jun-02	0	9,000	47,999	77,999	95,499	95,499	95,499	95,499	95,499	95,499	95,499	95,499																				
Jun-03	0	16,416	71,416	71,416	71,416	71,416	101,416	101,416	101,416	101,416	101,416																					
Jun-04	0	65,000	95,000	220,000	275,000	327,000	327,000	327,000	327,000	327,000																						
Jun-05	0	0	67,000	67,000	67,000	67,000	67,000	67,000	67,000																							
Jun-06	0	15,000	33,000	210,500	250,500	280,500	280,500	280,500																								
Jun-07	0	70,000	115,000	130,000	130,000	130,000	130,000																									
Jun-08	0	170,000	320,000	485,000	485,000	560,000																										
Jun-09	0	0	0	133,501	133,501																											
Jun-10	0	36,000	129,000	129,000																												
Jun-11	0	50,000	50,000																													
Jun-12	0	95,000																														
Jun-13	0																															

Commonwealth of Massachusetts Workers Compensation
University of Massachusetts (Medical Center) - Cluster 4
INDEMNITY
Lump Sum Development
Incremental Lump Sums as a % of Ultimate Losses Excluding Lump Sums

Acc Yr Ending	*0-12*	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*372-384*
All Prior Yrs	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun-83	0.000	0.000	0.000	0.000	0.000	0.073	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-84	0.000	0.000	0.000	0.000	0.021	0.000	0.000	0.030	0.020	0.000	0.029	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Jun-85	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
Jun-86	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.006	0.005	0.004	0.000	0.000	0.000	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Jun-87	0.000	0.000	0.002	0.000	0.000	0.012	0.002	0.001	0.000	0.008	0.010	0.007	0.031	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
Jun-88	0.000	0.000	0.000	0.000	0.004	0.002	0.007	0.016	0.010	0.000	0.016	0.011	0.000	0.000	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.020	0.020						
Jun-89	0.000	0.000	0.007	0.034	0.012	0.000	0.033	0.007	0.000	0.000	0.063	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000							
Jun-90	0.000	0.000	0.017	0.017	0.001	0.025	0.018	0.018	0.027	0.018	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000								
Jun-91	0.000	0.007	0.031	0.000	0.098	0.014	0.033	0.046	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000									
Jun-92	0.000	0.000	0.067	0.036	0.066	0.029	0.098	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000										
Jun-93	0.000	0.055	0.000	0.044	0.103	0.078	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000											
Jun-94	0.000	0.047	0.081	0.027	0.063	0.054	0.000	0.000	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000												
Jun-95	0.000	0.550	0.102	0.121	0.087	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000													
Jun-96	0.000	0.093	0.601	0.084	0.000	0.000	0.000	0.000	0.104	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000														
Jun-97	0.124	0.939	0.907	0.000	0.577	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000															
Jun-98	0.003	0.131	0.031	0.000	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																
Jun-99	0.000	0.108	0.401	0.513	0.074	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																	
Jun-00	0.009	0.137	0.089	0.035	0.000	0.000	0.047	0.057	0.000	0.000	0.000	0.000	0.000	0.000																		
Jun-01	0.000	0.152	0.171	0.128	0.000	0.107	0.000	0.096	0.000	0.000	0.000	0.000	0.000																			
Jun-02	0.000	0.034	0.146	0.112	0.066	0.000	0.000	0.000	0.000	0.000	0.000	0.000																				
Jun-03	0.000	0.019	0.065	0.000	0.000	0.000	0.036	0.000	0.000	0.000	0.000																					
Jun-04	0.000	0.092	0.042	0.176	0.078	0.073	0.000	0.000	0.000	0.000																						
Jun-05	0.000	0.000	0.439	0.000	0.000	0.000	0.000	0.000	0.000																							
Jun-06	0.000	0.025	0.030	0.299	0.067	0.051	0.000	0.000																								
Jun-07	0.000	0.243	0.156	0.052	0.000	0.000	0.000																									
Jun-08	0.000	0.198	0.175	0.192	0.000	0.087																										
Jun-09	0.000	0.000	0.000	0.327	0.000																											
Jun-10	0.000	0.071	0.183	0.000																												
Jun-11	0.000	0.073	0.000																													
Jun-12	0.000	0.152																														
Jun-13	0.000																															

Averages		*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*372-384*
Simple Avg																																
All Yrs (ex P)	0.004	0.104	0.129	0.079	0.050	0.023	0.011	0.012	0.008	0.001	0.006	0.002	0.002	0.004	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.007	0.000	0.003	0.003	0.003	0.000	0.000	0.000	0.000	0.000	
Latest 5	0.000	0.099	0.103	0.174	0.013	0.042	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.004	0.004	0.000					
Latest 3	0.000	0.098	0.061	0.173	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.007	0.007	0.000	0.000	0.000			
Olympic Avg																																
All Yrs (ex P)	0.000	0.078	0.105	0.065	0.031	0.021	0.008	0.008	0.004	0.001	0.003	0.001	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
Latest 10	0.000	0.079	0.100	0.120	0.017	0.026	0.004	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000										
Latest 5	0.000	0.098	0.110	0.181	0.000	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					

Dev Factor Selection																																
Prior	*NA*	*0.079*	*0.115*	*0.120*	*0.052*	*0.023*	*0.010*	*0.016*	*0.002*	*0.001*	*0.002*	*0.001*	*0.001*	*0.001*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	
Selected	NA	0.091	0.116	0.120	0.050	0.033	0.009	0.006	0.002	0.001	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FacToUlt	NA	0.433	0.341	0.225	0.105	0.055	0.022	0.013	0.007	0.005	0.004	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Commonwealth of Massachusetts Workers Compensation
University of Massachusetts (Medical Center) - Cluster 4
INDEMNITY
Paid Loss Development
Paid Loss - Lump Sum only

Acc Yr Ending	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384
All Prior Yrs	0	0	0	0	0	0	0	0	0	0	0	0	0	26,500	26,500	26,500	26,500	26,500	26,500	26,500	26,500	86,500	86,500	86,500	86,500	86,500	86,500	86,500	86,500	86,500	86,500	86,500
Jun-83	0	0	0	0	0	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	
Jun-84	0	0	0	0	25,750	25,750	25,750	62,437	87,437	87,437	122,937	139,937	139,937	139,937	139,937	139,937	139,937	139,937	139,937	139,937	139,937	223,937	223,937	223,937	223,937	223,937	223,937	223,937	223,937	223,937		
Jun-85	0	0	0	0	0	0	0	0	0	0	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000			
Jun-86	0	0	0	0	0	0	23,000	38,000	48,995	58,995	58,995	58,995	58,995	96,495	96,495	96,495	96,495	96,495	96,495	96,495	96,495	96,495	96,495	96,495	96,495	96,495	96,495	96,495				
Jun-87	0	0	8,323	8,323	8,323	51,323	60,323	65,323	65,323	95,323	133,747	159,418	271,918	307,918	307,918	307,918	307,918	307,918	307,918	307,918	307,918	307,918	307,918	307,918	307,918	307,918	307,918					
Jun-88	0	0	0	0	10,482	16,982	37,982	83,982	112,982	112,982	157,982	190,482	190,482	190,482	230,482	230,482	230,482	230,482	230,482	230,482	230,482	230,482	230,482	230,482	346,482	404,482						
Jun-89	0	0	16,000	92,750	120,250	120,250	195,250	210,250	210,250	210,250	353,250	353,250	378,250	378,250	378,250	378,250	378,250	378,250	378,250	378,250	378,250	378,250	378,250	378,250	378,250							
Jun-90	0	0	47,500	97,500	100,500	173,000	224,250	274,750	351,950	403,250	403,250	413,250	413,250	413,250	413,250	413,250	413,250	413,250	413,250	413,250	413,250	413,250	413,250	413,250								
Jun-91	0	6,300	34,300	34,300	122,676	135,676	165,676	207,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176	214,176									
Jun-92	0	0	80,001	123,501	202,751	237,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751	354,751										
Jun-93	0	28,000	28,001	50,501	103,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251	143,251											
Jun-94	0	68,500	187,000	226,375	319,252	398,752	398,752	398,752	411,252	411,252	411,252	411,252	411,252	411,252	411,252	411,252	411,252	411,252	411,252	411,252												
Jun-95	0	158,500	188,000	223,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000													
Jun-96	0	25,000	187,356	210,026	210,026	210,026	210,026	210,026	238,026	238,026	238,026	238,026	238,026	238,026	238,026	238,026	238,026	238,026														
Jun-97	15,000	128,800	238,800	238,800	308,800	308,800	308,800	308,800	308,800	308,800	308,800	308,800	308,800	308,800	308,800	308,800	308,800															
Jun-98	1,500	64,000	79,000	79,000	100,500	100,500	100,500	100,500	100,500	100,500	100,500	100,500	100,500	100,500	100,500	100,500																
Jun-99	0	33,750	158,750	318,750	341,750	341,750	341,750	341,750	341,750	341,750	341,750	341,750	341,750	341,750	341,750																	
Jun-00	5,000	77,513	124,667	143,417	143,417	143,417	168,417	198,417	198,417	198,417	198,417	198,417	198,417	198,417																		
Jun-01	0	71,047	151,047	211,047	211,047	261,047	261,047	306,047	306,047	306,047	306,047	306,047	306,047																			
Jun-02	0	9,000	47,999	77,999	95,499	95,499	95,499	95,499	95,499	95,499	95,499	95,499																				
Jun-03	0	16,416	71,416	71,416	71,416	71,416	101,416	101,416	101,416	101,416	101,416																					
Jun-04	0	65,000	95,000	220,000	275,000	327,000	327,000	327,000	327,000	327,000																						
Jun-05	0	0	67,000	67,000	67,000	67,000	67,000	67,000	67,000																							
Jun-06	0	15,000	33,000	210,500	250,500	280,500	280,500	280,500																								
Jun-07	0	70,000	115,000	130,000	130,000	130,000	130,000																									
Jun-08	0	170,000	320,000	485,000	485,000	560,000																										
Jun-09	0	0	0	133,501	133,501																											
Jun-10	0	36,000	129,000	129,000																												
Jun-11	0	50,000	50,000																													
Jun-12	0	95,000																														
Jun-13	0																															

Age-to-Age Factors

Acc Yr Ending	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	To Ult
All Prior Yrs														1.000	1.000	1.000	1.000	1.000	1.000	1.000	3.264	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-83						1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.750	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
Jun-84					1.000	1.000	2.425	1.400	1.000	1.406	1.138	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.600	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
Jun-85											1.000	1.000	1.000	1.000	1.000	1.000	1.000	3.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
Jun-86							1.652	1.289	1.204	1.000	1.000	1.000	1.636	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
Jun-87			1.000	1.000	6.166	1.175	1.083	1.000	1.459	1.403	1.192	1.706	1.132	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
Jun-88					1.620	2.237	2.211	1.345	1.000	1.398	1.206	1.000	1.000	1.210	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.252	1.201	1.167					
Jun-89			5.797	1.296	1.000	1.624	1.077	1.000	1.000	1.680	1.000	1.071	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
Jun-90			2.053	1.031	1.721	1.296	1.225	1.281	1.146	1.000	1.025	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
Jun-91		5.444	1.000	3.577	1.106	1.221	1.250	1.034	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
Jun-92			1.544	1.642	1.173	1.492	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
Jun-93		1.000	1.804	2.045	1.387	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
Jun-94		2.730	1.211	1.410	1.249	1.000	1.000	1.031	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
Jun-95		1.186	1.186	1.112	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-96		7.494	1.121	1.000	1.000	1.000	1.000	1.133	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-97	8.587	1.854	1.000	1.293	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-98	42.667	1.234	1.000	1.272	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-99		4.704	2.008	1.072	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-00	15.503	1.608	1.150	1.000	1.000	1.174	1.178	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-01		2.126	1.397	1.000	1.237	1.000	1.172	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-02		5.333	1.625	1.224	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-03		4.350	1.000	1.000	1.000	1.420	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-04		1.462	2.316	1.250	1.189	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-05			1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-06		2.200	6.379	1.190	1.120	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-07		1.643	1.130	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-08		1.882	1.516	1.000	1.155																											
Jun-09				1.000																												
Jun-10		3.583	1.000																													
Jun-11		1.000																														
Jun-12																																

Averages	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	To Ult
Simple Avg																																
All Yrs (ex P)	22.252	2.824	1.783	1.292	1.353	1.158	1.186	1.069	1.039	1.094	1.028	1.041	1.084	1.012	1.000	1.000	1.000	1.154	1.000	1.000	1.060	1.000	1.031	1.029	1.028	1.000	1.000	1.000	1.000	1.000		
Latest 5		2.027	2.506	1.038	1.093	1.084	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.050	1.040	1.033	1.000						
Latest 3		2.292	1.258	1.000	1.091	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.084	1.067	1.056	1.000	1.000	1.000				
Volume Wtd																																
All Yrs (ex P)	55.248	2.248	1.488	1.183	1.131	1.098	1.068	1.046	1.021	1.066	1.020	1.033	1.022	1.010	1.000	1.000	1.000	1.003	1.000	1.000	1.038	1.000	1.034	1.043	1.057	1.000	1.000	1.000	1.000			
Latest 5		1.883	1.822	1.039	1.130	1.034	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.041	1.053	1.059	1.000						
Latest 3		2.081	1.665	1.000	1.121	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.057	1.060	1.077	1.000	1.000	1.000				

Dev Factor Selection																																
Prior	1.000	2.414	1.378	1.085	1.103	1.043	1.034	1.023	1.012	1.010	1.010	1.010	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Selected	1.000	2.414	1.378	1.126	1.130	1.043	1.000	1.023	1.011	1.010	1.010	1.010	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
FacToUlt	4.745	4.745	1.966	1.427	1.268	1.122	1.076	1.076	1.052	1.041	1.030	1.020	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Percent of Ult	21.1%	21.1%	50.9%	70.1%	78.9%	89.1%	93.0%	93.0%	95.1%	96.1%	97.1%	98.0%	99.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

University of Massachusetts (Medical Center) - Cluster 4

Indemnity

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At: 4%	6%
384	100.0%	0.5%	0.0%	0.1%	0.1%	1.000	1.000
372	99.5%	0.0%	0.5%	0.0%	0.0%	0.981	0.971
360	99.5%	0.0%	0.5%	0.0%	0.0%	0.943	0.916
348	99.5%	0.0%	0.5%	0.0%	0.0%	0.907	0.864
336	99.5%	0.0%	0.5%	0.0%	0.0%	0.872	0.816
324	99.5%	0.0%	0.5%	0.0%	0.0%	0.838	0.769
312	99.5%	0.0%	0.5%	0.0%	0.0%	0.806	0.726
300	99.5%	0.5%	0.5%	0.2%	0.1%	0.775	0.685
288	99.0%	0.7%	1.0%	0.3%	0.2%	0.866	0.813
276	98.3%	0.8%	1.7%	0.3%	0.2%	0.894	0.852
264	97.6%	0.9%	2.4%	0.4%	0.2%	0.899	0.858
252	96.7%	1.0%	3.3%	0.4%	0.3%	0.894	0.851
240	95.8%	0.9%	4.2%	0.4%	0.3%	0.887	0.841
228	94.8%	0.9%	5.2%	0.4%	0.3%	0.876	0.826
216	93.9%	0.3%	6.1%	0.1%	0.1%	0.862	0.807
204	93.7%	0.3%	6.3%	0.2%	0.1%	0.836	0.770
192	93.4%	0.5%	6.6%	0.2%	0.2%	0.812	0.737
180	92.9%	0.6%	7.1%	0.3%	0.3%	0.793	0.713
168	92.3%	0.0%	7.7%	0.0%	0.0%	0.780	0.696
156	92.3%	0.2%	7.7%	0.1%	0.1%	0.750	0.657
144	92.2%	0.6%	7.8%	0.4%	0.3%	0.726	0.627
132	91.5%	1.8%	8.5%	1.2%	1.0%	0.719	0.619
120	89.7%	1.8%	10.3%	1.3%	1.1%	0.743	0.653
108	87.9%	3.9%	12.1%	2.8%	2.4%	0.755	0.670
96	84.0%	1.1%	16.0%	0.8%	0.7%	0.788	0.715
84	82.9%	2.3%	17.1%	1.8%	1.6%	0.771	0.693
72	80.6%	-1.9%	19.4%	-1.5%	-1.4%	0.770	0.692
60	82.5%	9.0%	17.5%	7.5%	6.9%	0.715	0.618
48	73.5%	8.1%	26.5%	7.1%	6.6%	0.787	0.715
36	65.4%	14.8%	34.6%	13.4%	12.8%	0.809	0.744
24	50.6%	24.8%	49.4%	23.4%	22.7%	0.838	0.782
12	25.9%	25.9%	74.1%	25.4%	25.1%	0.864	0.816
Total		100.0%					

NOTES:

(2) = 1 / Section 6, Exhibit 1, Page 2, Column 4

(3) Incremental % based on (2)

(4) = 1 - (2)

(5) = [(3) / 1.04] ^ {[(1) - 6] / 12}

(6) = [(3) / 1.06] ^ {[(1) - 6] / 12}

(7), (8) Discount factor based on (5), (6)

University of Massachusetts (Medical Center) - Cluster 4
Indemnity

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	0	0		0	0
6/30/82-83	0	7,659	0.981	0	7,510
6/30/83-84	28,877	57,754	0.943	27,227	54,454
6/30/84-85	17,055	34,110	0.907	15,462	30,924
6/30/85-86	11,059	14,059	0.872	9,641	12,256
6/30/86-87	14,318	320,629	0.838	12,001	268,753
6/30/87-88	12,123	143,733	0.806	9,771	115,843
6/30/88-89	52,473	131,182	0.775	40,665	101,662
6/30/89-90	64,872	162,179	0.866	56,192	140,480
6/30/90-91	22,036	55,091	0.894	19,711	49,276
6/30/91-92	30,366	75,915	0.899	27,291	68,228
6/30/92-93	12,763	31,908	0.894	11,415	28,538
6/30/93-94	59,985	61,985	0.887	53,218	54,993
6/30/94-95	14,873	14,873	0.876	13,034	13,034
6/30/95-96	9,834	19,669	0.862	8,481	16,963
6/30/96-97	8,448	16,896	0.836	7,059	14,118
6/30/97-98	10,915	21,829	0.812	8,858	17,716
6/30/98-99	22,399	22,399	0.793	17,767	17,767
6/30/99-00	39,417	40,417	0.780	30,730	31,510
6/30/00-01	37,027	38,027	0.750	27,757	28,506
6/30/01-02	22,291	23,291	0.726	16,186	16,912
6/30/02-03	70,152	73,152	0.719	50,426	52,582
6/30/03-04	78,029	81,029	0.743	57,975	60,204
6/30/04-05	20,898	56,898	0.755	15,768	42,930
6/30/05-06	102,177	108,177	0.788	80,482	85,208
6/30/06-07	56,302	107,302	0.771	43,433	82,776
6/30/07-08	169,828	210,828	0.770	130,819	162,402
6/30/08-09	100,468	148,468	0.715	71,803	106,107
6/30/09-10	188,640	247,640	0.787	148,379	194,787
6/30/10-11	338,405	363,405	0.809	273,703	293,923
6/30/11-12	594,634	651,634	0.838	498,499	546,283
6/30/12-13	725,334	832,334	0.864	626,975	719,465
Total	2,935,999	4,174,473		2,410,727	3,436,111
			(7) Total Discount Factor:	0.821	0.823

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	0	0
(9) Projected Number of Years:	1	1
(10) Projected Paid Loss per Year:	0	0
(11) Discounted Value at 4%:	0	0

NOTES:
(2), (3) From Section 6, Exhibit 1, Page 1, Columns 8, 9
(4) From Section 6, Exhibit 1, Page 13, Column 7
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

University of Massachusetts (Medical Center) - Cluster 4
Indemnity

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	0	0		0	0
6/30/82-83	0	7,659	0.971	0	7,439
6/30/83-84	28,877	57,754	0.916	26,460	52,920
6/30/84-85	17,055	34,110	0.864	14,743	29,486
6/30/85-86	11,059	14,059	0.816	9,019	11,466
6/30/86-87	14,318	320,629	0.769	11,015	246,676
6/30/87-88	12,123	143,733	0.726	8,799	104,321
6/30/88-89	52,473	131,182	0.685	35,929	89,823
6/30/89-90	64,872	162,179	0.813	52,755	131,889
6/30/90-91	22,036	55,091	0.852	18,781	46,953
6/30/91-92	30,366	75,915	0.858	26,045	65,113
6/30/92-93	12,763	31,908	0.851	10,864	27,161
6/30/93-94	59,985	61,985	0.841	50,448	52,130
6/30/94-95	14,873	14,873	0.826	12,284	12,284
6/30/95-96	9,834	19,669	0.807	7,933	15,867
6/30/96-97	8,448	16,896	0.770	6,503	13,007
6/30/97-98	10,915	21,829	0.737	8,049	16,098
6/30/98-99	22,399	22,399	0.713	15,980	15,980
6/30/99-00	39,417	40,417	0.696	27,442	28,139
6/30/00-01	37,027	38,027	0.657	24,319	24,976
6/30/01-02	22,291	23,291	0.627	13,972	14,599
6/30/02-03	70,152	73,152	0.619	43,429	45,287
6/30/03-04	78,029	81,029	0.653	50,984	52,944
6/30/04-05	20,898	56,898	0.670	13,999	38,114
6/30/05-06	102,177	108,177	0.715	73,021	77,309
6/30/06-07	56,302	107,302	0.693	39,013	74,351
6/30/07-08	169,828	210,828	0.692	117,462	145,820
6/30/08-09	100,468	148,468	0.618	62,085	91,747
6/30/09-10	188,640	247,640	0.715	134,786	176,942
6/30/10-11	338,405	363,405	0.744	251,646	270,237
6/30/11-12	594,634	651,634	0.782	465,093	509,675
6/30/12-13	725,334	832,334	0.816	591,781	679,079
Total	2,935,999	4,174,473		2,224,641	3,167,830
			(7) Total Discount Factor:	0.758	0.759

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	0	0
(9) Projected Number of Years:	1	1
(10) Projected Paid Loss per Year:	0	0
(11) Discounted Value at 6%:	0	0

NOTES:
(2), (3) From Section 6, Exhibit 1, Page 1, Columns 8, 9
(4) From Section 6, Exhibit 1, Page 13, Column 8
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Medical Center) - Cluster 4
Total Indemnity (Including Lump Sums) + Medical

Calculation of Fiscal Year 7/1/13 - 14 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Cumulative	Incremental Paid		Estimated Payments from		FY 7/1/13 - 6/30/14	
Accident	Est Ult Losses	Est Ult Losses	Paid Losses	Reserves	Reserves	Percent	as a % of	as a % of	7/1/13 - 6/30/14		as a % of Reserves	
Year	(Low)	(High)	to Date	(Low)	(High)	Paid	Ultimates	Reserves	(Low)	(High)	(Low)	(High)
All Prior Yrs	1,455,812	1,455,812	1,455,812	0	0				0	0		
6/30/82-83	327,672	335,649	327,566	106	8,083	98.8%	0.5%	40.5%	43	3,274	40.5%	40.5%
6/30/83-84	1,523,932	1,553,573	1,494,800	29,132	58,773	97.1%	0.5%	17.5%	5,099	10,288	17.5%	17.5%
6/30/84-85	1,033,339	1,052,834	1,015,470	17,869	37,364	97.4%	0.5%	18.9%	3,375	7,056	18.9%	18.9%
6/30/85-86	2,745,432	2,751,662	2,733,296	12,136	18,367	99.4%	0.5%	90.1%	10,936	16,550	90.1%	90.1%
6/30/86-87	3,771,000	4,077,312	3,755,039	15,961	322,273	95.7%	1.0%	23.2%	3,704	74,779	23.2%	23.2%
6/30/87-88	3,387,000	3,518,609	3,373,806	13,194	144,804	97.7%	1.0%	43.7%	5,767	63,289	43.7%	43.7%
6/30/88-89	3,167,349	3,268,054	3,112,432	54,917	155,622	96.7%	1.0%	30.6%	16,786	47,568	30.6%	30.6%
6/30/89-90	3,865,186	3,987,422	3,797,545	67,641	189,877	96.7%	1.0%	30.5%	20,626	57,900	30.5%	30.5%
6/30/90-91	1,427,065	1,473,696	1,403,520	23,545	70,176	96.8%	1.0%	31.0%	7,287	21,720	31.0%	31.0%
6/30/91-92	2,221,204	2,296,867	2,187,492	33,712	109,375	96.8%	1.0%	31.6%	10,645	34,536	31.6%	31.6%
6/30/92-93	1,048,102	1,085,031	1,033,363	14,739	51,668	96.9%	1.0%	32.1%	4,735	16,597	32.1%	32.1%
6/30/93-94	2,574,000	2,576,000	2,509,844	64,156	66,156	97.5%	1.0%	39.5%	25,355	26,145	39.5%	39.5%
6/30/94-95	956,000	956,000	938,111	17,889	17,889	98.1%	1.0%	53.4%	9,560	9,560	53.4%	53.4%
6/30/95-96	886,424	913,492	874,675	11,749	38,817	97.2%	1.0%	35.6%	4,182	13,817	35.6%	35.6%
6/30/96-97	628,838	647,186	618,509	10,329	28,677	96.9%	1.0%	32.7%	3,379	9,381	32.7%	32.7%
6/30/97-98	1,023,642	1,057,906	1,008,167	15,475	49,739	96.9%	1.0%	31.9%	4,939	15,876	31.9%	31.9%
6/30/98-99	967,000	967,000	940,376	26,624	26,624	97.2%	1.0%	36.3%	9,670	9,670	36.3%	36.3%
6/30/99-00	915,000	916,000	872,750	42,250	43,250	95.3%	2.0%	42.8%	18,096	18,524	42.8%	42.8%
6/30/00-01	983,000	984,000	942,307	40,693	41,693	95.8%	2.0%	47.8%	19,431	19,909	47.8%	47.8%
6/30/01-02	580,000	581,000	551,065	28,935	29,935	94.9%	2.0%	39.4%	11,413	11,807	39.4%	39.4%
6/30/02-03	1,151,000	1,154,000	1,073,497	77,503	80,503	93.1%	2.0%	29.2%	22,612	23,488	29.2%	29.2%
6/30/03-04	1,349,000	1,367,400	1,259,376	89,624	108,024	92.7%	2.0%	27.5%	24,635	29,693	27.5%	27.5%
6/30/04-05	399,000	451,200	366,427	32,573	84,773	86.2%	2.0%	14.5%	4,720	12,284	14.5%	14.5%
6/30/05-06	1,257,000	1,283,900	1,117,488	139,512	166,412	88.0%	2.0%	16.6%	23,175	27,643	16.6%	16.6%
6/30/06-07	695,000	772,100	605,124	89,876	166,976	82.5%	2.0%	11.4%	10,267	19,075	11.4%	11.4%
6/30/07-08	1,981,000	2,076,200	1,755,631	225,369	320,569	86.5%	2.0%	14.9%	33,497	47,647	14.9%	14.9%
6/30/08-09	944,000	1,019,050	782,309	161,691	236,741	79.7%	6.8%	33.7%	54,495	79,789	33.7%	33.7%
6/30/09-10	1,026,000	1,126,950	774,542	251,458	352,408	72.0%	7.8%	27.6%	69,495	97,395	27.6%	27.6%
6/30/10-11	1,248,000	1,310,400	815,434	432,566	494,966	63.7%	8.2%	22.6%	97,910	112,034	22.6%	22.6%
6/30/11-12	1,346,000	1,466,150	633,738	712,262	832,412	45.1%	18.7%	34.0%	242,149	282,997	34.0%	34.0%
6/30/12-13	1,256,000	1,454,000	287,109	968,891	1,166,891	21.2%	23.9%	30.3%	293,608	353,609	30.3%	30.3%
Total	48,138,996	49,936,454	44,416,618	3,722,378	5,519,836				1,071,591	1,573,900	28.8%	28.5%

NOTES:

(2) Exhibit 1, Page 1, Column (4) + Exhibit 2, Page 1, Column (4)
(3) Exhibit 1, Page 1, Column (5) + Exhibit 2, Page 1, Column (5)
(4) Exhibit 1, Page 1, Column (2) + Exhibit 2, Page 1, Column (2)
(5) = (2) - (4)
(6) = (3) - (4)
(7) = (4) / Average of Columns (2), (3)
(8) = (7) - Prior Year's (7)
(9) = (8) / (1.00 - (7))
(10) = (5) * (9)
(11) = (6) * (9)
(12) = (10) / (5)
(13) = (11) / (6)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Medical Center) - Cluster 4
Medical

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Paid Loss	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		126,400			126,400	126,400	0	0		
6/30/82-83		21,226	21,288		21,332	21,651	106	425		
6/30/83-84		50,961	51,110		51,216	51,980	255	1,019		
6/30/84-85	116,303	162,725	163,202	163,387	163,539	165,980	814	3,255	0.141	0.143
6/30/85-86	123,981	215,355	215,986	216,220	216,432	219,662	1,077	4,307	0.175	0.177
6/30/86-87	139,388	397,356	398,520	398,915	399,000	399,000	1,644	1,644	0.286	0.286
6/30/87-88	159,499	347,929	348,948	349,238	349,000	349,000	1,071	1,071	0.219	0.219
6/30/88-89	180,644	488,786	490,217	490,627	491,230	513,225	2,444	24,439	0.272	0.284
6/30/89-90	142,494	553,962	555,584	556,313	556,732	581,660	2,770	27,698	0.391	0.408
6/30/90-91	143,694	301,697	302,580	302,575	303,205	316,782	1,508	15,085	0.211	0.220
6/30/91-92	155,170	669,188	671,819	671,776	672,534	702,647	3,346	33,459	0.433	0.453
6/30/92-93	163,283	395,196	397,146	397,108	397,172	414,956	1,976	19,760	0.243	0.254
6/30/93-94	177,184	694,829	698,956	698,827	699,000	699,000	4,172	4,172	0.395	0.395
6/30/94-95	188,391	416,984	419,880	419,793	420,000	420,000	3,016	3,016	0.223	0.223
6/30/95-96	201,751	382,952	385,998	385,901	384,867	402,100	1,915	19,148	0.191	0.199
6/30/96-97	231,872	196,119	197,781	197,792	198,000	207,900	1,881	11,781	0.085	0.090
6/30/97-98	232,237	462,440	466,708	466,526	467,000	490,350	4,560	27,910	0.201	0.211
6/30/98-99	232,075	308,775	312,602	312,500	313,000	313,000	4,225	4,225	0.135	0.135
6/30/99-00	211,819	185,166	187,649	187,669	188,000	188,000	2,834	2,834	0.089	0.089
6/30/00-01	215,099	204,334	207,563	207,571	208,000	208,000	3,666	3,666	0.097	0.097
6/30/01-02	227,797	209,356	216,364	216,406	216,000	216,000	6,644	6,644	0.095	0.095
6/30/02-03	242,008	200,649	207,779	207,934	208,000	208,000	7,351	7,351	0.086	0.086
6/30/03-04	276,758	296,405	308,473	308,437	308,000	323,400	11,595	26,995	0.111	0.117
6/30/04-05	260,378	165,325	176,907	184,140	177,000	193,200	11,675	27,875	0.068	0.074
6/30/05-06	317,741	338,665	377,981	375,633	376,000	396,900	37,335	58,235	0.118	0.125
6/30/06-07	325,922	236,426	269,819	281,995	270,000	296,100	33,574	59,674	0.083	0.091
6/30/07-08	354,130	503,458	584,254	559,338	559,000	613,200	55,542	109,742	0.158	0.173
6/30/08-09	362,309	311,776	373,346	381,002	373,000	400,050	61,224	88,274	0.103	0.110
6/30/09-10	383,298	272,182	335,257	358,806	335,000	376,950	62,818	104,768	0.087	0.098
6/30/10-11	394,924	317,839	412,204	427,527	412,000	449,400	94,161	131,561	0.104	0.114
6/30/11-12	381,943	221,373	338,665	383,466	339,000	402,150	117,627	180,777	0.089	0.105
6/30/12-13	384,763	127,443	370,734	439,940	371,000	462,000	243,557	334,557	0.096	0.120
Total	6,926,856	9,783,279	10,465,319	10,547,361	10,569,658	11,128,642	786,379	1,345,364		
Tot 6/30/84-13	6,926,856	9,584,692	10,392,921	10,547,361	10,370,710	10,928,612	786,018	1,343,920	0.150	0.158

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 6, Exhibit 2, Page 2, Column 3

(4) From Section 6, Exhibit 2, Page 2, Column 8

(5) From Section 6, Exhibit 2, Page 3, Column 8

(6), (7) Selected based on (3), (4), and (5)

(8) = (6) - (3)

(9) = (7) - (3)

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Medical Center) - Cluster 4
Medical

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Accident Year	Payroll (000's)	Paid Loss	Paid LDF	Adjustment for Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/11-12	Paid Counts 7/1/12-13	Average Outstanding Claim
All Prior Yrs		126,400							0	0	
6/30/82-83		21,226	1.003	1.000	21,288	N/A	21,288		0	0	
6/30/83-84		50,961	1.003	1.000	51,110	N/A	51,110		0	0	
6/30/84-85	116,303	162,725	1.003	1.000	163,202	N/A	163,202	0.140	0	0	
6/30/85-86	123,981	215,355	1.003	1.000	215,986	N/A	215,986	0.174	0	0	
6/30/86-87	139,388	397,356	1.003	1.000	398,520	N/A	398,520	0.286	0	0	
6/30/87-88	159,499	347,929	1.003	1.000	348,948	N/A	348,948	0.219	1	0	
6/30/88-89	180,644	488,786	1.003	1.000	490,217	N/A	490,217	0.271	0	0	
6/30/89-90	142,494	553,962	1.003	1.000	555,584	N/A	555,584	0.390	0	0	
6/30/90-91	143,694	301,697	1.003	1.000	302,580	N/A	302,580	0.211	0	0	
6/30/91-92	155,170	669,188	1.004	1.000	671,819	N/A	671,819	0.433	0	0	
6/30/92-93	163,283	395,196	1.005	1.000	397,146	N/A	397,146	0.243	0	0	
6/30/93-94	177,184	694,829	1.006	1.000	698,956	N/A	698,956	0.394	0	0	
6/30/94-95	188,391	416,984	1.007	1.000	419,880	N/A	419,880	0.223	1	1	2,896
6/30/95-96	201,751	382,952	1.008	1.000	385,998	N/A	385,998	0.191	0	0	
6/30/96-97	231,872	196,119	1.008	1.000	197,781	N/A	197,781	0.085	1	1	1,663
6/30/97-98	232,237	462,440	1.009	1.000	466,708	N/A	466,708	0.201	1	1	4,268
6/30/98-99	232,075	308,775	1.012	1.000	312,602	N/A	312,602	0.135	1	2	1,913
6/30/99-00	211,819	185,166	1.013	1.000	187,649	N/A	187,649	0.089	1	0	
6/30/00-01	215,099	204,334	1.016	1.000	207,563	N/A	207,563	0.096	1	2	1,614
6/30/01-02	227,797	209,356	1.033	1.000	216,364	N/A	216,364	0.095	1	1	7,007
6/30/02-03	242,008	200,649	1.036	1.000	207,779	N/A	207,779	0.086	1	1	7,130
6/30/03-04	276,758	296,405	1.041	1.000	308,473	N/A	308,473	0.111	1	1	12,068
6/30/04-05	260,378	165,325	1.070	1.000	176,907	N/A	176,907	0.068	2	1	11,582
6/30/05-06	317,741	338,665	1.116	1.000	377,981	N/A	377,981	0.119	3	3	13,105
6/30/06-07	325,922	236,426	1.141	1.000	269,819	N/A	269,819	0.083	0	0	
6/30/07-08	354,130	503,458	1.160	1.000	584,254	N/A	584,254	0.165	6	5	16,159
6/30/08-09	362,309	311,776	1.197	1.000	373,346	N/A	373,346	0.103	6	3	20,523
6/30/09-10	383,298	272,182	1.232	1.000	335,257	N/A	335,257	0.087	20	5	12,615
6/30/10-11	394,924	317,839	1.297	1.000	412,204	N/A	412,204	0.104	90	16	5,898
6/30/11-12	381,943	221,373	1.530	1.000	338,665	N/A	338,665	0.089	221	120	977
6/30/12-13	384,763	127,443	2.909	1.000	370,734	N/A	370,734	0.096		163	1,493
Total	6,926,856	9,783,279			10,465,319		10,465,319		358	326	

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3), (4) From Section 6, Exhibit 2, Page 7

(5) Based on information from the MA WCRIB 9/1/12 filing. Consideration for development beyond 252 months made in selection of LDF's.

(6) = (3) x (4) x (5)

(7) Lump Sum Payments are considered in the Indemnity analysis (Section 1)

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10), (11) Provided by Commonwealth of Massachusetts

(12) = Maximum of [{(6) - (3)} / (11)] and 0

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Medical Center) - Cluster 4
Medical

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident Year	Payroll (000's)	A Priori Loss Rate	Paid Loss	Paid LDF	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Ultimate Loss Cost Excluding Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	116,303	0.195	162,725	1.003	163,387	N/A	163,387	0.140	0.140
6/30/85-86	123,981	0.239	215,355	1.003	216,220	N/A	216,220	0.174	0.174
6/30/86-87	139,388	0.383	397,356	1.003	398,915	N/A	398,915	0.286	0.286
6/30/87-88	159,499	0.281	347,929	1.003	349,238	N/A	349,238	0.219	0.219
6/30/88-89	180,644	0.349	488,786	1.003	490,627	N/A	490,627	0.272	0.272
6/30/89-90	142,494	0.565	553,962	1.003	556,313	N/A	556,313	0.390	0.390
6/30/90-91	143,694	0.209	301,697	1.003	302,575	N/A	302,575	0.211	0.211
6/30/91-92	155,170	0.426	669,188	1.004	671,776	N/A	671,776	0.433	0.433
6/30/92-93	163,283	0.238	395,196	1.005	397,108	N/A	397,108	0.243	0.243
6/30/93-94	177,184	0.382	694,829	1.006	698,827	N/A	698,827	0.394	0.394
6/30/94-95	188,391	0.216	416,984	1.007	419,793	N/A	419,793	0.223	0.223
6/30/95-96	201,751	0.185	382,952	1.008	385,901	N/A	385,901	0.191	0.191
6/30/96-97	231,872	0.086	196,119	1.008	197,792	N/A	197,792	0.085	0.085
6/30/97-98	232,237	0.192	462,440	1.009	466,526	N/A	466,526	0.201	0.201
6/30/98-99	232,075	0.131	308,775	1.012	312,500	N/A	312,500	0.135	0.135
6/30/99-00	211,819	0.089	185,166	1.013	187,669	N/A	187,669	0.089	0.089
6/30/00-01	215,099	0.097	204,334	1.016	207,571	N/A	207,571	0.097	0.097
6/30/01-02	227,797	0.096	209,356	1.033	216,406	N/A	216,406	0.095	0.095
6/30/02-03	242,008	0.088	200,649	1.036	207,934	N/A	207,934	0.086	0.086
6/30/03-04	276,758	0.111	296,405	1.041	308,437	N/A	308,437	0.111	0.111
6/30/04-05	260,378	0.110	165,325	1.070	184,140	N/A	184,140	0.071	0.071
6/30/05-06	317,741	0.112	338,665	1.116	375,633	N/A	375,633	0.118	0.118
6/30/06-07	325,922	0.113	236,426	1.141	281,995	N/A	281,995	0.087	0.087
6/30/07-08	354,130	0.114	503,458	1.160	559,338	N/A	559,338	0.158	0.158
6/30/08-09	362,309	0.116	311,776	1.197	381,002	N/A	381,002	0.105	0.105
6/30/09-10	383,298	0.120	272,182	1.232	358,806	N/A	358,806	0.094	0.094
6/30/10-11	394,924	0.121	317,839	1.297	427,527	N/A	427,527	0.108	0.108
6/30/11-12	381,943	0.123	221,373	1.530	383,466	N/A	383,466	0.100	0.100
6/30/12-13	384,763	0.124	127,443	2.909	439,940	N/A	439,940	0.114	0.114
Total	6,926,856		9,584,692		10,547,361		10,547,361		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 6, Exhibit 2, Page 4, Column 11

(4) From Section 6, Exhibit 2, Page 2, Column 3

(5) From Section 6, Exhibit 2, Page 2, Column 4

(6) = (4) + [{1 - {1 / (5)}} x (3) x (2) x 10]

(7) Lump Sum Payments are considered in the Indemnity analysis (Section 1)

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10) = (6) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Medical Center) - Cluster 4
Medical

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Expected Ult Loss	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									0.195	0.195
6/30/85-86									0.239	0.239
6/30/86-87									0.383	0.383
6/30/87-88									0.281	0.281
6/30/88-89									0.349	0.349
6/30/89-90									0.565	0.565
6/30/90-91	143,694	302,580	0.211	1.194	0.251	1.257	0.316	0.083	0.210	0.209
6/30/91-92	155,170	671,819	0.433	1.189	0.515	1.245	0.641	0.084	0.427	0.426
6/30/92-93	163,283	397,146	0.243	1.189	0.289	1.232	0.356	0.085	0.239	0.238
6/30/93-94	177,184	698,956	0.394	1.178	0.465	1.220	0.567	0.087	0.383	0.382
6/30/94-95	188,391	419,880	0.223	1.170	0.261	1.208	0.315	0.088	0.216	0.216
6/30/95-96	201,751	385,998	0.191	1.155	0.221	1.196	0.264	0.090	0.186	0.185
6/30/96-97	231,872	197,781	0.085	1.137	0.097	1.184	0.115	0.093	0.086	0.086
6/30/97-98	232,237	466,708	0.201	1.135	0.228	1.173	0.267	0.094	0.191	0.192
6/30/98-99	232,075	312,602	0.135	1.135	0.153	1.161	0.177	0.095	0.130	0.131
6/30/99-00	211,819	187,649	0.089	1.135	0.101	1.149	0.116	0.096	0.090	0.089
6/30/00-01	215,099	207,563	0.096	1.109	0.107	1.138	0.122	0.099	0.098	0.097
6/30/01-02	227,797	216,364	0.095	1.101	0.105	1.127	0.118	0.101	0.093	0.096
6/30/02-03	242,008	207,779	0.086	1.073	0.092	1.116	0.103	0.104	0.087	0.088
6/30/03-04	276,758	308,473	0.111	1.046	0.117	1.105	0.129	0.108	0.114	0.111
6/30/04-05	260,378	176,907	0.068	1.036	0.070	1.094	0.077	0.110	0.111	0.110
6/30/05-06	317,741	377,981	0.119	1.032	0.123	1.083	0.133	0.112	0.113	0.112
6/30/06-07	325,922	269,819	0.083	1.032	0.085	1.072	0.092	0.113	0.114	0.113
6/30/07-08	354,130	584,254	0.165	1.032	0.170	1.062	0.181	0.114	0.115	0.114
6/30/08-09	362,309	373,346	0.103	1.027	0.106	1.051	0.111	0.116	0.117	0.116
6/30/09-10	383,298	335,257	0.087	1.000	0.087	1.041	0.091	0.120	0.121	0.120
6/30/10-11	394,924	412,204	0.104	1.000	0.104	1.030	0.108	0.121	0.123	0.121
6/30/11-12	381,943	338,665	0.089	1.000	0.089	1.020	0.090	0.123	0.124	0.123
6/30/12-13	384,763	370,734	0.096	1.000	0.096	1.010	0.097	0.124		0.124
Total	6,064,547	8,220,464								

Trend Last 4 (ex 12-13):	-3.5%	Avg 3 (x12-13):	0.096
Trend Last 8 (ex 12-13):	0.5%	Avg 5 (x12-13):	0.116
Trend Last 12 (ex 12-13):	-0.2%	Avg 10 (x12-13):	0.111
Prior Selected Trend:	1.0%	Prior Sel Avg:	0.125
Selected Trend:	1.0%	Sel. Loss Cost:	0.125

NOTES:
(2) Provided by Commonwealth of Massachusetts
(3) From Section 6, Exhibit 2, Page 2, Column 6
(4) = (3) / (2) / 10
(5) Based on information from the MA WCIRB
(6) = (4) x (5)
(7) Based on Selected Trend from (6)
(8) = (6) x (7)
(9) = Sel. Loss Cost / [(5) * (7)]
(10) From Aon analysis as of June 30, 2012
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

University of Massachusetts (Medical Center) - Cluster 4
Medical

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend	0.750	
(2)	Credibility	15%	
(3)	Average Pmt Trend Statewide	0.950	
(4)	Credibility Weighted Trend	0.920	
		(Low)	(High)
(5)	Selected Range	0.911	0.929
(6)	Incremental Paid for 2013	0	0
(7)	Estimated Reserve	0	0
(8)	Paid to Date (82 & Prior)	126,400	126,400
(9)	Est Ult Paid for 1982 & Prior	126,400	126,400

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	0	0
(11)	Projected Number of Years	2	2
(12)	Estimated Reserve	0	0
(13)	Paid to Date (82 & Prior)	126,400	126,400
(14)	Est Ult Paid for 1982 & Prior	126,400	126,400
(14a)	Paid Counts During Fiscal Year	0	0
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	126,400	126,400
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	**126,400**	**126,400**
(18)	Implied Tail	1.000	1.000
(19)	Ult Loss Inc Lump Sums @ 6/12	126,400	126,400

NOTES:

(1) From Section 6, Exhibit 2, Page 6
(2) = (Average of Section 6, Exhibit 2, Page 6, Column 3 / 175,000) ^ 0.5
(3) Average Statewide Trend
(4) = (1) x (2) + (4) x {1 - (2)}
(5) Selected judgmentally based on (4)
(6), (14a) Provided by Commonwealth of Massachusetts
(7) = (6) x (5) / {1 - (5)}
(8), (16) From Section 6, Exhibit 2, Page 2, Column 3
(9) = (7) + (8)
(10) Avg of 3 latest years from Section 6, Exhibit 2, Page 6, Column 3
(11) Selected judgmentally
(12) = (10 x (11)
(14) = (12) + (13)
(15) = Average of (9) and (14)
(16) Lump Sums are considered in Indemnity analysis (Section 1)
(17) = (15) + (16)
(18) = (15) / (8)
(19) From Prior Aon Analysis as of June 30, 2012

University of Massachusetts (Medical Center) - Cluster 4
Medical

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paids	LN	Average Observed Trend		Trend Calculations
1992	1	1,277	7.152			
1993	2	1,933	7.567	1.514		
1994	3	2,959	7.993	1.531		
1995	4	30,696	10.332	10.374		
1996	5	1,619	7.390	0.053		
1997	6	7,074	8.864	4.369		
1998	7	5,136	8.544	0.726		
1999	8	26,679	10.192	5.195		
2000	9	8,683	9.069	0.325	n =	12
2001	10	453	6.116	0.052	S(x) =	23,970
2002	11	573	6.351	1.265	S(x-sq) =	47,880,218
2003	12	16	2.773	0.028	S(xy) =	184,417
2004	13	0	0.000	0.000	S(y) =	92
2005	14	0	0.000	0.000	D =	1,716
2006	15	0	0.000	0.000	slope =	-0.246
2007	16	0	0.000	0.000	Avg Trend =	0.754
2008	17	0	0.000	0.000		
2009	18	0	0.000	0.000		
2010	19	0	0.000	0.000		
2011	20	0	0.000	0.000		
2012	21	0	0.000	0.000		
2013	22	0	0.000	0.000		
					Selected Trend:	**0.750**

NOTES:

(3) 2013 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2012

(4) LN [(3)]

(5) Eg. 2003: 0.028 = 16 / 573

Commonwealth of Massachusetts Workers Compensation
University of Massachusetts (Medical Center) - Cluster 4
MEDICAL
Paid Loss Development
Paid Loss (Excluding Lump Sum)

Acc Yr Ending	*12*	*24*	*36*	*48*	*60*	*72*	*84*	*96*	*108*	*120*	*132*	*144*	*156*	*168*	*180*	*192*	*204*	*216*	*228*	*240*	*252*	*264*	*276*	*288*	*300*	*312*	*324*	*336*	*348*	*360*	*372*
June-83	1,234	3,103	4,861	6,300	7,916	9,821	13,039	13,611	14,794	16,517	16,901	19,950	21,086	21,192	21,226	21,226	21,226	21,226	21,226	21,226	21,226	21,226	21,226	21,226	21,226	21,226	21,226	21,226	21,226	21,226	21,226
June-84	2,119	5,327	8,344	10,814	13,588	16,986	18,288	23,404	25,737	31,059	49,301	49,301	49,616	49,616	49,616	49,911	50,261	50,611	50,611	50,611	50,961	50,961	50,961	50,961	50,961	50,961	50,961	50,961	50,961	50,961	
June-85	12,116	30,459	47,713	61,836	82,871	90,557	102,192	116,196	126,162	134,269	144,586	146,053	155,423	156,868	159,570	160,025	160,725	160,725	162,725	162,725	162,725	162,725	162,725	162,725	162,725	162,725	162,725	162,725	162,725		
June-86	20,894	52,527	82,283	109,226	113,177	157,428	181,217	194,111	201,338	202,138	203,815	204,040	204,668	207,774	211,955	212,780	212,780	212,780	215,180	215,355	215,355	215,355	215,355	215,355	215,355	215,355	215,355	215,355			
June-87	31,042	78,039	128,883	164,579	225,534	253,273	269,701	290,822	307,535	321,418	343,535	347,855	391,585	394,847	396,769	397,163	397,163	397,163	397,163	397,163	397,356	397,356	397,356	397,356	397,356	397,356	397,356				
June-88	38,803	100,851	169,323	220,047	246,044	269,806	298,617	307,956	313,205	317,782	319,598	322,343	325,039	329,817	329,817	329,817	331,017	332,429	332,429	333,094	334,344	338,304	341,814	346,679	347,929	347,929					
June-89	23,530	123,605	224,861	257,852	314,169	363,076	415,231	428,349	431,502	433,102	439,481	459,235	462,320	479,638	484,373	488,387	488,786	488,786	488,786	488,786	488,786	488,786	488,786	488,786	488,786						
June-90	50,815	273,859	359,066	409,059	478,183	534,786	577,745	596,162	604,078	543,745	548,041	553,962	553,962	553,962	553,962	553,962	553,962	553,962	553,962	553,962	553,962	553,962	553,962	553,962							
June-91	100,348	235,116	278,654	299,094	305,642	311,577	324,200	331,771	300,441	301,585	301,697	301,697	301,697	301,697	301,697	301,697	301,697	301,697	301,697	301,697	301,697	301,697	301,697								
June-92	214,704	524,294	598,233	667,108	699,896	707,764	731,353	668,555	669,244	669,244	669,188	669,188	669,188	669,188	669,188	669,188	669,188	669,188	669,188	669,188	669,188	669,188									
June-93	170,873	375,060	420,253	430,949	444,131	448,308	394,918	395,196	395,196	395,196	395,196	395,196	395,196	395,196	395,196	395,196	395,196	395,196	395,196	395,196	395,196										
June-94	300,512	596,595	667,456	713,591	730,452	676,827	679,845	681,410	682,760	684,108	684,108	684,335	686,279	687,551	690,014	691,979	693,434	694,829	694,829	694,829											
June-95	224,267	378,724	433,955	457,533	409,745	410,858	411,003	411,481	412,287	412,616	413,407	414,199	414,911	415,394	415,394	416,151	416,388	416,634	416,984												
June-96	167,356	393,930	501,689	378,074	378,587	378,666	378,667	379,037	379,508	382,952	382,952	382,952	382,952	382,952	382,952	382,952	382,952	382,952													
June-97	130,080	273,734	170,451	178,673	186,292	189,102	189,531	190,062	190,753	191,531	192,270	193,209	194,029	194,724	195,455	195,912	196,119														
June-98	153,489	249,584	276,046	301,383	308,237	314,372	326,267	379,647	404,376	420,822	440,261	450,569	452,424	455,322	458,466	462,440															
June-99	74,009	144,825	187,509	205,821	213,634	225,729	262,895	277,050	296,551	301,615	304,333	305,562	306,665	306,876	308,775																
June-00	42,966	116,743	129,805	138,406	149,847	152,795	156,525	163,267	168,512	177,868	177,868	177,992	185,166	185,166																	
June-01	66,977	112,847	134,511	164,585	186,174	191,353	193,876	196,194	197,019	200,449	202,529	202,659	204,334																		
June-02	51,704	99,105	124,129	132,683	137,298	144,909	146,854	147,302	174,745	189,334	201,469	209,356																			
June-03	24,338	126,639	167,817	173,658	176,063	176,926	181,096	186,492	190,822	196,704	200,649																				
June-04	83,690	216,265	266,643	284,876	292,325	295,052	295,295	296,029	296,255	296,405																					
June-05	70,794	151,383	161,299	162,118	162,383	162,449	162,848	165,224	165,325																						
June-06	111,267	215,773	247,375	290,539	295,723	304,040	318,675	338,665																							
June-07	135,214	210,808	235,383	235,931	236,426	236,426	236,426																								
June-08	163,349	354,750	465,422	484,430	499,466	503,458																									
June-09	147,783	237,019	285,263	290,878	311,776																										
June-10	151,041	251,654	264,987	272,182																											
June-11	207,552	306,733	317,839																												
June-12	139,332	221,373																													
June-13	127,443																														

Age-to-Age Factors

Acc Yr Ending	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*
June-83	2.515	1.567	1.296	1.257	1.241	1.328	1.044	1.087	1.116	1.023	1.180	1.057	1.005	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
June-84	2.514	1.566	1.296	1.257	1.250	1.077	1.280	1.100	1.207	1.587	1.000	1.006	1.000	1.000	1.006	1.007	1.007	1.000	1.000	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
June-85	2.514	1.566	1.296	1.340	1.093	1.128	1.137	1.086	1.064	1.077	1.010	1.064	1.009	1.017	1.003	1.004	1.000	1.012	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
June-86	2.514	1.566	1.327	1.036	1.391	1.151	1.071	1.037	1.004	1.008	1.001	1.003	1.015	1.020	1.004	1.000	1.000	1.011	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
June-87	2.514	1.652	1.277	1.370	1.123	1.065	1.078	1.057	1.045	1.069	1.013	1.126	1.008	1.005	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
June-88	2.599	1.679	1.300	1.118	1.097	1.107	1.031	1.017	1.015	1.006	1.009	1.008	1.015	1.000	1.000	1.004	1.004	1.000	1.002	1.004	1.012	1.010	1.014	1.004	1.000						
June-89	5.253	1.819	1.147	1.218	1.156	1.144	1.032	1.007	1.004	1.015	1.045	1.007	1.037	1.010	1.008	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
June-90	5.389	1.311	1.139	1.169	1.118	1.080	1.032	1.013	0.900	1.008	1.011	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
June-91	2.343	1.185	1.073	1.022	1.019	1.041	1.023	0.906	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
June-92	2.442	1.141	1.115	1.049	1.011	1.033	0.914	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
June-93	2.195	1.120	1.025	1.031	1.009	0.881	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
June-94	1.985	1.119	1.069	1.024	0.927	1.004	1.002	1.002	1.002	1.000	1.000	1.003	1.002	1.004	1.003	1.002	1.002	1.000	1.000												
June-95	1.689	1.146	1.054	0.896	1.003	1.000	1.001	1.002	1.001	1.002	1.002	1.002	1.001	1.000	1.002	1.001	1.001	1.001													
June-96	2.354	1.274	0.754	1.001	1.000	1.000	1.001	1.001	1.009	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000														
June-97	2.104	0.623	1.048	1.043	1.015	1.002	1.003	1.004	1.004	1.004	1.005	1.004	1.004	1.004	1.002	1.001															
June-98	1.626	1.106	1.092	1.023	1.020	1.038	1.164	1.065	1.041	1.046	1.023	1.004	1.006	1.007	1.009																
June-99	1.957	1.295	1.098	1.038	1.057	1.165	1.054	1.070	1.017	1.009	1.004	1.004	1.001	1.006																	
June-00	2.717	1.112	1.066	1.083	1.020	1.024	1.043	1.032	1.056	1.000	1.001	1.040	1.000																		
June-01	1.685	1.192	1.224	1.131	1.028	1.013	1.012	1.004	1.017	1.010	1.001	1.008																			
June-02	1.917	1.252	1.069	1.035	1.055	1.013	1.003	1.186	1.083	1.064	1.039																				
June-03	5.203	1.325	1.035	1.014	1.005	1.024	1.030	1.023	1.031	1.020																					
June-04	2.584	1.233	1.068	1.026	1.009	1.001	1.002	1.001	1.001																						
June-05	2.138	1.066	1.005	1.002	1.000	1.002	1.015	1.001																							
June-06	1.939	1.146	1.174	1.018	1.028	1.048	1.063																								
June-07	1.559	1.117	1.002	1.002	1.000	1.000																									
June-08	2.172	1.312	1.041	1.031	1.008																										
June-09	1.604	1.204	1.020	1.072																											
June-10	1.666	1.053	1.027																												
June-11	1.478	1.036																													
June-12	1.589																														

Averages	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*To Ult*
Simple Avg																															
All Yrs	2.425	1.268	1.112	1.085	1.065	1.055	1.043	1.031	1.028	1.045	1.017	1.018	1.006	1.004	1.002	1.001	1.001	1.002	1.000	1.001	1.001	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000		
Latest 5	1.702	1.144	1.053	1.025	1.009	1.015	1.023	1.043	1.038	1.021	1.014	1.012	1.002	1.003	1.003	1.001	1.001	1.000	1.000	1.000	1.002	1.002	1.003	1.001	1.000	1.000					
Latest 3	1.578	1.098	1.029	1.035	1.012	1.017	1.027	1.008	1.038	1.032	1.013	1.017	1.002	1.006	1.004	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.005	1.001	1.000	1.000	1.000	1.000			
Volume Wtd																															
All Yrs	2.076	1.180	1.065	1.052	1.032	1.035	1.021	1.016	1.006	1.016	1.009	1.012	1.006	1.004	1.002	1.001	1.001	1.001	1.000	1.000	1.001	1.001	1.002	1.001	1.000	1.000	1.000	1.000	1.000		
Latest 5	1.695	1.153	1.050	1.029	1.010	1.017	1.026	1.033	1.033	1.020	1.015	1.009	1.003	1.003	1.003	1.001	1.001	1.000	1.000	1.000	1.002	1.002	1.002	1.001	1.000	1.000					
Latest 3	1.566	1.091	1.031	1.036	1.012	1.021	1.030	1.007	1.031	1.031	1.014	1.015	1.003	1.006	1.004	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.004	1.001	1.000	1.000	1.000	1.000		

Dev Factor Selection																															
Industry 1	1.968	1.143	1.054	1.030	1.018	1.014	1.012																								
Industry 2		1.266	1.074	1.040	1.013	1.011	1.010	1.015	1.008	1.013	1.013	1.009	1.008	1.008	1.008	1.005	1.004	1.002	1.004	1.005											
Prior	*1.911*	*1.187*	*1.048*	*1.020*	*1.034*	*1.017*	*1.012*	*1.049*	*1.030*	*1.005*	*1.002*	*1.016*	*1.004*	*1.001*	*1.001*	*1.001*	*1.001*	*1.001*	*1.001*	*1.001*	*1.001*	*1.001*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	1.004	
Selected	1.902	1.180	1.053	1.029	1.032	1.017	1.023	1.043	1.028	1.005	1.002	1.017	1.002	1.001	1.003	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.003
FacToUlt	2.909	1.530	1.297	1.232	1.197	1.160	1.141	1.116	1.070	1.041	1.036	1.033	1.016	1.013	1.012	1.009	1.008	1.008	1.007	1.006	1.005	1.004	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003
Percent of Ult	34.4%	65.4%	77.1%	81.2%	83.5%	86.2%	87.6%	89.6%	93.5%	96.1%	96.6%	96.8%	98.4%	98.7%	98.8%	99.1%	99.2%	99.2%	99.3%	99.4%	99.5%	99.6%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%

University of Massachusetts (Medical Center) - Cluster 4
Medical

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Ultimate Loss		Ultimate Loss		Change in Ultimate Loss		Change in Ultimate Loss	
Accident	As of 6/12		As of 6/13		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	126,400	126,400	126,400	126,400	0	0.0%	0	0.0%
6/30/82-83	21,332	21,651	21,332	21,651	0	0.0%	0	0.0%
6/30/83-84	51,216	51,980	51,216	51,980	0	0.0%	0	0.0%
6/30/84-85	163,539	165,980	163,539	165,980	0	0.0%	0	0.0%
6/30/85-86	216,432	219,662	216,432	219,662	0	0.0%	0	0.0%
6/30/86-87	399,000	399,000	399,000	399,000	0	0.0%	0	0.0%
6/30/87-88	349,000	350,000	349,000	349,000	0	0.0%	(1,000)	-0.3%
6/30/88-89	491,230	513,225	491,230	513,225	0	0.0%	0	0.0%
6/30/89-90	556,732	581,660	556,732	581,660	0	0.0%	0	0.0%
6/30/90-91	303,205	316,782	303,205	316,782	0	0.0%	0	0.0%
6/30/91-92	672,534	702,647	672,534	702,647	0	0.0%	0	0.0%
6/30/92-93	397,172	414,956	397,172	414,956	0	0.0%	0	0.0%
6/30/93-94	700,000	700,000	699,000	699,000	(1,000)	-0.1%	(1,000)	-0.1%
6/30/94-95	420,000	420,000	420,000	420,000	0	0.0%	0	0.0%
6/30/95-96	384,867	402,100	384,867	402,100	0	0.0%	0	0.0%
6/30/96-97	198,000	207,900	198,000	207,900	0	0.0%	0	0.0%
6/30/97-98	463,000	487,200	467,000	490,350	4,000	0.9%	3,150	0.6%
6/30/98-99	311,000	311,000	313,000	313,000	2,000	0.6%	2,000	0.6%
6/30/99-00	188,000	188,000	188,000	188,000	0	0.0%	0	0.0%
6/30/00-01	209,000	209,000	208,000	208,000	(1,000)	-0.5%	(1,000)	-0.5%
6/30/01-02	208,000	208,000	216,000	216,000	8,000	3.8%	8,000	3.8%
6/30/02-03	204,000	205,000	208,000	208,000	4,000	2.0%	3,000	1.5%
6/30/03-04	317,000	332,850	308,000	323,400	(9,000)	-2.8%	(9,450)	-2.8%
6/30/04-05	186,000	206,850	177,000	193,200	(9,000)	-4.8%	(13,650)	-6.6%
6/30/05-06	362,000	380,100	376,000	396,900	14,000	3.9%	16,800	4.4%
6/30/06-07	273,000	301,350	270,000	296,100	(3,000)	-1.1%	(5,250)	-1.7%
6/30/07-08	566,000	626,850	559,000	613,200	(7,000)	-1.2%	(13,650)	-2.2%
6/30/08-09	354,000	385,350	373,000	400,050	19,000	5.4%	14,700	3.8%
6/30/09-10	339,000	384,300	335,000	376,950	(4,000)	-1.2%	(7,350)	-1.9%
6/30/10-11	465,000	495,600	412,000	449,400	(53,000)	-11.4%	(46,200)	-9.3%
6/30/11-12	404,000	471,450	339,000	402,150	(65,000)	-16.1%	(69,300)	-14.7%
6/30/12-13								
Total	10,299,658	10,786,842	10,198,658	10,666,642	(101,000)	-1.0%	(120,200)	-1.1%

NOTES:

(2), (3) From Aon analysis as of June 30, 2012

(4), (5) From Section 6, Exhibit 2, Page 1, Columns 6, 7

(6) = (4) - (2)

(7) = (4) / (2) - 1

(8) = (5) - (3)

(9) = (5) / (3) - 1

University of Massachusetts (Medical Center) - Cluster 4
Medical

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At: 4%	6%
384	100.0%	0.3%	0.0%	0.1%	0.0%	1.000	1.000
372	99.7%	0.0%	0.3%	0.0%	0.0%	1.000	1.000
360	99.7%	0.0%	0.3%	0.0%	0.0%	1.000	1.000
348	99.7%	0.0%	0.3%	0.0%	0.0%	1.000	1.000
336	99.7%	0.0%	0.3%	0.0%	0.0%	1.000	1.000
324	99.7%	0.0%	0.3%	0.0%	0.0%	1.000	1.000
312	99.7%	0.0%	0.3%	0.0%	0.0%	0.806	0.726
300	99.7%	0.0%	0.3%	0.0%	0.0%	0.775	0.685
288	99.7%	0.0%	0.3%	0.0%	0.0%	0.745	0.646
276	99.7%	0.1%	0.3%	0.0%	0.0%	0.717	0.609
264	99.6%	0.1%	0.4%	0.0%	0.0%	0.763	0.676
252	99.5%	0.1%	0.5%	0.0%	0.0%	0.784	0.705
240	99.4%	0.1%	0.6%	0.0%	0.0%	0.792	0.717
228	99.3%	0.1%	0.7%	0.0%	0.0%	0.793	0.719
216	99.2%	0.1%	0.8%	0.0%	0.0%	0.790	0.715
204	99.2%	0.1%	0.8%	0.0%	0.0%	0.773	0.693
192	99.1%	0.3%	0.9%	0.2%	0.1%	0.762	0.679
180	98.8%	0.1%	1.2%	0.1%	0.0%	0.796	0.724
168	98.7%	0.2%	1.3%	0.1%	0.1%	0.781	0.705
156	98.4%	1.7%	1.6%	1.0%	0.8%	0.786	0.711
144	96.8%	0.2%	3.2%	0.1%	0.1%	0.872	0.827
132	96.6%	0.5%	3.4%	0.3%	0.3%	0.847	0.791
120	96.1%	2.6%	3.9%	1.8%	1.5%	0.835	0.774
108	93.5%	3.9%	6.5%	2.8%	2.3%	0.874	0.827
96	89.6%	2.0%	10.4%	1.5%	1.3%	0.892	0.851
84	87.6%	1.5%	12.4%	1.1%	1.0%	0.878	0.830
72	86.2%	2.7%	13.8%	2.1%	1.9%	0.858	0.803
60	83.5%	2.3%	16.5%	1.9%	1.8%	0.850	0.792
48	81.2%	4.1%	18.8%	3.6%	3.3%	0.838	0.775
36	77.1%	11.7%	22.9%	10.6%	10.1%	0.837	0.774
24	65.4%	31.0%	34.6%	29.2%	28.4%	0.864	0.812
12	34.4%	34.4%	65.6%	33.7%	33.4%	0.902	0.863
Total		100.0%					

NOTES:

(2) = 1 / Section 6, Exhibit 2, Page 2, Column 4

(3) Incremental % based on (2)

(4) = 1 - (2)

(5) = [(3) / 1.04] ^ {[(1) - 6] / 12}

(6) = [(3) / 1.06] ^ {[(1) - 6] / 12}

(7), (8) Discount factor based on (5), (6)

University of Massachusetts (Medical Center) - Cluster 4
Medical

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	0	0		0	0
6/30/82-83	106	425	1.000	106	425
6/30/83-84	255	1,019	1.000	255	1,019
6/30/84-85	814	3,255	1.000	814	3,255
6/30/85-86	1,077	4,307	1.000	1,077	4,307
6/30/86-87	1,644	1,644	1.000	1,644	1,644
6/30/87-88	1,071	1,071	0.806	863	863
6/30/88-89	2,444	24,439	0.775	1,894	18,940
6/30/89-90	2,770	27,698	0.745	2,064	20,640
6/30/90-91	1,508	15,085	0.717	1,081	10,808
6/30/91-92	3,346	33,459	0.763	2,553	25,534
6/30/92-93	1,976	19,760	0.784	1,549	15,487
6/30/93-94	4,172	4,172	0.792	3,303	3,303
6/30/94-95	3,016	3,016	0.793	2,392	2,392
6/30/95-96	1,915	19,148	0.790	1,512	15,124
6/30/96-97	1,881	11,781	0.773	1,454	9,108
6/30/97-98	4,560	27,910	0.762	3,477	21,281
6/30/98-99	4,225	4,225	0.796	3,362	3,362
6/30/99-00	2,834	2,834	0.781	2,214	2,214
6/30/00-01	3,666	3,666	0.786	2,880	2,880
6/30/01-02	6,644	6,644	0.872	5,796	5,796
6/30/02-03	7,351	7,351	0.847	6,225	6,225
6/30/03-04	11,595	26,995	0.835	9,677	22,531
6/30/04-05	11,675	27,875	0.874	10,206	24,368
6/30/05-06	37,335	58,235	0.892	33,320	51,972
6/30/06-07	33,574	59,674	0.878	29,466	52,373
6/30/07-08	55,542	109,742	0.858	47,670	94,188
6/30/08-09	61,224	88,274	0.850	52,061	75,062
6/30/09-10	62,818	104,768	0.838	52,626	87,769
6/30/10-11	94,161	131,561	0.837	78,786	110,079
6/30/11-12	117,627	180,777	0.864	101,655	156,231
6/30/12-13	243,557	334,557	0.902	219,597	301,645
Total	786,379	1,345,364		681,577	1,150,823
			(7) Total Discount Factor:	0.867	0.855

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	0	0
(9) Projected Number of Years:	2	2
(10) Projected Paid Loss per Year:	0	0
(11) Discounted Value at 4%:	0	0

NOTES:
(2), (3) From Section 6, Exhibit 2, Page 1, Columns 8, 9
(4) From Section 6, Exhibit 2, Page 9, Column 7
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

University of Massachusetts (Medical Center) - Cluster 4
Medical

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	0	0		0	0
6/30/82-83	106	425	1.000	106	425
6/30/83-84	255	1,019	1.000	255	1,019
6/30/84-85	814	3,255	1.000	814	3,255
6/30/85-86	1,077	4,307	1.000	1,077	4,307
6/30/86-87	1,644	1,644	1.000	1,644	1,644
6/30/87-88	1,071	1,071	0.726	777	777
6/30/88-89	2,444	24,439	0.685	1,673	16,734
6/30/89-90	2,770	27,698	0.646	1,789	17,892
6/30/90-91	1,508	15,085	0.609	919	9,193
6/30/91-92	3,346	33,459	0.676	2,261	22,610
6/30/92-93	1,976	19,760	0.705	1,393	13,933
6/30/93-94	4,172	4,172	0.717	2,990	2,990
6/30/94-95	3,016	3,016	0.719	2,167	2,167
6/30/95-96	1,915	19,148	0.715	1,369	13,688
6/30/96-97	1,881	11,781	0.693	1,303	8,160
6/30/97-98	4,560	27,910	0.679	3,097	18,953
6/30/98-99	4,225	4,225	0.724	3,060	3,060
6/30/99-00	2,834	2,834	0.705	1,997	1,997
6/30/00-01	3,666	3,666	0.711	2,606	2,606
6/30/01-02	6,644	6,644	0.827	5,493	5,493
6/30/02-03	7,351	7,351	0.791	5,813	5,813
6/30/03-04	11,595	26,995	0.774	8,970	20,885
6/30/04-05	11,675	27,875	0.827	9,656	23,054
6/30/05-06	37,335	58,235	0.851	31,773	49,560
6/30/06-07	33,574	59,674	0.830	27,857	49,513
6/30/07-08	55,542	109,742	0.803	44,576	88,075
6/30/08-09	61,224	88,274	0.792	48,471	69,887
6/30/09-10	62,818	104,768	0.775	48,659	81,153
6/30/10-11	94,161	131,561	0.774	72,844	101,777
6/30/11-12	117,627	180,777	0.812	95,476	146,733
6/30/12-13	243,557	334,557	0.863	210,142	288,657
Total	786,379	1,345,364		641,026	1,076,007
			(7) Total Discount Factor:	0.815	0.800

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	0	0
(9) Projected Number of Years:	2	2
(10) Projected Paid Loss per Year:	0	0
(11) Discounted Value at 6%:	0	0

NOTES:
(2), (3) From Section 6, Exhibit 2, Page 1, Columns 8, 9
(4) From Section 6, Exhibit 2, Page 9, Column 8
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Massachusetts Colleges & Universities - Cluster 4

Indemnity

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Pd Loss Including Lump Sum	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		3,012,966			3,522,974	3,710,154	510,008	697,188		
6/30/82-83		743,272	744,849		758,137	773,003	14,865	29,731		
6/30/83-84		917,731	919,575		936,086	954,440	18,355	36,709		
6/30/84-85	357,749	1,492,038	1,495,104	1,496,642	1,521,879	1,551,720	29,841	59,682	0.425	0.434
6/30/85-86	380,112	1,868,907	1,872,944	1,874,325	1,873,000	1,874,000	4,093	5,093	0.493	0.493
6/30/86-87	423,770	2,608,229	2,862,922	2,614,213	2,614,000	2,863,000	5,771	254,771	0.617	0.676
6/30/87-88	480,405	4,178,462	4,965,443	4,187,356	4,262,031	4,387,385	83,569	208,923	0.887	0.913
6/30/88-89	495,261	1,515,210	1,518,078	1,519,746	1,545,514	1,590,971	30,304	75,761	0.312	0.321
6/30/89-90	502,691	3,548,604	3,558,852	3,558,524	3,619,576	3,726,035	70,972	177,430	0.720	0.741
6/30/90-91	482,143	1,393,607	1,398,487	1,398,472	1,398,000	1,398,000	4,393	4,393	0.290	0.290
6/30/91-92	492,539	1,392,878	1,855,849	1,401,083	1,465,619	1,628,466	72,741	235,588	0.298	0.331
6/30/92-93	524,541	1,147,496	1,154,620	1,154,556	1,170,446	1,204,871	22,950	57,375	0.223	0.230
6/30/93-94	584,853	1,089,019	1,478,766	1,106,477	1,106,000	1,479,000	16,981	389,981	0.189	0.253
6/30/94-95	587,701	1,548,491	1,576,893	1,576,433	1,576,000	1,577,000	27,509	28,509	0.268	0.268
6/30/95-96	614,868	1,269,047	1,312,273	1,312,004	1,294,428	1,332,499	25,381	63,452	0.211	0.217
6/30/96-97	700,686	1,120,892	1,178,319	1,178,561	1,178,000	1,179,000	57,108	58,108	0.168	0.168
6/30/97-98	684,415	1,978,867	2,124,984	2,119,736	2,120,000	2,125,000	141,133	146,133	0.310	0.310
6/30/98-99	707,796	1,316,769	1,439,981	1,438,529	1,439,000	1,512,000	122,231	195,231	0.203	0.214
6/30/99-00	760,477	1,182,336	1,308,614	1,311,313	1,309,000	1,311,000	126,664	128,664	0.172	0.172
6/30/00-01	811,600	1,550,412	1,780,561	1,777,539	1,778,000	1,781,000	227,588	230,588	0.219	0.219
6/30/01-02	835,038	2,242,305	2,631,871	2,617,767	2,618,000	2,632,000	375,695	389,695	0.314	0.315
6/30/02-03	825,340	1,203,913	1,457,556	1,459,559	1,458,000	1,460,000	254,087	256,087	0.177	0.177
6/30/03-04	849,216	1,486,953	1,825,177	1,824,003	1,824,000	1,916,000	337,047	429,047	0.215	0.226
6/30/04-05	992,508	1,023,563	1,304,265	1,455,726	1,304,000	1,456,000	280,437	432,437	0.131	0.147
6/30/05-06	962,878	1,298,406	1,731,945	1,781,330	1,732,000	1,870,000	433,594	571,594	0.180	0.194
6/30/06-07	1,032,930	939,416	1,303,270	1,529,929	1,303,000	1,530,000	363,584	590,584	0.126	0.148
6/30/07-08	1,063,597	1,880,290	2,753,169	2,660,095	2,660,000	2,753,000	779,710	872,710	0.250	0.259
6/30/08-09	1,073,805	1,345,080	2,140,325	2,207,305	2,140,000	2,207,000	794,920	861,920	0.199	0.206
6/30/09-10	1,084,749	2,043,656	3,623,737	3,287,860	3,288,000	3,624,000	1,244,344	1,580,344	0.303	0.334
6/30/10-11	1,134,164	1,685,071	3,794,312	3,462,909	3,463,000	3,794,000	1,777,929	2,108,929	0.305	0.335
6/30/11-12	1,202,674	870,425	2,823,423	2,748,548	2,749,000	2,823,000	1,878,575	1,952,575	0.229	0.235
6/30/12-13	1,284,741	432,464	3,433,939	3,632,527	3,434,000	3,633,000	3,001,536	3,200,536	0.267	0.283
Total	21,933,246	51,326,775	63,370,104	59,693,070	64,460,690	67,656,542	13,133,915	16,329,767		
Tot 6/30/84-13	21,933,246	46,652,806	61,705,680	59,693,070	59,243,493	62,218,945	12,590,687	15,566,139	0.270	0.284

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) Sum of Section 7, Exhibit 1, Page 2, Column 3 and Section 7, Exhibit 1, Page 9, Column 8

(4) From Section 7, Exhibit 1, Page 2, Column 8

(5) From Section 7, Exhibit 1, Page 3, Column 8

(6), (7) Selected based on (3), (4), and (5)

(8) = (6) - (3)

(9) = (7) - (3)

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Massachusetts Colleges & Universities - Cluster 4
Indemnity

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Accident Year	Payroll (000's)	Paid Loss Excluding Lump Sum	Paid LDF	Adjstmnt for Extra Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/11-12	Paid Counts 7/1/12-13	Average Outstanding Claim	Average Age
All Prior Yrs		2,997,216							2	1		80
6/30/82-83		716,272	1.002	1.000	717,849	27,000	744,849		0	0		
6/30/83-84		837,731	1.002	1.000	839,575	80,000	919,575		0	0		
6/30/84-85	357,749	1,393,062	1.002	1.000	1,396,128	98,976	1,495,104	0.418	0	0		
6/30/85-86	380,112	1,833,907	1.002	1.000	1,837,944	35,000	1,872,944	0.493	0	0		
6/30/86-87	423,770	2,486,729	1.002	1.100	2,741,422	121,500	2,862,922	0.676	1	1	254,694	87
6/30/87-88	480,405	3,883,619	1.002	1.200	4,670,600	294,843	4,965,443	1.034	2	2	393,491	73
6/30/88-89	495,261	1,302,910	1.002	1.000	1,305,778	212,300	1,518,078	0.307	0	0		
6/30/89-90	502,691	3,198,892	1.003	1.000	3,209,140	349,712	3,558,852	0.708	2	2	5,124	70
6/30/90-91	482,143	1,160,107	1.004	1.000	1,164,987	233,500	1,398,487	0.290	0	0		
6/30/91-92	492,539	1,136,695	1.005	1.400	1,599,666	256,183	1,855,849	0.377	0	1	462,970	53
6/30/92-93	524,541	986,496	1.007	1.000	993,620	161,000	1,154,620	0.220	0	0		
6/30/93-94	584,853	930,019	1.014	1.400	1,319,766	159,000	1,478,766	0.253	1	1	389,747	54
6/30/94-95	587,701	1,179,286	1.024	1.000	1,207,688	369,205	1,576,893	0.268	1	1	28,403	76
6/30/95-96	614,868	927,586	1.046	1.000	970,641	341,632	1,312,273	0.213	0	0		
6/30/96-97	700,686	896,010	1.064	1.000	953,212	225,107	1,178,319	0.168	2	1	57,203	65
6/30/97-98	684,415	1,713,867	1.084	1.000	1,857,613	267,371	2,124,984	0.310	3	2	71,873	80
6/30/98-99	707,796	1,111,519	1.109	1.000	1,232,893	207,088	1,439,981	0.203	1	1	121,374	67
6/30/99-00	760,477	844,236	1.147	1.000	968,198	340,416	1,308,614	0.172	0	0		
6/30/00-01	811,600	1,276,910	1.178	1.000	1,504,058	276,503	1,780,561	0.219	1	1	227,147	63
6/30/01-02	835,038	1,799,055	1.214	1.000	2,183,337	448,533	2,631,871	0.315	1	1	384,282	69
6/30/02-03	825,340	1,031,413	1.243	1.000	1,282,196	175,359	1,457,556	0.177	1	2	125,392	47
6/30/03-04	849,216	1,163,453	1.283	1.000	1,492,198	332,979	1,825,177	0.215	0	0		
6/30/04-05	992,508	825,463	1.328	1.000	1,096,430	207,835	1,304,265	0.131	1	1	270,967	79
6/30/05-06	962,878	1,097,733	1.377	1.000	1,511,880	220,065	1,731,945	0.180	3	3	138,049	62
6/30/06-07	1,032,930	769,416	1.431	1.000	1,101,016	202,254	1,303,270	0.126	2	3	110,534	55
6/30/07-08	1,063,597	1,479,040	1.505	1.000	2,226,231	526,938	2,753,169	0.259	11	8	93,399	61
6/30/08-09	1,073,805	1,150,080	1.591	1.000	1,830,257	310,069	2,140,325	0.199	10	7	97,168	61
6/30/09-10	1,084,749	1,658,156	1.724	1.000	2,859,068	764,669	3,623,737	0.334	23	17	70,642	60
6/30/10-11	1,134,164	1,366,571	2.060	1.000	2,815,785	978,527	3,794,312	0.335	53	25	57,969	55
6/30/11-12	1,202,674	870,425	2.823	1.000	2,457,537	365,886	2,823,423	0.235	79	37	42,895	56
6/30/12-13	1,284,741	360,464	6.405	1.000	2,308,711	1,125,228	3,433,939	0.267		92	21,177	50
Total	21,933,246	44,384,339			53,655,426	9,714,678	63,370,104		200	210		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3), (4) From Section 7, Exhibit 1, Page 7

(5) Based on information from the MA WCRIB

(6) = (3) x (4) x (5)

(7) From Section 7, Exhibit 1, Page 9, Column 13

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10), (11) Provided by Commonwealth of Massachusetts

(12) = Maximum of [{(6) - (3)} / (11)] and 0

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Massachusetts Colleges & Universities - Cluster 4
Indemnity

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident Year	Payroll (000's)	A Priori Loss Rate	Paid Loss Excluding Lump Sum	Paid LDF	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Ultimate Loss Cost Excluding Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	357,749	0.586	1,393,062	1.002	1,397,666	98,976	1,496,642	0.418	0.391
6/30/85-86	380,112	0.649	1,833,907	1.002	1,839,325	35,000	1,874,325	0.493	0.484
6/30/86-87	423,770	0.643	2,486,729	1.002	2,492,713	121,500	2,614,213	0.617	0.588
6/30/87-88	480,405	0.843	3,883,619	1.002	3,892,513	294,843	4,187,356	0.872	0.810
6/30/88-89	495,261	0.417	1,302,910	1.002	1,307,446	212,300	1,519,746	0.307	0.264
6/30/89-90	502,691	0.618	3,198,892	1.003	3,208,812	349,712	3,558,524	0.708	0.638
6/30/90-91	482,143	0.241	1,160,107	1.004	1,164,972	233,500	1,398,472	0.290	0.242
6/30/91-92	492,539	0.321	1,136,695	1.005	1,144,900	256,183	1,401,083	0.284	0.232
6/30/92-93	524,541	0.188	986,496	1.007	993,556	161,000	1,154,556	0.220	0.189
6/30/93-94	584,853	0.222	930,019	1.014	947,477	159,000	1,106,477	0.189	0.162
6/30/94-95	587,701	0.202	1,179,286	1.024	1,207,228	369,205	1,576,433	0.268	0.205
6/30/95-96	614,868	0.157	927,586	1.046	970,372	341,632	1,312,004	0.213	0.158
6/30/96-97	700,686	0.137	896,010	1.064	953,454	225,107	1,178,561	0.168	0.136
6/30/97-98	684,415	0.262	1,713,867	1.084	1,852,366	267,371	2,119,736	0.310	0.271
6/30/98-99	707,796	0.172	1,111,519	1.109	1,231,441	207,088	1,438,529	0.203	0.174
6/30/99-00	760,477	0.130	844,236	1.147	970,898	340,416	1,311,313	0.172	0.128
6/30/00-01	811,600	0.183	1,276,910	1.178	1,501,036	276,503	1,777,539	0.219	0.185
6/30/01-02	835,038	0.252	1,799,055	1.214	2,169,234	448,533	2,617,767	0.313	0.260
6/30/02-03	825,340	0.157	1,031,413	1.243	1,284,200	175,359	1,459,559	0.177	0.156
6/30/03-04	849,216	0.175	1,163,453	1.283	1,491,024	332,979	1,824,003	0.215	0.176
6/30/04-05	992,508	0.172	825,463	1.328	1,247,891	207,835	1,455,726	0.147	0.126
6/30/05-06	962,878	0.176	1,097,733	1.377	1,561,265	220,065	1,781,330	0.185	0.162
6/30/06-07	1,032,930	0.179	769,416	1.431	1,327,675	202,254	1,529,929	0.148	0.129
6/30/07-08	1,063,597	0.183	1,479,040	1.505	2,133,156	526,938	2,660,095	0.250	0.201
6/30/08-09	1,073,805	0.187	1,150,080	1.591	1,897,236	310,069	2,207,305	0.206	0.177
6/30/09-10	1,084,749	0.190	1,658,156	1.724	2,523,191	764,669	3,287,860	0.303	0.233
6/30/10-11	1,134,164	0.191	1,366,571	2.060	2,484,382	978,527	3,462,909	0.305	0.219
6/30/11-12	1,202,674	0.195	870,425	2.823	2,382,661	365,886	2,748,548	0.229	0.198
6/30/12-13	1,284,741	0.198	360,464	6.405	2,507,299	1,125,228	3,632,527	0.283	0.195
Total	21,933,246		39,833,119		50,085,392	9,607,678	59,693,070		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 7, Exhibit 1, Page 4, Column 11

(4) From Section 7, Exhibit 1, Page 2, Column 3

(5) From Section 7, Exhibit 1, Page 2, Column 4

(6) = (4) + [{1 - {1 / (5)}} x (3) x (2) x 10]

(7) From Section 7, Exhibit 1, Page 9, Column 13

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10) = (6) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Massachusetts Colleges & Universities - Cluster 4
Indemnity

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Exp Ult Loss Excluding Lump Sum	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									0.586	0.586
6/30/85-86									0.649	0.649
6/30/86-87									0.643	0.643
6/30/87-88									0.843	0.843
6/30/88-89									0.417	0.417
6/30/89-90									0.618	0.618
6/30/90-91	482,143	1,164,987	0.242	0.953	0.230	1.257	0.289	0.167	0.241	0.241
6/30/91-92	492,539	1,599,666	0.325	1.045	0.339	1.245	0.423	0.154	0.322	0.321
6/30/92-93	524,541	993,620	0.189	1.219	0.231	1.232	0.285	0.133	0.189	0.188
6/30/93-94	584,853	1,319,766	0.226	1.203	0.271	1.220	0.331	0.136	0.219	0.222
6/30/94-95	587,701	1,207,688	0.205	1.192	0.245	1.208	0.296	0.139	0.196	0.202
6/30/95-96	614,868	970,641	0.158	1.183	0.187	1.196	0.223	0.141	0.158	0.157
6/30/96-97	700,686	953,212	0.136	1.171	0.159	1.184	0.189	0.144	0.134	0.137
6/30/97-98	684,415	1,857,613	0.271	1.156	0.314	1.173	0.368	0.148	0.253	0.262
6/30/98-99	707,796	1,232,893	0.174	1.141	0.199	1.161	0.231	0.151	0.170	0.172
6/30/99-00	760,477	968,198	0.127	1.122	0.143	1.149	0.164	0.155	0.132	0.130
6/30/00-01	811,600	1,504,058	0.185	1.094	0.203	1.138	0.231	0.161	0.181	0.183
6/30/01-02	835,038	2,183,337	0.261	1.072	0.280	1.127	0.316	0.166	0.245	0.252
6/30/02-03	825,340	1,282,196	0.155	1.069	0.166	1.116	0.185	0.168	0.155	0.157
6/30/03-04	849,216	1,492,198	0.176	1.069	0.188	1.105	0.207	0.169	0.178	0.175
6/30/04-05	992,508	1,096,430	0.110	1.062	0.117	1.094	0.128	0.172	0.175	0.172
6/30/05-06	962,878	1,511,880	0.157	1.051	0.165	1.083	0.179	0.176	0.179	0.176
6/30/06-07	1,032,930	1,101,016	0.107	1.040	0.111	1.072	0.119	0.179	0.183	0.179
6/30/07-08	1,063,597	2,226,231	0.209	1.028	0.215	1.062	0.228	0.183	0.186	0.183
6/30/08-09	1,073,805	1,830,257	0.170	1.016	0.173	1.051	0.182	0.187	0.190	0.187
6/30/09-10	1,084,749	2,859,068	0.264	1.012	0.267	1.041	0.278	0.190	0.193	0.190
6/30/10-11	1,134,164	2,815,785	0.248	1.014	0.252	1.030	0.259	0.191	0.195	0.191
6/30/11-12	1,202,674	2,457,537	0.204	1.007	0.206	1.020	0.210	0.195	0.198	0.195
6/30/12-13	1,284,741	2,308,711	0.180	1.000	0.180	1.010	0.181	0.198		0.198
Total	19,293,258	36,936,990								

Trend Last 4 (ex 12-13):	4.7%	Avg 3 (x12-13):	0.249
Trend Last 8 (ex 12-13):	10.6%	Avg 5 (x12-13):	0.231
Trend Last 12 (ex 12-13):	1.2%	Avg 10 (x12-13):	0.198
Prior Selected Trend:	1.0%	Prior Sel Avg:	0.200
Selected Trend:	1.0%	Sel. Loss Cost:	0.200

NOTES:
(2) Provided by Commonwealth of Massachusetts
(3) From Section 7, Exhibit 1, Page 2, Column 6
(4) = (3) / (2) / 10
(5) Based on information from the MA WCRIB
(6) = (4) x (5)
(7) Based on Selected Trend from (6)
(8) = (6) x (7)
(9) = Sel. Loss Cost / [(5) * (7)]
(10) From Aon analysis as of June 30, 2012
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Massachusetts Colleges & Universities - Cluster 4
Indemnity

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend	0.980	
(2)	Credibility	17%	
(3)	Average Pmt Trend Statewide	0.960	
(4)	Credibility Weighted Trend	0.963	
		(Low)	(High)
(5)	Selected Range	0.954	0.973
(6)	Incremental Paid for 2013	45,160	45,160
(7)	Estimated Reserve	933,691	1,635,788
(8)	Paid to Date (82 & Prior)	2,997,216	2,997,216
(9)	Est Ult Paid for 1982 & Prior	3,930,908	4,633,004

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	52,683	61,354
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	368,780	429,481
(13)	Paid to Date (82 & Prior)	2,997,216	2,952,056
(14)	Est Ult Paid for 1982 & Prior	3,365,996	3,381,537
(14a)	Paid Counts During Fiscal Year	1	2
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	3,507,224	3,694,404
(16)	Lump Sum Ultimates	15,750	15,750
(17)	Ult Loss Including Lump Sums	**3,522,974**	**3,710,154**
(18)	Implied Tail	1.170	1.233
(19)	Ult Loss Inc Lump Sums @ 6/12	3,542,262	3,834,860

NOTES:

(1) From Section 7, Exhibit 1, Page 6
(2) = (Average of Section 7, Exhibit 1, Page 6, Column 3 / 3,000,000) ^ 0.5
(3) Average Statewide Trend
(4) = (1) x (2) + (4) x {1 - (2)}
(5) Selected judgmentally based on (4)
(6), (14a) Provided by Commonwealth of Massachusetts
(7) = (6) x (5) / {1 - (5)}
(8), (16) From Section 7, Exhibit 1, Page 2, Column 3
(9) = (7) + (8)
(10) Avg of 3 latest years from Section 7, Exhibit 1, Page 6, Column 3
(11) Selected judgmentally
(12) = (10 x (11)
(14) = (12) + (13)
(15) = Average of (9) and (14)
(16) From Section 7, Exhibit 1, Page 9, Column 13
(17) = (15) + (16)
(18) = (15) / (8)
(19) From Aon analysis as of June 30, 2012

Massachusetts Colleges & Universities - Cluster 4
Indemnity

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paids	LN	Average Observed Trend		Trend Calculations
1992	1	96,383	11.476			
1993	2	98,686	11.500	1.024		
1994	3	90,507	11.413	0.917		
1995	4	91,599	11.425	1.012		
1996	5	82,524	11.321	0.901		
1997	6	95,179	11.464	1.153		
1998	7	100,117	11.514	1.052		
1999	8	101,445	11.527	1.013		
2000	9	91,541	11.425	0.902	n =	22
2001	10	95,087	11.463	1.039	S(x) =	44,055
2002	11	101,860	11.531	1.071	S(x-sq) =	88,221,023
2003	12	103,466	11.547	1.016	S(xy) =	502,139
2004	13	103,217	11.545	0.998	S(y) =	251
2005	14	106,270	11.574	1.030	D =	19,481
2006	15	111,087	11.618	1.045	slope =	-0.019
2007	16	115,666	11.658	1.041	Avg Trend =	0.981
2008	17	120,810	11.702	1.044		
2009	18	85,560	11.357	0.708		
2010	19	71,175	11.173	0.832		
2011	20	70,876	11.169	0.996		
2012	21	42,013	10.646	0.593		
2013	22	45,160	10.718	1.075		
					Selected Trend:	**0.980**

NOTES:

(3) 2013 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2012

(4) LN [(3)]

(5) Eg. 2013: 1.075 = 45160 / 42013

Commonwealth of Massachusetts Workers Compensation
Massachusetts Colleges & Universities - Cluster 4
INDEMNITY
Paid Loss Development
Paid Loss (Excluding Lump Sum)

Acc Yr Ending	*12*	*24*	*36*	*48*	*60*	*72*	*84*	*96*	*108*	*120*	*132*	*144*	*156*	*168*	*180*	*192*	*204*	*216*	*228*	*240*	*252*	*264*	*276*	*288*	*300*	*312*	*324*	*336*	*348*	*360*	*372*
June-83	54,010	142,576	208,148	264,888	314,931	357,219	371,053	469,928	488,830	527,760	553,935	571,859	597,183	632,418	652,652	668,547	668,547	676,026	716,272	716,272	716,272	716,272	716,272	716,272	716,272	716,272	716,272	716,272	716,272	716,272	716,272
June-84	99,917	266,707	383,604	485,764	576,711	646,670	708,919	756,240	783,256	798,348	807,607	799,910	809,636	819,761	830,411	841,202	837,731	837,731	837,731	837,731	837,731	837,731	837,731	837,731	837,731	837,731	837,731	837,731	837,731	837,731	
June-85	145,363	376,000	561,409	702,017	806,337	944,094	1,041,045	1,113,616	1,165,340	1,204,638	1,251,307	1,274,495	1,298,633	1,324,024	1,393,062	1,393,062	1,393,062	1,393,062	1,393,062	1,393,062	1,393,062	1,393,062	1,393,062	1,393,062	1,393,062	1,393,062	1,393,062	1,393,062	1,393,062		
June-86	146,844	393,892	560,427	714,824	852,275	1,013,300	1,126,822	1,223,737	1,303,796	1,350,669	1,397,048	1,447,454	1,502,391	1,555,201	1,632,671	1,697,735	1,756,102	1,781,294	1,805,911	1,830,855	1,833,907	1,833,907	1,833,907	1,833,907	1,833,907	1,833,907	1,833,907	1,833,907			
June-87	205,350	542,065	782,031	964,915	1,140,809	1,261,213	1,366,787	1,443,695	1,510,844	1,568,560	1,627,834	1,689,585	1,754,007	1,801,170	1,862,691	1,928,482	1,995,204	2,043,636	2,086,293	2,127,530	2,170,638	2,215,734	2,269,157	2,341,746	2,389,183	2,436,751	2,486,729				
June-88	264,730	647,871	957,840	1,332,415	1,600,031	1,789,064	2,016,553	2,143,780	2,273,154	2,384,070	2,485,765	2,581,511	2,687,118	2,803,766	2,927,359	3,052,144	3,156,171	3,229,466	3,302,225	3,377,918	3,456,925	3,541,131	3,624,626	3,707,957	3,794,835	3,883,619					
June-89	203,700	458,930	663,759	873,071	1,047,827	1,143,271	1,198,464	1,232,178	1,250,874	1,282,165	1,292,717	1,298,047	1,302,239	1,302,910	1,302,910	1,302,910	1,302,910	1,302,910	1,302,910	1,302,910	1,302,910	1,302,910	1,302,910	1,302,910	1,302,910						
June-90	251,034	593,345	877,389	1,070,415	1,170,169	1,310,507	1,405,772	1,541,316	1,646,975	1,785,002	1,902,032	2,022,921	2,130,629	2,240,435	2,354,155	2,465,796	2,583,494	2,694,389	2,807,976	2,928,761	3,000,834	3,057,656	3,117,154	3,198,892							
June-91	210,725	476,992	661,310	747,971	826,820	877,501	964,982	1,043,288	1,062,987	1,078,493	1,092,473	1,107,416	1,121,900	1,136,365	1,154,741	1,159,007	1,160,107	1,160,107	1,160,107	1,160,107	1,160,107	1,160,107	1,160,107								
June-92	230,185	473,793	612,524	709,857	752,262	788,923	831,701	862,151	886,987	914,044	968,299	997,727	1,032,093	1,067,423	1,093,472	1,120,923	1,133,758	1,133,853	1,135,353	1,135,353	1,135,353	1,136,695									
June-93	250,714	541,198	609,220	695,349	761,795	896,967	969,498	986,209	986,209	986,209	986,496	986,496	986,496	986,496	986,496	986,496	986,496	986,496	986,496	986,496	986,496										
June-94	142,078	335,638	434,332	540,452	602,360	665,759	700,338	683,894	702,764	722,297	742,006	760,225	779,419	799,569	819,773	841,452	863,666	885,787	907,933	930,019											
June-95	115,982	327,962	450,743	510,570	656,919	704,734	751,757	811,410	863,231	899,192	899,252	902,615	916,017	958,344	1,001,523	1,046,791	1,090,356	1,133,473	1,179,286												
June-96	206,256	426,449	543,267	632,734	711,202	763,750	825,421	867,895	906,744	927,586	927,586	927,586	927,586	927,586	927,586	927,586	927,586	927,586													
June-97	184,229	328,446	444,786	555,024	612,566	653,987	680,550	699,551	720,522	739,692	759,525	784,015	805,205	826,592	851,586	873,746	896,010														
June-98	204,733	326,969	438,428	556,503	656,266	750,818	946,526	1,035,878	1,116,871	1,200,899	1,288,861	1,378,390	1,471,075	1,560,882	1,640,371	1,713,867															
June-99	178,965	393,824	642,327	727,290	775,010	801,143	828,610	857,804	888,093	943,651	979,256	1,011,764	1,044,136	1,077,612	1,111,519																
June-00	277,497	570,937	719,211	779,101	816,241	839,009	844,236	844,236	844,236	844,236	844,236	844,236	844,236	844,236																	
June-01	211,269	540,991	786,054	907,942	982,546	1,034,355	1,086,105	1,123,788	1,153,822	1,184,076	1,214,203	1,245,356	1,276,910																		
June-02	189,348	645,495	949,546	1,190,744	1,315,603	1,438,839	1,509,596	1,578,992	1,633,082	1,686,943	1,742,639	1,799,055																			
June-03	291,166	554,149	689,280	758,177	839,325	895,935	923,456	950,915	977,016	1,004,005	1,031,413																				
June-04	217,692	487,010	658,712	817,060	1,008,366	1,101,139	1,150,675	1,163,453	1,163,453	1,163,453																					
June-05	230,521	418,799	624,539	726,139	780,814	805,681	824,654	825,393	825,463																						
June-06	295,643	638,840	855,565	960,239	1,005,254	1,031,933	1,059,134	1,097,733																							
June-07	271,385	517,910	631,652	710,911	719,279	741,612	769,416																								
June-08	266,597	683,370	951,226	1,163,168	1,327,356	1,479,040																									
June-09	286,738	569,698	809,591	1,006,874	1,150,080																										
June-10	418,176	997,028	1,315,276	1,658,156																											
June-11	441,106	954,293	1,366,571																												
June-12	412,473	870,425																													
June-13	360,464																														

Age-to-Age Factors

Acc Yr Ending	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*
June-83	2.640	1.460	1.273	1.189	1.134	1.039	1.266	1.040	1.080	1.050	1.032	1.044	1.059	1.032	1.024	1.000	1.011	1.060	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
June-84	2.669	1.438	1.266	1.187	1.121	1.096	1.067	1.036	1.019	1.012	0.990	1.012	1.013	1.013	1.013	0.996	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
June-85	2.587	1.493	1.250	1.149	1.171	1.103	1.070	1.046	1.034	1.039	1.019	1.019	1.020	1.052	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
June-86	2.682	1.423	1.275	1.192	1.189	1.112	1.086	1.065	1.036	1.034	1.036	1.038	1.035	1.050	1.040	1.034	1.014	1.014	1.014	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
June-87	2.640	1.443	1.234	1.182	1.106	1.084	1.056	1.047	1.038	1.038	1.038	1.038	1.027	1.034	1.035	1.035	1.024	1.021	1.020	1.020	1.021	1.024	1.032	1.020	1.020	1.021					
June-88	2.447	1.478	1.391	1.201	1.118	1.127	1.063	1.060	1.049	1.043	1.039	1.041	1.043	1.044	1.043	1.034	1.023	1.023	1.023	1.023	1.024	1.024	1.023	1.023	1.023						
June-89	2.253	1.446	1.315	1.200	1.091	1.048	1.028	1.015	1.025	1.008	1.004	1.003	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
June-90	2.364	1.479	1.220	1.093	1.120	1.073	1.096	1.069	1.084	1.066	1.064	1.053	1.052	1.051	1.047	1.048	1.043	1.042	1.043	1.025	1.019	1.019	1.026								
June-91	2.264	1.386	1.131	1.105	1.061	1.100	1.081	1.019	1.015	1.013	1.014	1.013	1.013	1.016	1.004	1.001	1.000	1.000	1.000	1.000	1.000	1.000									
June-92	2.058	1.293	1.159	1.060	1.049	1.054	1.037	1.029	1.031	1.059	1.030	1.034	1.034	1.024	1.025	1.011	1.000	1.001	1.000	1.000	1.001										
June-93	2.159	1.126	1.141	1.096	1.177	1.081	1.017	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
June-94	2.362	1.294	1.244	1.115	1.105	1.052	0.977	1.028	1.028	1.027	1.025	1.025	1.026	1.025	1.026	1.026	1.026	1.025	1.024												
June-95	2.828	1.374	1.133	1.287	1.073	1.067	1.079	1.064	1.042	1.000	1.004	1.015	1.046	1.045	1.045	1.042	1.040	1.040													
June-96	2.068	1.274	1.165	1.124	1.074	1.081	1.051	1.045	1.023	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000														
June-97	1.783	1.354	1.248	1.104	1.068	1.041	1.028	1.030	1.027	1.027	1.032	1.027	1.027	1.030	1.026	1.025															
June-98	1.597	1.341	1.269	1.179	1.144	1.261	1.094	1.078	1.075	1.073	1.069	1.067	1.061	1.051	1.045																
June-99	2.201	1.631	1.132	1.066	1.034	1.034	1.035	1.035	1.063	1.038	1.033	1.032	1.032	1.031																	
June-00	2.057	1.260	1.083	1.048	1.028	1.006	1.000	1.000	1.000	1.000	1.000	1.000	1.000																		
June-01	2.561	1.453	1.155	1.082	1.053	1.050	1.035	1.027	1.026	1.025	1.026	1.025																			
June-02	3.409	1.471	1.254	1.105	1.094	1.049	1.046	1.034	1.033	1.033	1.032																				
June-03	1.903	1.244	1.100	1.107	1.067	1.031	1.030	1.027	1.028	1.027																					
June-04	2.237	1.353	1.240	1.234	1.092	1.045	1.011	1.000	1.000																						
June-05	1.817	1.491	1.163	1.075	1.032	1.024	1.001	1.000																							
June-06	2.161	1.339	1.122	1.047	1.027	1.026	1.036																								
June-07	1.908	1.220	1.125	1.012	1.031	1.037																									
June-08	2.563	1.392	1.223	1.141	1.114																										
June-09	1.987	1.421	1.244	1.142																											
June-10	2.384	1.319	1.261																												
June-11	2.163	1.432																													
June-12	2.110																														

Averages	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*To Ult*
Simple Avg																															
All Yrs	2.295	1.384	1.208	1.130	1.091	1.069	1.054	1.035	1.034	1.029	1.024	1.026	1.027	1.029	1.023	1.017	1.013	1.017	1.010	1.006	1.007	1.007	1.010	1.006	1.007	1.004	1.000	1.000	1.000	1.000	
Latest 5	2.242	1.357	1.195	1.083	1.059	1.033	1.025	1.018	1.017	1.025	1.032	1.030	1.024	1.032	1.028	1.019	1.013	1.013	1.013	1.005	1.009	1.013	1.016	1.009	1.009	1.004					
Latest 3	2.219	1.391	1.242	1.098	1.057	1.029	1.016	1.009	1.020	1.029	1.019	1.019	1.031	1.038	1.024	1.022	1.022	1.022	1.008	1.000	1.007	1.006	1.016	1.015	1.014	1.007	1.000	1.000			
Volume Wtd																															
All Yrs	2.245	1.380	1.209	1.128	1.092	1.071	1.051	1.037	1.036	1.032	1.028	1.029	1.030	1.033	1.027	1.022	1.017	1.019	1.015	1.011	1.011	1.012	1.016	1.011	1.012	1.007	1.000	1.000	1.000		
Latest 5	2.233	1.363	1.205	1.091	1.066	1.033	1.027	1.020	1.019	1.026	1.035	1.034	1.028	1.034	1.031	1.019	1.013	1.013	1.020	1.010	1.014	1.017	1.020	1.013	1.013	1.007					
Latest 3	2.219	1.385	1.244	1.110	1.066	1.029	1.017	1.009	1.021	1.029	1.023	1.021	1.037	1.040	1.028	1.023	1.023	1.023	1.007	1.000	1.011	1.011	1.021	1.018	1.017	1.009	1.000	1.000			

Dev Factor Selection																															
Industry 1	2.781	1.499	1.187	1.084	1.039	1.019	1.012																								
Industry 2		1.746	1.300	1.126	1.062	1.029	1.020	1.009	1.008	1.005	1.006	1.010	1.003	1.002	1.004	1.003	1.001	1.001	1.001	1.001											
Prior	*2.252*	*1.360*	*1.175*	*1.102*	*1.030*	*1.054*	*1.039*	*1.038*	*1.037*	*1.032*	*1.024*	*1.025*	*1.029*	*1.033*	*1.022*	*1.016*	*1.017*	*1.009*	*1.009*	*1.007*	*1.002*	*1.001*	*1.001*	*1.001*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.003*	
Selected	2.269	1.370	1.195	1.083	1.057	1.052	1.039	1.037	1.036	1.032	1.024	1.030	1.027	1.034	1.023	1.019	1.017	1.022	1.010	1.006	1.002	1.001	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.002
FacToUlt	6.405	2.823	2.060	1.724	1.591	1.505	1.431	1.377	1.328	1.283	1.243	1.214	1.178	1.147	1.109	1.084	1.064	1.046	1.024	1.014	1.007	1.005	1.004	1.003	1.002	1.002	1.002	1.002	1.002	1.002	1.002
Percent of Ult	15.6%	35.4%	48.5%	58.0%	62.8%	66.4%	69.9%	72.6%	75.3%	78.0%	80.4%	82.4%	84.9%	87.2%	90.2%	92.3%	94.0%	95.6%	97.6%	98.7%	99.3%	99.5%	99.6%	99.7%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%

Massachusetts Colleges & Universities - Cluster 4

Indemnity

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Ultimate Loss		Ultimate Loss		Change in Ultimate Loss		Change in Ultimate Loss	
Accident	As of 6/12		As of 6/13		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	3,542,262	3,834,860	3,522,974	3,710,154	(19,288)	-0.5%	(124,706)	-3.3%
6/30/82-83	758,137	773,003	758,137	773,003	0	0.0%	0	0.0%
6/30/83-84	936,086	954,440	936,086	954,440	0	0.0%	0	0.0%
6/30/84-85	1,521,879	1,551,720	1,521,879	1,551,720	0	0.0%	0	0.0%
6/30/85-86	1,874,000	1,876,000	1,873,000	1,874,000	(1,000)	-0.1%	(2,000)	-0.1%
6/30/86-87	2,566,000	2,809,000	2,614,000	2,863,000	48,000	1.9%	54,000	1.9%
6/30/87-88	4,171,472	4,294,162	4,262,031	4,387,385	90,559	2.2%	93,222	2.2%
6/30/88-89	1,545,514	1,590,971	1,545,514	1,590,971	0	0.0%	0	0.0%
6/30/89-90	3,536,203	3,640,209	3,619,576	3,726,035	83,373	2.4%	85,825	2.4%
6/30/90-91	1,400,000	1,400,000	1,398,000	1,398,000	(2,000)	-0.1%	(2,000)	-0.1%
6/30/91-92	1,467,809	1,630,899	1,465,619	1,628,466	(2,190)	-0.1%	(2,433)	-0.1%
6/30/92-93	1,170,446	1,204,871	1,170,446	1,204,871	0	0.0%	0	0.0%
6/30/93-94	1,097,000	1,461,000	1,106,000	1,479,000	9,000	0.8%	18,000	1.2%
6/30/94-95	1,540,000	1,540,000	1,576,000	1,577,000	36,000	2.3%	37,000	2.4%
6/30/95-96	1,294,428	1,332,499	1,294,428	1,332,499	0	0.0%	0	0.0%
6/30/96-97	1,159,000	1,160,000	1,178,000	1,179,000	19,000	1.6%	19,000	1.6%
6/30/97-98	2,053,000	2,058,000	2,120,000	2,125,000	67,000	3.3%	67,000	3.3%
6/30/98-99	1,421,000	1,493,000	1,439,000	1,512,000	18,000	1.3%	19,000	1.3%
6/30/99-00	1,320,000	1,323,000	1,309,000	1,311,000	(11,000)	-0.8%	(12,000)	-0.9%
6/30/00-01	1,755,000	1,758,000	1,778,000	1,781,000	23,000	1.3%	23,000	1.3%
6/30/01-02	2,558,000	2,571,000	2,618,000	2,632,000	60,000	2.3%	61,000	2.4%
6/30/02-03	1,440,000	1,443,000	1,458,000	1,460,000	18,000	1.3%	17,000	1.2%
6/30/03-04	1,854,000	1,948,000	1,824,000	1,916,000	(30,000)	-1.6%	(32,000)	-1.6%
6/30/04-05	1,332,000	1,494,000	1,304,000	1,456,000	(28,000)	-2.1%	(38,000)	-2.5%
6/30/05-06	1,739,000	1,896,000	1,732,000	1,870,000	(7,000)	-0.4%	(26,000)	-1.4%
6/30/06-07	1,311,000	1,567,000	1,303,000	1,530,000	(8,000)	-0.6%	(37,000)	-2.4%
6/30/07-08	2,502,000	2,517,000	2,660,000	2,753,000	158,000	6.3%	236,000	9.4%
6/30/08-09	2,017,000	2,159,000	2,140,000	2,207,000	123,000	6.1%	48,000	2.2%
6/30/09-10	3,250,000	3,500,000	3,288,000	3,624,000	38,000	1.2%	124,000	3.5%
6/30/10-11	2,744,000	2,968,000	3,463,000	3,794,000	719,000	26.2%	826,000	27.8%
6/30/11-12	2,801,000	2,898,000	2,749,000	2,823,000	(52,000)	-1.9%	(75,000)	-2.6%
6/30/12-13								
Total	59,677,236	62,646,634	61,026,690	64,023,542	1,349,454	2.3%	1,376,909	2.2%

NOTES:

(2), (3) From Aon analysis as of June 30, 2012

(4), (5) From Section 7, Exhibit 1, Page 1, Columns 6, 7

(6) = (4) - (2)

(7) = (4) / (2) - 1

(8) = (5) - (3)

(9) = (5) / (3) - 1

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Massachusetts Colleges & Universities - Cluster 4
Indemnity

Calculation of Ultimate Lump Sum Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Accident Year	Paid Loss Excluding Lump Sum	Implied Cumulative LDF	Ult Loss Excluding Lump Sum	Selected Incr Lump Sum % Outstdg	Cumulative Lump Sum % Outstdg	Total Lump Sum Outstdg	Paid Lump Sum to Date	Est Ult Lump Sum - Incr Method	Ultimate Lump Sum Percentage	Lump Sum LDF	Est Ult Lump Sum - Paid Method	Selected Est Ultimate Lump Sums	Prior Est Ultimate Lump Sums
All Prior Yrs	2,997,216	1.201	3,600,814	0.0%	0.0%	0	15,750	15,750	0.4%	1.000	15,750	15,750	15,750
6/30/82-83	716,272	1.002	717,849	0.0%	0.0%	0	27,000	27,000	3.8%	1.000	27,000	27,000	27,000
6/30/83-84	837,731	1.002	839,575	0.0%	0.0%	0	80,000	80,000	9.5%	1.000	80,000	80,000	80,000
6/30/84-85	1,393,062	1.002	1,396,128	0.0%	0.0%	0	98,976	98,976	7.1%	1.000	98,976	98,976	98,976
6/30/85-86	1,833,907	1.002	1,837,944	0.0%	0.0%	0	35,000	35,000	1.9%	1.000	35,000	35,000	35,000
6/30/86-87	2,486,729	1.102	2,741,422	0.0%	0.0%	0	121,500	121,500	4.4%	1.000	121,500	121,500	121,500
6/30/87-88	3,883,619	1.203	4,670,600	0.0%	0.0%	0	294,843	294,843	6.3%	1.000	294,843	294,843	294,843
6/30/88-89	1,302,910	1.002	1,305,778	0.0%	0.0%	0	212,300	212,300	16.3%	1.000	212,300	212,300	212,300
6/30/89-90	3,198,892	1.003	3,209,140	0.0%	0.0%	0	349,712	349,712	10.9%	1.000	349,712	349,712	349,712
6/30/90-91	1,160,107	1.004	1,164,987	0.0%	0.0%	0	233,500	233,500	20.0%	1.000	233,500	233,500	233,500
6/30/91-92	1,136,695	1.407	1,599,666	0.0%	0.0%	0	256,183	256,183	16.0%	1.000	256,183	256,183	256,183
6/30/92-93	986,496	1.007	993,620	0.0%	0.0%	0	161,000	161,000	16.2%	1.000	161,000	161,000	161,000
6/30/93-94	930,019	1.419	1,319,766	0.0%	0.0%	0	159,000	159,000	12.0%	1.000	159,000	159,000	159,000
6/30/94-95	1,179,286	1.024	1,207,688	0.0%	0.0%	0	369,205	369,205	30.6%	1.000	369,205	369,205	369,390
6/30/95-96	927,586	1.046	970,641	0.0%	0.0%	0	341,461	341,461	35.2%	1.001	341,802	341,632	341,803
6/30/96-97	896,010	1.064	953,212	0.0%	0.0%	0	224,882	224,882	23.6%	1.002	225,332	225,107	226,332
6/30/97-98	1,713,867	1.084	1,857,613	0.2%	0.2%	3,680	265,000	268,680	14.5%	1.004	266,061	267,371	267,714
6/30/98-99	1,111,519	1.109	1,232,893	0.0%	0.2%	2,442	205,250	207,692	16.8%	1.006	206,484	207,088	207,375
6/30/99-00	844,236	1.147	968,198	0.0%	0.2%	1,918	338,100	340,018	35.1%	1.008	340,813	340,416	341,017
6/30/00-01	1,276,910	1.178	1,504,058	0.0%	0.2%	2,979	273,502	276,481	18.4%	1.011	276,524	276,503	277,014
6/30/01-02	1,799,055	1.214	2,183,337	0.0%	0.2%	4,325	443,250	447,575	20.5%	1.014	449,492	448,533	449,724
6/30/02-03	1,031,413	1.243	1,282,196	0.0%	0.2%	2,540	172,500	175,040	13.7%	1.018	175,679	175,359	178,511
6/30/03-04	1,163,453	1.283	1,492,198	0.2%	0.4%	5,470	323,500	328,970	22.0%	1.042	336,989	332,979	338,838
6/30/04-05	825,463	1.328	1,096,430	0.4%	0.7%	8,129	198,100	206,229	18.8%	1.057	209,441	207,835	215,258
6/30/05-06	1,097,733	1.377	1,511,880	0.7%	1.4%	21,366	200,673	222,039	14.7%	1.087	218,091	220,065	249,556
6/30/06-07	769,416	1.431	1,101,016	1.2%	2.6%	28,345	170,000	198,345	18.0%	1.213	206,163	202,254	212,110
6/30/07-08	1,479,040	1.505	2,226,231	2.3%	4.8%	107,422	401,250	508,672	22.8%	1.359	545,205	526,938	490,876
6/30/08-09	1,150,080	1.591	1,830,257	1.5%	6.4%	116,407	195,000	311,407	17.0%	1.583	308,731	310,069	323,276
6/30/09-10	1,658,156	1.724	2,859,068	3.3%	9.7%	277,346	385,500	662,846	23.2%	2.248	866,492	764,669	899,788
6/30/10-11	1,366,571	2.060	2,815,785	3.5%	13.2%	371,980	318,500	690,480	24.5%	3.977	1,266,574	978,527	401,839
6/30/11-12	870,425	2.823	2,457,537	6.6%	19.9%	487,849	0	487,849	19.9%	10.557	0	365,886	400,843
6/30/12-13	360,464	6.405	2,308,711	2.2%	22.1%	509,635	72,000	581,635	25.2%	23.178	1,668,821	1,125,228	
Total	44,384,339		57,256,240			1,951,832	6,942,437	8,894,269	15.5%		10,322,662	9,730,428	8,236,026

NOTES:

(2) From Section 7, Exhibit 1, Page 2, Column 3
(3) = (4) / (2)
(4) From Section 7, Exhibit 1, Page 2, Column 6
(5) From Section 7, Exhibit 1, Page 11
(6) Downward sum of (5)
(7) = (6) x (4)
(8) From Section 7, Exhibit 1, Page 10
(9) = (7) + (8)
(10) = (9) / (4)
(11) From Section 7, Exhibit 1, Page 12
(12) = (8) x (11)
(13) Selected based on (9) and (12)
(14) From Aon analysis as of June 30, 2012

Commonwealth of Massachusetts Workers Compensation
Massachusetts Colleges & Universities - Cluster 4
INDEMNITY
Lump Sum Development
Incremental Lump Sum Payments

Acc Yr Ending	0-12	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384
All Prior Yrs	0	0	0	0	0	0	0	0	0	0	0	0	0	2,750	13,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jun-83	0	0	0	0	0	0	0	0	12,000	0	0	0	0	0	15,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jun-84	0	0	0	0	0	0	0	46,500	16,000	0	0	17,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jun-85	0	0	0	19,976	0	5,000	0	7,500	15,000	51,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Jun-86	0	0	0	0	0	0	0	0	35,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Jun-87	0	0	0	0	0	27,500	0	20,000	30,000	0	0	0	0	44,000	0	0	0	0	0	0	0	0	0	0	0	0	0					
Jun-88	0	0	22,500	0	37,000	30,000	82,000	43,343	15,000	31,000	0	0	0	0	0	0	0	17,000	17,000	0	0	0	0	0	0	0						
Jun-89	0	33,000	0	6,800	0	67,500	0	30,000	0	0	75,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
Jun-90	0	0	25,211	30,000	35,001	76,500	30,000	0	53,000	0	0	0	0	0	0	0	0	0	0	0	33,333	33,333	33,333	0								
Jun-91	0	0	48,000	32,500	0	0	0	73,000	0	0	0	0	0	0	0	25,000	30,000	25,000	0	0	0	0	0									
Jun-92	0	0	15,000	89,500	0	0	0	12,000	0	20,000	9,683	0	0	0	0	0	75,000	35,000	0	0	0	0										
Jun-93	0	62,500	18,000	31,500	37,000	0	0	12,000	0	0	0	0	0	0	0	0	0	0	0	0	0											
Jun-94	3,000	0	25,000	15,000	16,000	65,000	0	35,000	0	0	0	0	0	0	0	0	0	0	0	0												
Jun-95	0	105,500	102,500	54,800	40,405	22,500	0	0	20,625	22,875	0	0	0	0	0	0	0	0	0													
Jun-96	22,500	97,000	10,000	15,500	70,461	20,000	0	0	40,000	66,000	0	0	0	0	0	0	0	0														
Jun-97	0	49,500	113,000	12,382	20,000	30,000	0	0	0	0	0	0	0	0	0	0	0															
Jun-98	0	80,000	90,000	25,000	25,000	0	0	40,000	0	0	0	0	5,000	0	0	0																
Jun-99	0	6,250	10,000	92,000	65,000	0	0	0	0	0	32,000	0	0	0	0																	
Jun-00	0	95,000	136,850	12,000	44,250	20,000	30,000	0	0	0	0	0	0	0																		
Jun-01	27,500	2,500	62,500	74,001	47,000	0	10,001	50,000	0	0	0	0	0																			
Jun-02	48,000	18,250	64,500	112,500	75,000	105,000	20,000	0	0	0	0	0																				
Jun-03	0	52,500	30,000	45,000	0	35,000	0	10,000	0	0	0																					
Jun-04	0	7,000	0	22,000	87,500	32,000	100,000	75,000	0	0																						
Jun-05	0	15,000	38,600	45,000	49,500	20,000	30,000	0	0																							
Jun-06	0	30,000	20,000	75,000	75,673	0	0	0																								
Jun-07	0	40,000	75,000	35,000	0	0	20,000																									
Jun-08	0	33,000	183,500	27,500	74,750	82,500																										
Jun-09	0	35,000	30,000	60,000	70,000																											
Jun-10	0	71,500	174,000	140,000																												
Jun-11	0	25,000	293,500																													
Jun-12	0	0																														
Jun-13	72,000																															

Cumulative Lump Sum Payments

Acc Yr Ending	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384
All Prior Yrs	0	0	0	0	0	0	0	0	0	0	0	0	0	2,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750
Jun-83	0	0	0	0	0	0	0	0	12,000	12,000	12,000	12,000	12,000	12,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	
Jun-84	0	0	0	0	0	0	0	46,500	62,500	62,500	62,500	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000		
Jun-85	0	0	0	19,976	19,976	24,976	24,976	32,476	47,476	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976			
Jun-86	0	0	0	0	0	0	0	0	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000				
Jun-87	0	0	0	0	0	27,500	27,500	47,500	77,500	77,500	77,500	77,500	77,500	121,500	121,500	121,500	121,500	121,500	121,500	121,500	121,500	121,500	121,500	121,500	121,500	121,500	121,500					
Jun-88	0	0	22,500	22,500	59,500	89,500	171,500	214,843	229,843	260,843	260,843	260,843	260,843	260,843	260,843	260,843	260,843	277,843	294,843	294,843	294,843	294,843	294,843	294,843	294,843	294,843						
Jun-89	0	33,000	33,000	39,800	39,800	107,300	107,300	137,300	137,300	137,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300							
Jun-90	0	0	25,211	55,211	90,212	166,712	196,712	196,712	249,712	249,712	249,712	249,712	249,712	249,712	249,712	249,712	249,712	249,712	249,712	249,712	283,045	316,379	349,712	349,712								
Jun-91	0	0	48,000	80,500	80,500	80,500	80,500	153,500	153,500	153,500	153,500	153,500	153,500	153,500	153,500	178,500	208,500	233,500	233,500	233,500	233,500	233,500	233,500									
Jun-92	0	0	15,000	104,500	104,500	104,500	104,500	116,500	116,500	136,500	146,183	146,183	146,183	146,183	146,183	146,183	221,183	256,183	256,183	256,183	256,183	256,183										
Jun-93	0	62,500	80,500	112,000	149,000	149,000	149,000	161,000	161,000	161,000	161,000	161,000	161,000	161,000	161,000	161,000	161,000	161,000	161,000	161,000	161,000											
Jun-94	3,000	3,000	28,000	43,000	59,000	124,000	124,000	159,000	159,000	159,000	159,000	159,000	159,000	159,000	159,000	159,000	159,000	159,000	159,000	159,000												
Jun-95	0	105,500	208,000	262,800	303,205	325,705	325,705	325,705	346,330	369,205	369,205	369,205	369,205	369,205	369,205	369,205	369,205	369,205	369,205													
Jun-96	22,500	119,500	129,500	145,000	215,461	235,461	235,461	235,461	275,461	341,461	341,461	341,461	341,461	341,461	341,461	341,461	341,461	341,461														
Jun-97	0	49,500	162,500	174,882	194,882	224,882	224,882	224,882	224,882	224,882	224,882	224,882	224,882	224,882	224,882	224,882	224,882															
Jun-98	0	80,000	170,000	195,000	220,000	220,000	220,000	260,000	260,000	260,000	260,000	260,000	265,000	265,000	265,000	265,000																
Jun-99	0	6,250	16,250	108,250	173,250	173,250	173,250	173,250	173,250	173,250	205,250	205,250	205,250	205,250	205,250																	
Jun-00	0	95,000	231,850	243,850	288,100	308,100	338,100	338,100	338,100	338,100	338,100	338,100	338,100	338,100																		
Jun-01	27,500	30,000	92,500	166,501	213,501	213,501	223,502	273,502	273,502	273,502	273,502	273,502	273,502																			
Jun-02	48,000	66,250	130,750	243,250	318,250	423,250	443,250	443,250	443,250	443,250	443,250	443,250																				
Jun-03	0	52,500	82,500	127,500	127,500	162,500	162,500	172,500	172,500	172,500	172,500																					
Jun-04	0	7,000	7,000	29,000	116,500	148,500	248,500	323,500	323,500	323,500																						
Jun-05	0	15,000	53,600	98,600	148,100	168,100	198,100	198,100	198,100																							
Jun-06	0	30,000	50,000	125,000	200,673	200,673	200,673	200,673																								
Jun-07	0	40,000	115,000	150,000	150,000	150,000	170,000																									
Jun-08	0	33,000	216,500	244,000	318,750	401,250																										
Jun-09	0	35,000	65,000	125,000	195,000																											
Jun-10	0	71,500	245,500	385,500																												
Jun-11	0	25,000	318,500																													
Jun-12	0	0																														
Jun-13	72,000																															

Commonwealth of Massachusetts Workers Compensation
Massachusetts Colleges & Universities - Cluster 4
INDEMNITY
Lump Sum Development
Incremental Lump Sums as a % of Ultimate Losses Excluding Lump Sums

Acc Yr Ending	0-12	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384
All Prior Yrs	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun-83	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.017	0.000	0.000	0.000	0.000	0.000	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-84	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.055	0.019	0.000	0.000	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Jun-85	0.000	0.000	0.000	0.014	0.000	0.004	0.000	0.005	0.011	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
Jun-86	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Jun-87	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.007	0.011	0.000	0.000	0.000	0.000	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
Jun-88	0.000	0.000	0.005	0.000	0.008	0.006	0.018	0.009	0.003	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000						
Jun-89	0.000	0.025	0.000	0.005	0.000	0.052	0.000	0.023	0.000	0.000	0.057	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000							
Jun-90	0.000	0.000	0.008	0.009	0.011	0.024	0.009	0.000	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.010	0.010	0.000								
Jun-91	0.000	0.000	0.041	0.028	0.000	0.000	0.000	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.026	0.021	0.000	0.000	0.000	0.000	0.000									
Jun-92	0.000	0.000	0.009	0.056	0.000	0.000	0.000	0.008	0.000	0.013	0.006	0.000	0.000	0.000	0.000	0.000	0.047	0.022	0.000	0.000	0.000	0.000										
Jun-93	0.000	0.063	0.018	0.032	0.037	0.000	0.000	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000											
Jun-94	0.002	0.000	0.019	0.011	0.012	0.049	0.000	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000												
Jun-95	0.000	0.087	0.085	0.045	0.033	0.019	0.000	0.000	0.017	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000													
Jun-96	0.023	0.100	0.010	0.016	0.073	0.021	0.000	0.000	0.041	0.068	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000														
Jun-97	0.000	0.052	0.119	0.013	0.021	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000															
Jun-98	0.000	0.043	0.048	0.013	0.013	0.000	0.000	0.022	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000																
Jun-99	0.000	0.005	0.008	0.075	0.053	0.000	0.000	0.000	0.000	0.000	0.026	0.000	0.000	0.000	0.000																	
Jun-00	0.000	0.098	0.141	0.012	0.046	0.021	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000																		
Jun-01	0.018	0.002	0.042	0.049	0.031	0.000	0.007	0.033	0.000	0.000	0.000	0.000	0.000																			
Jun-02	0.022	0.008	0.030	0.052	0.034	0.048	0.009	0.000	0.000	0.000	0.000	0.000																				
Jun-03	0.000	0.041	0.023	0.035	0.000	0.027	0.000	0.008	0.000	0.000	0.000																					
Jun-04	0.000	0.005	0.000	0.015	0.059	0.021	0.067	0.050	0.000	0.000																						
Jun-05	0.000	0.014	0.035	0.041	0.045	0.018	0.027	0.000	0.000																							
Jun-06	0.000	0.020	0.013	0.050	0.050	0.000	0.000	0.000																								
Jun-07	0.000	0.036	0.068	0.032	0.000	0.000	0.018																									
Jun-08	0.000	0.015	0.082	0.012	0.034	0.037																										
Jun-09	0.000	0.019	0.016	0.033	0.038																											
Jun-10	0.000	0.025	0.061	0.049																												
Jun-11	0.000	0.009	0.104																													
Jun-12	0.000	0.000																														
Jun-13	0.031																															

Averages		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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384
Simple Avg																																
All Yrs (ex P)	0.003	0.022	0.034	0.025	0.022	0.015	0.007	0.013	0.007	0.006	0.004	0.001	0.000	0.001	0.001	0.001	0.005	0.003	0.000	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Latest 5	0.006	0.014	0.066	0.035	0.033	0.015	0.023	0.012	0.000	0.000	0.005	0.000	0.001	0.000	0.000	0.000	0.000	0.004	0.000	0.000	0.002	0.002	0.002	0.000	0.000	0.000	0.000					
Latest 3	0.010	0.011	0.060	0.031	0.024	0.012	0.015	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000			
Olympic Avg																																
All Yrs (ex P)	0.002	0.020	0.031	0.024	0.021	0.014	0.005	0.012	0.005	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Latest 10	0.000	0.018	0.041	0.038	0.035	0.016	0.012	0.008	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.003	0.000	0.000	0.000	0.000										
Latest 5	0.000	0.014	0.070	0.038	0.039	0.013	0.015	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000						

Dev Factor Selection																																
Prior	NA	0.023	0.051	0.034	0.038	0.013	0.020	0.018	0.007	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Selected	NA	0.022	0.066	0.035	0.033	0.015	0.023	0.012	0.007	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FacToUlt	NA	0.221	0.199	0.132	0.097	0.064	0.048	0.026	0.014	0.007	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Commonwealth of Massachusetts Workers Compensation
Massachusetts Colleges & Universities - Cluster 4
INDEMNITY
Paid Loss Development
Paid Loss - Lump Sum only

Acc Yr Ending	*12*	*24*	*36*	*48*	*60*	*72*	*84*	*96*	*108*	*120*	*132*	*144*	*156*	*168*	*180*	*192*	*204*	*216*	*228*	*240*	*252*	*264*	*276*	*288*	*300*	*312*	*324*	*336*	*348*	*360*	*372*	*384*
All Prior Yrs	0	0	0	0	0	0	0	0	0	0	0	0	0	2,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750	15,750
Jun-83	0	0	0	0	0	0	0	0	12,000	12,000	12,000	12,000	12,000	12,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	
Jun-84	0	0	0	0	0	0	0	46,500	62,500	62,500	62,500	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000		
Jun-85	0	0	0	19,976	19,976	24,976	24,976	32,476	47,476	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976	98,976			
Jun-86	0	0	0	0	0	0	0	0	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000				
Jun-87	0	0	0	0	0	27,500	27,500	47,500	77,500	77,500	77,500	77,500	77,500	121,500	121,500	121,500	121,500	121,500	121,500	121,500	121,500	121,500	121,500	121,500	121,500	121,500	121,500	121,500				
Jun-88	0	0	22,500	22,500	59,500	89,500	171,500	214,843	229,843	260,843	260,843	260,843	260,843	260,843	260,843	260,843	260,843	277,843	294,843	294,843	294,843	294,843	294,843	294,843	294,843	294,843						
Jun-89	0	33,000	33,000	39,800	39,800	107,300	107,300	137,300	137,300	137,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300	212,300							
Jun-90	0	0	25,211	55,211	90,212	166,712	196,712	196,712	249,712	249,712	249,712	249,712	249,712	249,712	249,712	249,712	249,712	249,712	249,712	249,712	283,045	316,379	349,712	349,712								
Jun-91	0	0	48,000	80,500	80,500	80,500	80,500	153,500	153,500	153,500	153,500	153,500	153,500	153,500	153,500	178,500	208,500	233,500	233,500	233,500	233,500	233,500	233,500									
Jun-92	0	0	15,000	104,500	104,500	104,500	104,500	116,500	116,500	136,500	146,183	146,183	146,183	146,183	146,183	146,183	221,183	256,183	256,183	256,183	256,183	256,183										
Jun-93	0	62,500	80,500	112,000	149,000	149,000	149,000	161,000	161,000	161,000	161,000	161,000	161,000	161,000	161,000	161,000	161,000	161,000	161,000	161,000	161,000											
Jun-94	3,000	3,000	28,000	43,000	59,000	124,000	124,000	159,000	159,000	159,000	159,000	159,000	159,000	159,000	159,000	159,000	159,000	159,000	159,000	159,000												
Jun-95	0	105,500	208,000	262,800	303,205	325,705	325,705	325,705	346,330	369,205	369,205	369,205	369,205	369,205	369,205	369,205	369,205	369,205	369,205													
Jun-96	22,500	119,500	129,500	145,000	215,461	235,461	235,461	235,461	275,461	341,461	341,461	341,461	341,461	341,461	341,461	341,461	341,461	341,461														
Jun-97	0	49,500	162,500	174,882	194,882	224,882	224,882	224,882	224,882	224,882	224,882	224,882	224,882	224,882	224,882	224,882	224,882															
Jun-98	0	80,000	170,000	195,000	220,000	220,000	220,000	260,000	260,000	260,000	260,000	260,000	265,000	265,000	265,000	265,000																
Jun-99	0	6,250	16,250	108,250	173,250	173,250	173,250	173,250	173,250	173,250	205,250	205,250	205,250	205,250	205,250																	
Jun-00	0	95,000	231,850	243,850	288,100	308,100	338,100	338,100	338,100	338,100	338,100	338,100	338,100	338,100																		
Jun-01	27,500	30,000	92,500	166,501	213,501	213,501	223,502	273,502	273,502	273,502	273,502	273,502	273,502																			
Jun-02	48,000	66,250	130,750	243,250	318,250	423,250	443,250	443,250	443,250	443,250	443,250	443,250																				
Jun-03	0	52,500	82,500	127,500	127,500	162,500	162,500	172,500	172,500	172,500	172,500																					
Jun-04	0	7,000	7,000	29,000	116,500	148,500	248,500	323,500	323,500	323,500																						
Jun-05	0	15,000	53,600	98,600	148,100	168,100	198,100	198,100	198,100																							
Jun-06	0	30,000	50,000	125,000	200,673	200,673	200,673	200,673																								
Jun-07	0	40,000	115,000	150,000	150,000	150,000	170,000																									
Jun-08	0	33,000	216,500	244,000	318,750	401,250																										
Jun-09	0	35,000	65,000	125,000	195,000																											
Jun-10	0	71,500	245,500	385,500																												
Jun-11	0	25,000	318,500																													
Jun-12	0	0																														
Jun-13	72,000																															

Age-to-Age Factors

Acc Yr Ending	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*372-384*	*To Ult*
All Prior Yrs														5.727	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Jun-83									1.000	1.000	1.000	1.000	1.000	2.250	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
Jun-84								1.344	1.000	1.000	1.280	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Jun-85				1.000	1.250	1.000	1.300	1.462	2.085	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
Jun-86									1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
Jun-87						1.000	1.727	1.632	1.000	1.000	1.000	1.000	1.568	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
Jun-88			1.000	2.644	1.504	1.916	1.253	1.070	1.135	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.065	1.061	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
Jun-89		1.000	1.206	1.000	2.696	1.000	1.280	1.000	1.000	1.546	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
Jun-90			2.190	1.634	1.848	1.180	1.000	1.269	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.133	1.118	1.105	1.000									
Jun-91			1.677	1.000	1.000	1.000	1.907	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.163	1.168	1.120	1.000	1.000	1.000	1.000	1.000										
Jun-92			6.967	1.000	1.000	1.000	1.115	1.000	1.172	1.071	1.000	1.000	1.000	1.000	1.000	1.513	1.158	1.000	1.000	1.000	1.000											
Jun-93		1.288	1.391	1.330	1.000	1.000	1.081	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000												
Jun-94	1.000	9.333	1.536	1.372	2.102	1.000	1.282	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000													
Jun-95		1.972	1.263	1.154	1.074	1.000	1.000	1.063	1.066	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000														
Jun-96	5.311	1.084	1.120	1.486	1.093	1.000	1.000	1.170	1.240	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000															
Jun-97		3.283	1.076	1.114	1.154	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000																
Jun-98		2.125	1.147	1.128	1.000	1.000	1.182	1.000	1.000	1.000	1.000	1.019	1.000	1.000	1.000																	
Jun-99		2.600	6.662	1.600	1.000	1.000	1.000	1.000	1.000	1.185	1.000	1.000	1.000	1.000																		
Jun-00		2.441	1.052	1.181	1.069	1.097	1.000	1.000	1.000	1.000	1.000	1.000	1.000																			
Jun-01	1.091	3.083	1.800	1.282	1.000	1.047	1.224	1.000	1.000	1.000	1.000	1.000																				
Jun-02	1.380	1.974	1.860	1.308	1.330	1.047	1.000	1.000	1.000	1.000	1.000																					
Jun-03		1.571	1.545	1.000	1.275	1.000	1.062	1.000	1.000	1.000																						
Jun-04		1.000	4.143	4.017	1.275	1.673	1.302	1.000	1.000																							
Jun-05		3.573	1.840	1.502	1.135	1.178	1.000	1.000																								
Jun-06		1.667	2.500	1.605	1.000	1.000	1.000																									
Jun-07		2.875	1.304	1.000	1.000	1.133																										
Jun-08		6.561	1.127	1.306	1.259																											
Jun-09		1.857	1.923	1.560																												
Jun-10		3.434	1.570																													
Jun-11		12.740																														
Jun-12																																

Averages *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* *240-252* *252-264* *264-276* *276-288* *288-300* *300-312* *312-324* *324-336* *336-348* *348-360* *360-372* *372-384* *To Ult*

Simple Avg																																
All Yrs (ex P)	2.196	3.273	2.083	1.445	1.276	1.103	1.177	1.096	1.077	1.038	1.014	1.001	1.032	1.074	1.010	1.045	1.025	1.005	1.000	1.012	1.012	1.012	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
Latest 5		5.493	1.685	1.395	1.134	1.197	1.073	1.000	1.000	1.037	1.000	1.004	1.000	1.000	1.000	1.000	1.032	1.000	1.000	1.027	1.024	1.021	1.000	1.000	1.000	1.000						
Latest 3		6.010	1.540	1.289	1.086	1.104	1.101	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.039	1.035	1.000	1.000	1.000	1.000	1.000	1.000				
Volume Wtd																																
All Yrs (ex P)	9.500	2.655	1.481	1.298	1.178	1.084	1.114	1.056	1.045	1.028	1.004	1.001	1.013	1.005	1.009	1.039	1.030	1.007	1.000	1.019	1.020	1.023	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Latest 5		4.697	1.488	1.363	1.144	1.181	1.068	1.000	1.000	1.023	1.000	1.004	1.000	1.000	1.000	1.000	1.028	1.000	1.000	1.030	1.026	1.028	1.000	1.000	1.000	1.000						
Latest 3		4.783	1.432	1.279	1.123	1.096	1.116	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.043	1.044	1.000	1.000	1.000	1.000	1.000	1.000				

Dev Factor Selection

Prior	*2.196*	*2.385*	*1.765*	*1.663*	*1.153*	*1.156*	*1.140*	*1.029*	*1.016*	*1.022*	*1.005*	*1.003*	*1.003*	*1.002*	*1.002*	*1.002*	*1.001*	*1.001*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	
Selected	2.196	2.655	1.769	1.420	1.165	1.120	1.116	1.028	1.015	1.023	1.004	1.003	1.003	1.002	1.002	1.002	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
FacToUlt	23.178	10.557	3.977	2.248	1.583	1.359	1.213	1.087	1.057	1.042	1.018	1.014	1.011	1.008	1.006	1.004	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Percent of Ult	4.3%	9.5%	25.1%	44.5%	63.2%	73.6%	82.5%	92.0%	94.6%	96.0%	98.2%	98.6%	98.9%	99.2%	99.4%	99.6%	99.8%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Massachusetts Colleges & Universities - Cluster 4

Indemnity

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At: 4%	6%
384	100.0%	0.2%	0.0%	0.1%	0.0%	1.000	1.000
372	99.8%	0.0%	0.2%	0.0%	0.0%	0.981	0.971
360	99.8%	0.0%	0.2%	0.0%	0.0%	0.943	0.916
348	99.8%	0.0%	0.2%	0.0%	0.0%	0.907	0.864
336	99.8%	0.0%	0.2%	0.0%	0.0%	0.872	0.816
324	99.8%	0.0%	0.2%	0.0%	0.0%	0.838	0.769
312	99.8%	0.0%	0.2%	0.0%	0.0%	0.806	0.726
300	99.8%	0.1%	0.2%	0.0%	0.0%	0.775	0.685
288	99.7%	0.1%	0.3%	0.0%	0.0%	0.819	0.748
276	99.6%	0.1%	0.4%	0.0%	0.0%	0.833	0.768
264	99.5%	0.2%	0.5%	0.1%	0.1%	0.836	0.772
252	99.3%	0.6%	0.7%	0.3%	0.2%	0.852	0.796
240	98.7%	1.0%	1.3%	0.5%	0.3%	0.895	0.854
228	97.6%	2.1%	2.4%	1.0%	0.7%	0.912	0.876
216	95.6%	1.6%	4.4%	0.8%	0.6%	0.926	0.895
204	94.0%	1.7%	6.0%	0.9%	0.7%	0.914	0.877
192	92.3%	2.1%	7.7%	1.1%	0.9%	0.901	0.860
180	90.2%	3.0%	9.8%	1.7%	1.3%	0.891	0.845
168	87.2%	2.3%	12.8%	1.4%	1.0%	0.885	0.838
156	84.9%	2.5%	15.1%	1.5%	1.2%	0.871	0.818
144	82.4%	2.0%	17.6%	1.2%	1.0%	0.858	0.800
132	80.4%	2.5%	19.6%	1.6%	1.3%	0.840	0.776
120	78.0%	2.7%	22.0%	1.8%	1.5%	0.827	0.759
108	75.3%	2.7%	24.7%	1.9%	1.6%	0.816	0.744
96	72.6%	2.7%	27.4%	2.0%	1.8%	0.804	0.728
84	69.9%	3.4%	30.1%	2.7%	2.4%	0.791	0.713
72	66.4%	3.6%	33.6%	2.9%	2.6%	0.784	0.703
60	62.8%	4.8%	37.2%	4.1%	3.7%	0.775	0.693
48	58.0%	9.5%	42.0%	8.2%	7.7%	0.773	0.690
36	48.5%	13.1%	51.5%	11.9%	11.3%	0.787	0.710
24	35.4%	19.8%	64.6%	18.7%	18.1%	0.802	0.731
12	15.6%	15.6%	84.4%	15.3%	15.2%	0.820	0.756
Total		100.0%					

NOTES:

(2) = 1 / Section 7, Exhibit 1, Page 2, Column 4

(3) Incremental % based on (2)

(4) = 1 - (2)

(5) = [(3) / 1.04] ^ {[(1) - 6] / 12}

(6) = [(3) / 1.06] ^ {[(1) - 6] / 12}

(7), (8) Discount factor based on (5), (6)

Massachusetts Colleges & Universities - Cluster 4
Indemnity

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	510,008	697,188		446,045	609,750
6/30/82-83	14,865	29,731	0.981	14,577	29,154
6/30/83-84	18,355	36,709	0.943	17,306	34,612
6/30/84-85	29,841	59,682	0.907	27,054	54,107
6/30/85-86	4,093	5,093	0.872	3,568	4,440
6/30/86-87	5,771	254,771	0.838	4,838	213,551
6/30/87-88	83,569	208,923	0.806	67,354	168,385
6/30/88-89	30,304	75,761	0.775	23,485	58,712
6/30/89-90	70,972	177,430	0.819	58,101	145,254
6/30/90-91	4,393	4,393	0.833	3,660	3,660
6/30/91-92	72,741	235,588	0.836	60,778	196,844
6/30/92-93	22,950	57,375	0.852	19,564	48,911
6/30/93-94	16,981	389,981	0.895	15,194	348,940
6/30/94-95	27,509	28,509	0.912	25,085	25,997
6/30/95-96	25,381	63,452	0.926	23,491	58,729
6/30/96-97	57,108	58,108	0.914	52,174	53,087
6/30/97-98	141,133	146,133	0.901	127,214	131,721
6/30/98-99	122,231	195,231	0.891	108,918	173,966
6/30/99-00	126,664	128,664	0.885	112,149	113,920
6/30/00-01	227,588	230,588	0.871	198,235	200,848
6/30/01-02	375,695	389,695	0.858	322,283	334,292
6/30/02-03	254,087	256,087	0.840	213,543	215,223
6/30/03-04	337,047	429,047	0.827	278,893	355,019
6/30/04-05	280,437	432,437	0.816	228,755	352,743
6/30/05-06	433,594	571,594	0.804	348,406	459,294
6/30/06-07	363,584	590,584	0.791	287,755	467,412
6/30/07-08	779,710	872,710	0.784	610,935	683,804
6/30/08-09	794,920	861,920	0.775	616,389	668,341
6/30/09-10	1,244,344	1,580,344	0.773	961,465	1,221,082
6/30/10-11	1,777,929	2,108,929	0.787	1,398,601	1,658,981
6/30/11-12	1,878,575	1,952,575	0.802	1,506,456	1,565,798
6/30/12-13	3,001,536	3,200,536	0.820	2,461,989	2,625,217
Total	13,133,915	16,329,767		10,644,259	13,281,793
			(7) Total Discount Factor:	0.810	0.813

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	510,008	697,188
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	72,858	99,598
(11) Discounted Value at 4%:	446,045	609,750

NOTES:
(2), (3) From Section 7, Exhibit 1, Page 1, Columns 8, 9
(4) From Section 7, Exhibit 1, Page 13, Column 7
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Massachusetts Colleges & Universities - Cluster 4
Indemnity

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	510,008	697,188		418,924	572,675
6/30/82-83	14,865	29,731	0.971	14,439	28,877
6/30/83-84	18,355	36,709	0.916	16,818	33,637
6/30/84-85	29,841	59,682	0.864	25,796	51,591
6/30/85-86	4,093	5,093	0.816	3,338	4,153
6/30/86-87	5,771	254,771	0.769	4,440	196,008
6/30/87-88	83,569	208,923	0.726	60,655	151,637
6/30/88-89	30,304	75,761	0.685	20,750	51,875
6/30/89-90	70,972	177,430	0.748	53,053	132,632
6/30/90-91	4,393	4,393	0.768	3,376	3,376
6/30/91-92	72,741	235,588	0.772	56,173	181,929
6/30/92-93	22,950	57,375	0.796	18,263	45,656
6/30/93-94	16,981	389,981	0.854	14,495	332,900
6/30/94-95	27,509	28,509	0.876	24,110	24,986
6/30/95-96	25,381	63,452	0.895	22,708	56,770
6/30/96-97	57,108	58,108	0.877	50,097	50,975
6/30/97-98	141,133	146,133	0.860	121,352	125,651
6/30/98-99	122,231	195,231	0.845	103,338	165,055
6/30/99-00	126,664	128,664	0.838	106,109	107,784
6/30/00-01	227,588	230,588	0.818	186,133	188,586
6/30/01-02	375,695	389,695	0.800	300,522	311,720
6/30/02-03	254,087	256,087	0.776	197,253	198,806
6/30/03-04	337,047	429,047	0.759	255,882	325,727
6/30/04-05	280,437	432,437	0.744	208,617	321,690
6/30/05-06	433,594	571,594	0.728	315,723	416,208
6/30/06-07	363,584	590,584	0.713	259,113	420,887
6/30/07-08	779,710	872,710	0.703	548,146	613,526
6/30/08-09	794,920	861,920	0.693	550,928	597,363
6/30/09-10	1,244,344	1,580,344	0.690	859,115	1,091,095
6/30/10-11	1,777,929	2,108,929	0.710	1,262,630	1,497,695
6/30/11-12	1,878,575	1,952,575	0.731	1,373,530	1,427,636
6/30/12-13	3,001,536	3,200,536	0.756	2,268,682	2,419,095
Total	13,133,915	16,329,767		9,724,507	12,148,203
			(7) Total Discount Factor:	0.740	0.744

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	510,008	697,188
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	72,858	99,598
(11) Discounted Value at 6%:	418,924	572,675

NOTES:
(2), (3) From Section 7, Exhibit 1, Page 1, Columns 8, 9
(4) From Section 7, Exhibit 1, Page 13, Column 8
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Massachusetts Colleges & Universities - Cluster 4
Total Indemnity (Including Lump Sums) + Medical

Calculation of Fiscal Year 7/1/13 - 14 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Cumulative	Incremental Paid		Estimated Payments from		FY 7/1/13 - 6/30/14	
Accident	Est Ult Losses	Est Ult Losses	Paid Losses	Reserves	Reserves	Percent	as a % of	as a % of	7/1/13 - 6/30/14		as a % of Reserves	
Year	(Low)	(High)	to Date	(Low)	(High)	Paid	Ultimates	Reserves	(Low)	(High)	(Low)	(High)
All Prior yrs	3,894,078	4,094,483	3,351,421	542,657	743,062				44,257	48,683	8.2%	6.6%
6/30/82-83	811,448	826,578	796,317	15,131	30,261	97.2%	0.5%	18.0%	2,730	5,460	18.0%	18.0%
6/30/83-84	963,997	982,491	945,504	18,493	36,987	97.1%	0.5%	17.5%	3,244	6,488	17.5%	17.5%
6/30/84-85	1,635,334	1,665,739	1,604,929	30,405	60,810	97.2%	0.5%	18.1%	5,502	11,004	18.1%	18.1%
6/30/85-86	2,259,269	2,262,190	2,253,254	6,015	8,936	99.7%	0.2%	60.5%	3,638	5,405	60.5%	60.5%
6/30/86-87	2,853,246	3,103,437	2,846,285	6,962	257,152	95.6%	0.5%	11.3%	785	28,998	11.3%	11.3%
6/30/87-88	4,903,031	5,028,385	4,817,165	85,865	211,219	97.0%	0.5%	16.7%	14,352	35,305	16.7%	16.7%
6/30/88-89	1,972,514	2,018,971	1,941,224	31,290	77,746	97.3%	0.5%	18.3%	5,727	14,230	18.3%	18.3%
6/30/89-90	4,164,576	4,271,035	4,091,736	72,841	179,299	97.0%	0.5%	16.7%	12,185	29,993	16.7%	16.7%
6/30/90-91	1,872,000	1,872,000	1,866,079	5,921	5,921	99.7%	0.2%	63.2%	3,744	3,744	63.2%	63.2%
6/30/91-92	2,236,619	2,399,466	2,161,309	75,310	238,157	93.2%	0.5%	7.4%	5,569	17,611	7.4%	7.4%
6/30/92-93	1,679,326	1,716,282	1,653,844	25,482	62,438	97.4%	0.5%	19.3%	4,921	12,057	19.3%	19.3%
6/30/93-94	1,693,000	2,066,000	1,672,340	20,660	393,660	89.0%	1.0%	9.1%	1,874	35,716	9.1%	9.1%
6/30/94-95	2,131,000	2,132,000	2,098,204	32,796	33,796	98.4%	1.0%	64.0%	20,995	21,635	64.0%	64.0%
6/30/95-96	1,879,180	1,920,160	1,850,889	28,290	69,271	97.4%	1.0%	38.9%	11,017	26,976	38.9%	38.9%
6/30/96-97	1,896,000	1,898,000	1,828,184	67,816	69,816	96.4%	2.0%	55.1%	37,389	38,491	55.1%	55.1%
6/30/97-98	2,566,000	2,571,000	2,408,286	157,714	162,714	93.8%	2.0%	32.1%	50,568	52,172	32.1%	32.1%
6/30/98-99	1,794,000	1,867,000	1,655,682	138,318	211,318	90.4%	3.0%	31.4%	43,449	66,381	31.4%	31.4%
6/30/99-00	1,822,000	1,824,000	1,667,525	154,475	156,475	91.5%	3.0%	35.2%	54,338	55,042	35.2%	35.2%
6/30/00-01	2,382,000	2,386,000	2,114,712	267,288	271,288	88.7%	4.0%	35.4%	94,652	96,068	35.4%	35.4%
6/30/01-02	3,200,000	3,214,000	2,775,916	424,084	438,084	86.6%	4.0%	29.8%	126,197	130,363	29.8%	29.8%
6/30/02-03	2,081,000	2,083,000	1,775,291	305,709	307,709	85.3%	1.3%	8.8%	26,760	26,935	8.8%	8.8%
6/30/03-04	2,582,000	2,675,000	2,177,552	404,448	497,448	82.8%	2.4%	14.1%	57,160	70,304	14.1%	14.1%
6/30/04-05	2,038,000	2,198,000	1,679,841	358,159	518,159	79.3%	3.5%	17.1%	61,137	88,448	17.1%	17.1%
6/30/05-06	2,571,000	2,713,000	2,044,571	526,429	668,429	77.4%	1.9%	8.5%	44,823	56,914	8.5%	8.5%
6/30/06-07	2,034,000	2,282,000	1,579,796	454,204	702,204	73.2%	4.2%	15.6%	70,872	109,568	15.6%	15.6%
6/30/07-08	3,663,000	3,764,000	2,753,103	909,897	1,010,897	74.1%	4.0%	15.5%	140,729	156,351	15.5%	15.5%
6/30/08-09	3,156,000	3,227,000	2,209,864	946,136	1,017,136	69.2%	4.9%	15.9%	150,590	161,891	15.9%	15.9%
6/30/09-10	4,397,000	4,744,000	2,953,034	1,443,966	1,790,966	64.6%	4.6%	13.1%	188,973	234,386	13.1%	13.1%
6/30/10-11	4,738,000	5,122,000	2,635,751	2,102,249	2,486,249	53.5%	11.1%	24.0%	503,568	595,550	24.0%	24.0%
6/30/11-12	3,850,000	3,980,000	1,547,399	2,302,601	2,432,601	39.5%	13.9%	23.0%	530,716	560,679	23.0%	23.0%
6/30/12-13	4,502,000	4,922,000	723,500	3,778,500	4,198,500	15.4%	24.2%	28.6%	1,078,947	1,198,877	28.6%	28.6%
Total	84,220,618	87,829,217	68,480,509	15,740,109	19,348,708				3,401,408	4,001,725	21.6%	20.7%

NOTES:

(2) Exhibit 1, Page 1, Column (4) + Exhibit 2, Page 1, Column (4)
(3) Exhibit 1, Page 1, Column (5) + Exhibit 2, Page 1, Column (5)
(4) Exhibit 1, Page 1, Column (2) + Exhibit 2, Page 1, Column (2)
(5) = (2) - (4)
(6) = (3) - (4)
(7) = (4) / Average of Columns (2), (3)
(8) = (7) - Prior Year's (7)
(9) = (8) / (1.00 - (7))
(10) = (5) * (9)
(11) = (6) * (9)
(12) = (10) / (5)
(13) = (11) / (6)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Massachusetts Colleges & Universities - Cluster 4
Medical

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Paid Loss	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		338,455			371,104	384,329	32,649	45,874		
6/30/82-83		53,045	53,200		53,310	53,575	265	530		
6/30/83-84		27,773	27,854		27,912	28,051	139	278		
6/30/84-85	357,749	112,891	113,222	113,403	113,455	114,020	564	1,129	0.032	0.032
6/30/85-86	380,112	384,347	385,472	385,845	386,269	388,190	1,922	3,843	0.102	0.102
6/30/86-87	423,770	238,056	238,753	239,071	239,246	240,437	1,190	2,381	0.056	0.057
6/30/87-88	480,405	638,704	640,574	641,116	641,000	641,000	2,296	2,296	0.133	0.133
6/30/88-89	495,261	426,014	427,262	427,764	427,000	428,000	986	1,986	0.086	0.086
6/30/89-90	502,691	543,131	544,722	545,348	545,000	545,000	1,869	1,869	0.108	0.108
6/30/90-91	482,143	472,472	473,856	473,848	474,000	474,000	1,528	1,528	0.098	0.098
6/30/91-92	492,539	768,431	771,452	771,410	771,000	771,000	2,569	2,569	0.157	0.157
6/30/92-93	524,541	506,348	508,847	508,810	508,880	511,411	2,532	5,063	0.097	0.097
6/30/93-94	584,853	583,321	587,372	587,293	587,000	587,000	3,679	3,679	0.100	0.100
6/30/94-95	587,701	549,714	555,192	555,073	555,000	555,000	5,286	5,286	0.094	0.094
6/30/95-96	614,868	581,842	589,404	589,215	584,752	587,661	2,909	5,818	0.095	0.096
6/30/96-97	700,686	707,292	718,633	718,292	718,000	719,000	10,708	11,708	0.102	0.103
6/30/97-98	684,415	429,419	445,676	445,581	446,000	446,000	16,581	16,581	0.065	0.065
6/30/98-99	707,796	338,914	354,816	355,161	355,000	355,000	16,086	16,086	0.050	0.050
6/30/99-00	760,477	485,189	513,238	513,096	513,000	513,000	27,811	27,811	0.067	0.067
6/30/00-01	811,600	564,300	604,516	604,141	604,000	605,000	39,700	40,700	0.074	0.075
6/30/01-02	835,038	533,611	582,037	582,064	582,000	582,000	48,389	48,389	0.070	0.070
6/30/02-03	825,340	571,378	623,471	623,369	623,000	623,000	51,622	51,622	0.075	0.075
6/30/03-04	849,216	690,599	758,926	758,074	758,000	759,000	67,401	68,401	0.089	0.089
6/30/04-05	992,508	656,278	734,269	742,100	734,000	742,000	77,722	85,722	0.074	0.075
6/30/05-06	962,878	746,165	842,772	839,037	839,000	843,000	92,835	96,835	0.087	0.088
6/30/06-07	1,032,930	640,381	731,479	751,869	731,000	752,000	90,619	111,619	0.071	0.073
6/30/07-08	1,063,597	872,814	1,010,896	1,002,501	1,003,000	1,011,000	130,186	138,186	0.094	0.095
6/30/08-09	1,073,805	864,784	1,020,020	1,015,843	1,016,000	1,020,000	151,216	155,216	0.095	0.095
6/30/09-10	1,084,749	909,378	1,120,195	1,108,898	1,109,000	1,120,000	199,622	210,622	0.102	0.103
6/30/10-11	1,134,164	950,680	1,328,077	1,275,118	1,275,000	1,328,000	324,320	377,320	0.112	0.117
6/30/11-12	1,202,674	676,973	1,100,832	1,157,112	1,101,000	1,157,000	424,027	480,027	0.092	0.096
6/30/12-13	1,284,741	291,036	1,068,456	1,289,357	1,068,000	1,289,000	776,964	997,964	0.083	0.100
Total	21,933,246	17,153,733	19,475,491	19,619,810	19,759,928	20,172,675	2,606,194	3,018,941		
Tot 6/30/84-13	21,933,246	16,734,460	19,394,436	19,619,810	19,307,602	19,706,719	2,573,141	2,972,259	0.088	0.090

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 7, Exhibit 2, Page 2, Column 3

(4) From Section 7, Exhibit 2, Page 2, Column 8

(5) From Section 7, Exhibit 2, Page 3, Column 8

(6), (7) Selected based on (3), (4), and (5)

(8) = (6) - (3)

(9) = (7) - (3)

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Massachusetts Colleges & Universities - Cluster 4
Medical

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Accident Year	Payroll (000's)	Paid Loss	Paid LDF	Adjustment for Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/11-12	Paid Counts 7/1/12-13	Average Outstanding Claim
All Prior Yrs		338,455							1	1	
6/30/82-83		53,045	1.003	1.000	53,200	N/A	53,200		0	0	
6/30/83-84		27,773	1.003	1.000	27,854	N/A	27,854		0	0	
6/30/84-85	357,749	112,891	1.003	1.000	113,222	N/A	113,222	0.032	0	0	
6/30/85-86	380,112	384,347	1.003	1.000	385,472	N/A	385,472	0.101	0	0	
6/30/86-87	423,770	238,056	1.003	1.000	238,753	N/A	238,753	0.056	0	0	
6/30/87-88	480,405	638,704	1.003	1.000	640,574	N/A	640,574	0.133	2	2	935
6/30/88-89	495,261	426,014	1.003	1.000	427,262	N/A	427,262	0.086	1	1	1,247
6/30/89-90	502,691	543,131	1.003	1.000	544,722	N/A	544,722	0.108	1	1	1,590
6/30/90-91	482,143	472,472	1.003	1.000	473,856	N/A	473,856	0.098	0	0	
6/30/91-92	492,539	768,431	1.004	1.000	771,452	N/A	771,452	0.157	1	1	3,021
6/30/92-93	524,541	506,348	1.005	1.000	508,847	N/A	508,847	0.097	0	0	
6/30/93-94	584,853	583,321	1.007	1.000	587,372	N/A	587,372	0.100	2	4	1,013
6/30/94-95	587,701	549,714	1.010	1.000	555,192	N/A	555,192	0.094	1	1	5,478
6/30/95-96	614,868	581,842	1.013	1.000	589,404	N/A	589,404	0.096	0	0	
6/30/96-97	700,686	707,292	1.016	1.000	718,633	N/A	718,633	0.103	3	2	5,671
6/30/97-98	684,415	429,419	1.038	1.000	445,676	N/A	445,676	0.065	1	1	16,257
6/30/98-99	707,796	338,914	1.047	1.000	354,816	N/A	354,816	0.050	0	3	5,301
6/30/99-00	760,477	485,189	1.058	1.000	513,238	N/A	513,238	0.067	0	1	28,050
6/30/00-01	811,600	564,300	1.071	1.000	604,516	N/A	604,516	0.074	2	2	20,108
6/30/01-02	835,038	533,611	1.091	1.000	582,037	N/A	582,037	0.070	1	2	24,213
6/30/02-03	825,340	571,378	1.091	1.000	623,471	N/A	623,471	0.076	3	2	26,046
6/30/03-04	849,216	690,599	1.099	1.000	758,926	N/A	758,926	0.089	1	2	34,164
6/30/04-05	992,508	656,278	1.119	1.000	734,269	N/A	734,269	0.074	5	4	19,498
6/30/05-06	962,878	746,165	1.129	1.000	842,772	N/A	842,772	0.088	6	8	12,076
6/30/06-07	1,032,930	640,381	1.142	1.000	731,479	N/A	731,479	0.071	4	4	22,774
6/30/07-08	1,063,597	872,814	1.158	1.000	1,010,896	N/A	1,010,896	0.095	14	13	10,622
6/30/08-09	1,073,805	864,784	1.180	1.000	1,020,020	N/A	1,020,020	0.095	23	11	14,112
6/30/09-10	1,084,749	909,378	1.232	1.000	1,120,195	N/A	1,120,195	0.103	54	27	7,808
6/30/10-11	1,134,164	950,680	1.397	1.000	1,328,077	N/A	1,328,077	0.117	163	48	7,862
6/30/11-12	1,202,674	676,973	1.626	1.000	1,100,832	N/A	1,100,832	0.092	253	152	2,789
6/30/12-13	1,284,741	291,036	3.671	1.000	1,068,456	N/A	1,068,456	0.083		258	3,013
Total	21,933,246	17,153,733			19,475,491		19,475,491		542	551	

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3), (4) From Section 7, Exhibit 2, Page 7

(5) Based on information from the MA WCRIB 9/1/12 filing. Consideration for development beyond 252 months made in selection of LDF's.

(6) = (3) x (4) x (5)

(7) Lump Sum Payments are considered in the Indemnity analysis (Section 1)

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10), (11) Provided by Commonwealth of Massachusetts

(12) = Maximum of [{(6) - (3)} / (11)] and 0

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Massachusetts Colleges & Universities - Cluster 4
Medical

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident Year	Payroll (000's)	A Priori Loss Rate	Paid Loss	Paid LDF	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Ultimate Loss Cost Excluding Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	357,749	0.049	112,891	1.003	113,403	N/A	113,403	0.032	0.032
6/30/85-86	380,112	0.135	384,347	1.003	385,845	N/A	385,845	0.102	0.102
6/30/86-87	423,770	0.082	238,056	1.003	239,071	N/A	239,071	0.056	0.056
6/30/87-88	480,405	0.172	638,704	1.003	641,116	N/A	641,116	0.133	0.133
6/30/88-89	495,261	0.121	426,014	1.003	427,764	N/A	427,764	0.086	0.086
6/30/89-90	502,691	0.151	543,131	1.003	545,348	N/A	545,348	0.108	0.108
6/30/90-91	482,143	0.098	472,472	1.003	473,848	N/A	473,848	0.098	0.098
6/30/91-92	492,539	0.154	768,431	1.004	771,410	N/A	771,410	0.157	0.157
6/30/92-93	524,541	0.096	506,348	1.005	508,810	N/A	508,810	0.097	0.097
6/30/93-94	584,853	0.098	583,321	1.007	587,293	N/A	587,293	0.100	0.100
6/30/94-95	587,701	0.092	549,714	1.010	555,073	N/A	555,073	0.094	0.094
6/30/95-96	614,868	0.093	581,842	1.013	589,215	N/A	589,215	0.096	0.096
6/30/96-97	700,686	0.099	707,292	1.016	718,292	N/A	718,292	0.103	0.103
6/30/97-98	684,415	0.065	429,419	1.038	445,581	N/A	445,581	0.065	0.065
6/30/98-99	707,796	0.051	338,914	1.047	355,161	N/A	355,161	0.050	0.050
6/30/99-00	760,477	0.067	485,189	1.058	513,096	N/A	513,096	0.067	0.067
6/30/00-01	811,600	0.074	564,300	1.071	604,141	N/A	604,141	0.074	0.074
6/30/01-02	835,038	0.070	533,611	1.091	582,064	N/A	582,064	0.070	0.070
6/30/02-03	825,340	0.075	571,378	1.091	623,369	N/A	623,369	0.076	0.076
6/30/03-04	849,216	0.088	690,599	1.099	758,074	N/A	758,074	0.089	0.089
6/30/04-05	992,508	0.081	656,278	1.119	742,100	N/A	742,100	0.075	0.075
6/30/05-06	962,878	0.084	746,165	1.129	839,037	N/A	839,037	0.087	0.087
6/30/06-07	1,032,930	0.087	640,381	1.142	751,869	N/A	751,869	0.073	0.073
6/30/07-08	1,063,597	0.089	872,814	1.158	1,002,501	N/A	1,002,501	0.094	0.094
6/30/08-09	1,073,805	0.092	864,784	1.180	1,015,843	N/A	1,015,843	0.095	0.095
6/30/09-10	1,084,749	0.098	909,378	1.232	1,108,898	N/A	1,108,898	0.102	0.102
6/30/10-11	1,134,164	0.101	950,680	1.397	1,275,118	N/A	1,275,118	0.112	0.112
6/30/11-12	1,202,674	0.104	676,973	1.626	1,157,112	N/A	1,157,112	0.096	0.096
6/30/12-13	1,284,741	0.107	291,036	3.671	1,289,357	N/A	1,289,357	0.100	0.100
Total	21,933,246		16,734,460		19,619,810		19,619,810		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 7, Exhibit 2, Page 4, Column 11

(4) From Section 7, Exhibit 2, Page 2, Column 3

(5) From Section 7, Exhibit 2, Page 2, Column 4

(6) = (4) + [{1 - {1 / (5)}} x (3) x (2) x 10]

(7) Lump Sum Payments are considered in the Indemnity analysis (Section 1)

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10) = (6) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Massachusetts Colleges & Universities - Cluster 4
Medical

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Expected Ult Loss	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									0.049	0.049
6/30/85-86									0.135	0.135
6/30/86-87									0.082	0.082
6/30/87-88									0.172	0.172
6/30/88-89									0.121	0.121
6/30/89-90									0.151	0.151
6/30/90-91	482,143	473,856	0.098	1.194	0.117	1.974	0.232	0.047	0.098	0.098
6/30/91-92	492,539	771,452	0.157	1.189	0.186	1.916	0.357	0.048	0.153	0.154
6/30/92-93	524,541	508,847	0.097	1.189	0.115	1.860	0.215	0.050	0.096	0.096
6/30/93-94	584,853	587,372	0.100	1.178	0.118	1.806	0.214	0.052	0.096	0.098
6/30/94-95	587,701	555,192	0.094	1.170	0.111	1.754	0.194	0.054	0.092	0.092
6/30/95-96	614,868	589,404	0.096	1.155	0.111	1.702	0.189	0.056	0.094	0.093
6/30/96-97	700,686	718,633	0.103	1.137	0.117	1.653	0.193	0.059	0.095	0.099
6/30/97-98	684,415	445,676	0.065	1.135	0.074	1.605	0.119	0.060	0.064	0.065
6/30/98-99	707,796	354,816	0.050	1.135	0.057	1.558	0.089	0.062	0.051	0.051
6/30/99-00	760,477	513,238	0.067	1.135	0.077	1.513	0.116	0.064	0.067	0.067
6/30/00-01	811,600	604,516	0.074	1.109	0.083	1.469	0.121	0.068	0.074	0.074
6/30/01-02	835,038	582,037	0.070	1.101	0.077	1.426	0.109	0.070	0.069	0.070
6/30/02-03	825,340	623,471	0.076	1.073	0.081	1.384	0.112	0.074	0.073	0.075
6/30/03-04	849,216	758,926	0.089	1.046	0.094	1.344	0.126	0.078	0.088	0.088
6/30/04-05	992,508	734,269	0.074	1.036	0.077	1.305	0.100	0.081	0.076	0.081
6/30/05-06	962,878	842,772	0.088	1.032	0.090	1.267	0.114	0.084	0.079	0.084
6/30/06-07	1,032,930	731,479	0.071	1.032	0.073	1.230	0.090	0.087	0.081	0.087
6/30/07-08	1,063,597	1,010,896	0.095	1.032	0.098	1.194	0.117	0.089	0.084	0.089
6/30/08-09	1,073,805	1,020,020	0.095	1.027	0.098	1.159	0.113	0.092	0.087	0.092
6/30/09-10	1,084,749	1,120,195	0.103	1.000	0.103	1.126	0.116	0.098	0.092	0.098
6/30/10-11	1,134,164	1,328,077	0.117	1.000	0.117	1.093	0.128	0.101	0.094	0.101
6/30/11-12	1,202,674	1,100,832	0.092	1.000	0.092	1.061	0.097	0.104	0.097	0.104
6/30/12-13	1,284,741	1,068,456	0.083	1.000	0.083	1.030	0.086	0.107		0.107
Total	19,293,258	17,044,431								

Trend Last 4 (ex 12-13):	-0.6%	Avg 3 (x12-13):	0.114
Trend Last 8 (ex 12-13):	4.3%	Avg 5 (x12-13):	0.114
Trend Last 12 (ex 12-13):	2.6%	Avg 10 (x12-13):	0.111
Prior Selected Trend:	3.0%	Prior Sel Avg:	0.100
Selected Trend:	3.0%	Sel. Loss Cost:	0.110

NOTES:
(2) Provided by Commonwealth of Massachusetts
(3) From Section 7, Exhibit 2, Page 2, Column 6
(4) = (3) / (2) / 10
(5) Based on information from the MA WCIRB
(6) = (4) x (5)
(7) Based on Selected Trend from (6)
(8) = (6) x (7)
(9) = Sel. Loss Cost / [(5) * (7)]
(10) From Aon analysis as of June 30, 2012
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

Massachusetts Colleges & Universities - Cluster 4
Medical

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend	0.970	
(2)	Credibility	23%	
(3)	Average Pmt Trend Statewide	0.950	
(4)	Credibility Weighted Trend	0.955	
		(Low)	(High)
(5)	Selected Range	0.945	0.964
(6)	Incremental Paid for 2013	1,702	1,702
(7)	Estimated Reserve	29,319	45,874
(8)	Paid to Date (82 & Prior)	338,455	338,455
(9)	Est Ult Paid for 1982 & Prior	367,774	384,329

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	5,140	6,951
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	35,979	48,658
(13)	Paid to Date (82 & Prior)	338,455	336,753
(14)	Est Ult Paid for 1982 & Prior	374,434	385,411
(14a)	Paid Counts During Fiscal Year	1	1
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	371,104	384,329
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	**371,104**	**384,329**
(18)	Implied Tail	1.096	1.136
(19)	Ult Loss Inc Lump Sums @ 6/12	391,800	436,881

NOTES:

(1) From Section 7, Exhibit 2, Page 6
(2) = (Average of Section 7, Exhibit 2, Page 6, Column 3 / 175,000) ^ 0.5
(3) Average Statewide Trend
(4) = (1) x (2) + (4) x {1 - (2)}
(5) Selected judgmentally based on (4)
(6), (14a) Provided by Commonwealth of Massachusetts
(7) = (6) x (5) / {1 - (5)}
(8), (16) From Section 7, Exhibit 2, Page 2, Column 3
(9) = (7) + (8)
(10) Avg of 3 latest years from Section 7, Exhibit 2, Page 6, Column 3
(11) Selected judgmentally
(12) = (10 x (11)
(14) = (12) + (13)
(15) = Average of (9) and (14)
(16) Lump Sums are considered in Indemnity analysis (Section 1)
(17) = (15) + (16)
(18) = (15) / (8)
(19) From Prior Aon Analysis as of June 30, 2012

Massachusetts Colleges & Universities - Cluster 4
Medical

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paids	LN	Average Observed Trend		Trend Calculations
1992	1	31,197	10.348			
1993	2	17,697	9.781	0.567		
1994	3	8,752	9.077	0.495		
1995	4	6,932	8.844	0.792		
1996	5	3,727	8.223	0.538		
1997	6	2,222	7.706	0.596		
1998	7	9,087	9.115	4.090		
1999	8	5,853	8.675	0.644		
2000	9	12,069	9.398	2.062	n =	22
2001	10	7,279	8.893	0.603	S(x) =	44,055
2002	11	8,308	9.025	1.141	S(x-sq) =	88,221,023
2003	12	8,142	9.005	0.980	S(xy) =	395,139
2004	13	19,519	9.879	2.397	S(y) =	197
2005	14	7,873	8.971	0.403	D =	19,481
2006	15	11,471	9.348	1.457	slope =	-0.032
2007	16	10,042	9.215	0.875	Avg Trend =	0.968
2008	17	8,213	9.014	0.818		
2009	18	9,432	9.152	1.148		
2010	19	7,136	8.873	0.757		
2011	20	10,399	9.249	1.457		
2012	21	3,318	8.107	0.319		
2013	22	1,702	7.440	0.513		
					Selected Trend:	**0.970**

NOTES:

(3) 2013 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2012

(4) LN [(3)]

(5) Eg. 2013: 0.513 = 1702 / 3318

Commonwealth of Massachusetts Workers Compensation
Massachusetts Colleges & Universities - Cluster 4
MEDICAL
Paid Loss Development
Paid Loss (Excluding Lump Sum)

Acc Yr Ending	*12*	*24*	*36*	*48*	*60*	*72*	*84*	*96*	*108*	*120*	*132*	*144*	*156*	*168*	*180*	*192*	*204*	*216*	*228*	*240*	*252*	*264*	*276*	*288*	*300*	*312*	*324*	*336*	*348*	*360*	*372*
June-83	5,425	13,479	21,113	27,654	30,220	32,596	38,756	40,003	49,390	49,452	49,902	49,902	49,902	52,680	52,680	52,680	52,680	53,045	53,045	53,045	53,045	53,045	53,045	53,045	53,045	53,045	53,045	53,045	53,045	53,045	53,045
June-84	3,642	9,520	14,025	17,952	20,550	23,119	24,788	27,281	27,458	27,458	27,458	27,773	27,773	27,773	27,773	27,773	27,773	27,773	27,773	27,773	27,773	27,773	27,773	27,773	27,773	27,773	27,773	27,773	27,773	27,773	
June-85	13,476	35,975	51,552	65,364	72,959	79,579	86,331	95,092	106,398	110,557	111,969	111,969	112,255	112,573	112,891	112,891	112,891	112,891	112,891	112,891	112,891	112,891	112,891	112,891	112,891	112,891	112,891	112,891	112,891		
June-86	33,919	90,663	130,143	159,111	250,739	286,799	294,926	297,883	299,398	302,212	307,822	320,541	325,361	342,239	344,332	347,860	364,047	376,849	380,765	383,694	384,347	384,347	384,347	384,347	384,347	384,347	384,347	384,347			
June-87	33,322	88,558	133,068	167,433	202,414	217,655	221,836	226,928	230,316	231,634	233,141	233,163	235,329	236,440	236,440	236,440	236,440	237,211	237,211	237,211	237,211	237,211	238,056	238,056	238,056	238,056	238,056				
June-88	59,518	204,414	290,147	350,533	381,836	423,661	513,908	554,667	558,927	578,241	580,791	582,947	585,666	587,383	588,760	590,429	611,904	620,480	621,465	623,581	623,951	627,240	627,525	631,767	636,396	638,704					
June-89	62,198	211,475	294,554	322,576	356,178	387,366	391,897	394,643	397,103	398,291	400,332	413,505	414,824	415,958	415,958	424,869	425,154	425,154	425,154	425,154	425,154	425,154	425,840	425,973	426,014						
June-90	50,219	295,860	408,825	438,277	465,544	487,856	501,254	508,956	511,410	519,157	521,054	521,523	523,073	526,415	531,243	532,370	532,613	534,177	535,910	537,636	540,156	540,156	541,381	543,131							
June-91	73,392	311,241	360,552	400,955	419,114	437,552	445,905	451,717	456,911	463,872	466,034	467,206	468,330	470,247	472,258	472,472	472,472	472,472	472,472	472,472	472,472	472,472	472,472								
June-92	221,188	477,478	560,364	598,339	631,891	641,232	646,926	650,216	653,117	658,289	666,600	671,991	681,366	690,612	701,403	710,623	719,185	728,531	738,270	747,976	759,027	768,431									
June-93	150,073	407,193	449,884	478,264	489,794	496,554	498,030	498,889	501,701	503,184	504,152	505,509	506,348	506,348	506,348	506,348	506,348	506,348	506,348	506,348	506,348										
June-94	156,060	302,215	335,354	369,121	403,159	421,734	441,218	452,877	461,708	470,189	479,925	489,958	504,404	513,367	522,984	528,697	539,677	552,169	567,707	583,321											
June-95	109,792	244,835	298,417	304,966	313,919	317,775	323,966	336,940	345,737	404,548	417,872	419,186	507,915	517,682	526,590	533,675	537,590	548,842	549,714												
June-96	187,362	423,531	463,708	493,442	512,072	523,060	559,979	563,249	572,255	575,372	578,197	581,714	581,842	581,842	581,842	581,842	581,842	581,842													
June-97	169,255	306,866	359,926	403,511	440,040	450,988	458,674	483,346	503,475	519,848	535,734	556,260	578,975	602,453	632,460	672,797	707,292														
June-98	130,372	302,957	339,295	363,480	383,927	388,726	391,919	417,459	417,733	418,585	421,666	427,310	427,449	428,766	428,839	429,419															
June-99	97,937	205,527	246,679	296,667	310,533	318,692	324,215	326,063	327,858	331,461	334,241	334,867	336,644	336,644	338,914																
June-00	149,711	324,594	408,387	446,980	464,695	474,595	478,979	480,612	480,853	482,147	483,486	483,486	483,486	485,189																	
June-01	146,796	329,001	398,588	483,338	524,021	540,381	553,789	559,032	562,148	562,831	562,932	563,168	564,300																		
June-02	113,531	244,127	383,389	485,433	511,686	522,029	525,064	528,876	530,895	532,387	533,222	533,611																			
June-03	68,006	374,633	451,946	472,102	486,597	492,733	520,395	535,451	548,996	558,702	571,378																				
June-04	226,665	540,314	613,339	657,569	676,213	687,448	689,931	690,265	690,426	690,599																					
June-05	267,264	502,730	569,792	616,429	634,553	643,543	651,061	654,330	656,278																						
June-06	266,086	533,067	604,845	688,237	700,485	712,078	725,521	746,165																							
June-07	237,774	472,669	580,019	596,123	625,421	633,211	640,381																								
June-08	254,702	609,536	722,745	829,701	850,544	872,814																									
June-09	295,106	650,179	756,525	816,761	864,784																										
June-10	419,730	775,749	865,851	909,378																											
June-11	454,614	843,137	950,680																												
June-12	330,317	676,973																													
June-13	291,036																														

Age-to-Age Factors

Acc Yr Ending	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*
June-83	2.485	1.566	1.310	1.093	1.079	1.189	1.032	1.235	1.001	1.009	1.000	1.000	1.056	1.000	1.000	1.000	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
June-84	2.614	1.473	1.280	1.145	1.125	1.072	1.101	1.006	1.000	1.000	1.011	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
June-85	2.670	1.433	1.268	1.116	1.091	1.085	1.101	1.119	1.039	1.013	1.000	1.003	1.003	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
June-86	2.673	1.435	1.223	1.576	1.144	1.028	1.010	1.005	1.009	1.019	1.041	1.015	1.052	1.006	1.010	1.047	1.035	1.010	1.008	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
June-87	2.658	1.503	1.258	1.209	1.075	1.019	1.023	1.015	1.006	1.007	1.000	1.009	1.005	1.000	1.000	1.000	1.003	1.000	1.000	1.000	1.000	1.004	1.000	1.000	1.000	1.000					
June-88	3.434	1.419	1.208	1.089	1.110	1.213	1.079	1.008	1.035	1.004	1.004	1.005	1.003	1.002	1.003	1.036	1.014	1.002	1.003	1.001	1.005	1.000	1.007	1.007	1.004						
June-89	3.400	1.393	1.095	1.104	1.088	1.012	1.007	1.006	1.003	1.005	1.033	1.003	1.003	1.000	1.021	1.001	1.000	1.000	1.000	1.000	1.000	1.002	1.000	1.000							
June-90	5.891	1.382	1.072	1.062	1.048	1.027	1.015	1.005	1.015	1.004	1.001	1.003	1.006	1.009	1.002	1.000	1.003	1.003	1.003	1.005	1.000	1.002	1.003								
June-91	4.241	1.158	1.112	1.045	1.044	1.019	1.013	1.011	1.015	1.005	1.003	1.002	1.004	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
June-92	2.159	1.174	1.068	1.056	1.015	1.009	1.005	1.004	1.008	1.013	1.008	1.014	1.014	1.016	1.013	1.012	1.013	1.013	1.013	1.015	1.012										
June-93	2.713	1.105	1.063	1.024	1.014	1.003	1.002	1.006	1.003	1.002	1.003	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
June-94	1.937	1.110	1.101	1.092	1.046	1.046	1.026	1.019	1.018	1.021	1.021	1.029	1.018	1.019	1.011	1.021	1.023	1.028	1.028												
June-95	2.230	1.219	1.022	1.029	1.012	1.019	1.040	1.026	1.170	1.033	1.003	1.212	1.019	1.017	1.013	1.007	1.021	1.002													
June-96	2.260	1.095	1.064	1.038	1.021	1.071	1.006	1.016	1.005	1.005	1.006	1.000	1.000	1.000	1.000	1.000	1.000														
June-97	1.813	1.173	1.121	1.091	1.025	1.017	1.054	1.042	1.033	1.031	1.038	1.041	1.041	1.050	1.064	1.051															
June-98	2.324	1.120	1.071	1.056	1.012	1.008	1.065	1.001	1.002	1.007	1.013	1.000	1.003	1.000	1.001																
June-99	2.099	1.200	1.203	1.047	1.026	1.017	1.006	1.006	1.011	1.008	1.002	1.005	1.000	1.007																	
June-00	2.168	1.258	1.095	1.040	1.021	1.009	1.003	1.001	1.003	1.003	1.000	1.000	1.004																		
June-01	2.241	1.212	1.213	1.084	1.031	1.025	1.009	1.006	1.001	1.000	1.000	1.002																			
June-02	2.150	1.570	1.266	1.054	1.020	1.006	1.007	1.004	1.003	1.002	1.001																				
June-03	5.509	1.206	1.045	1.031	1.013	1.056	1.029	1.025	1.018	1.023																					
June-04	2.384	1.135	1.072	1.028	1.017	1.004	1.000	1.000	1.000																						
June-05	1.881	1.133	1.082	1.029	1.014	1.012	1.005	1.003																							
June-06	2.003	1.135	1.138	1.018	1.017	1.019	1.028																								
June-07	1.988	1.227	1.028	1.049	1.012	1.011																									
June-08	2.393	1.186	1.148	1.025	1.026																										
June-09	2.203	1.164	1.080	1.059																											
June-10	1.848	1.116	1.050																												
June-11	1.855	1.128																													
June-12	2.049																														

Averages	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*To Ult*
Simple Avg																															
All Yrs	2.609	1.256	1.134	1.085	1.044	1.040	1.028	1.025	1.018	1.010	1.009	1.018	1.013	1.008	1.009	1.012	1.009	1.004	1.005	1.002	1.002	1.001	1.001	1.001	1.001	1.000	1.000	1.000	1.000	1.000	
Latest 5	2.070	1.164	1.089	1.036	1.017	1.020	1.014	1.008	1.005	1.007	1.003	1.010	1.009	1.015	1.018	1.016	1.011	1.009	1.009	1.004	1.004	1.002	1.002	1.001	1.001	1.000					
Latest 3	1.917	1.136	1.093	1.044	1.018	1.014	1.011	1.010	1.007	1.008	1.000	1.002	1.002	1.019	1.022	1.020	1.015	1.010	1.014	1.005	1.004	1.001	1.003	1.002	1.001	1.000	1.000	1.000			
Volume Wtd																															
All Yrs	2.258	1.191	1.103	1.059	1.032	1.029	1.021	1.012	1.017	1.010	1.010	1.020	1.011	1.010	1.012	1.015	1.010	1.006	1.007	1.004	1.003	1.001	1.003	1.002	1.002	1.000	1.000	1.000	1.000		
Latest 5	2.027	1.157	1.088	1.036	1.018	1.018	1.014	1.007	1.005	1.007	1.003	1.011	1.011	1.017	1.020	1.017	1.011	1.009	1.010	1.005	1.004	1.001	1.003	1.003	1.002	1.000					
Latest 3	1.906	1.134	1.090	1.044	1.019	1.014	1.012	1.008	1.006	1.008	1.000	1.002	1.002	1.024	1.025	1.021	1.014	1.010	1.014	1.006	1.005	1.001	1.004	1.004	1.002	1.000	1.000	1.000			

Dev Factor Selection																															
Industry 1	1.968	1.143	1.054	1.030	1.018	1.014	1.012																								
Industry 2		1.266	1.074	1.040	1.013	1.011	1.010	1.015	1.008	1.013	1.013	1.009	1.008	1.008	1.008	1.005	1.004	1.002	1.004	1.005											
Prior	*2.273*	*1.165*	*1.137*	*1.031*	*1.014*	*1.011*	*1.011*	*1.010*	*1.019*	*1.004*	*1.001*	*1.019*	*1.013*	*1.011*	*1.009*	*1.009*	*1.003*	*1.003*	*1.003*	*1.002*	*1.001*	*1.001*	*1.001*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	1.004
Selected	2.258	1.164	1.134	1.044	1.018	1.014	1.011	1.010	1.018	1.007	1.000	1.018	1.013	1.010	1.009	1.021	1.003	1.003	1.003	1.002	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.003
FacToUlt	3.671	1.626	1.397	1.232	1.180	1.158	1.142	1.129	1.119	1.099	1.091	1.091	1.071	1.058	1.047	1.038	1.016	1.013	1.010	1.007	1.005	1.004	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003
Percent of Ult	27.2%	61.5%	71.6%	81.2%	84.8%	86.3%	87.5%	88.5%	89.4%	91.0%	91.6%	91.7%	93.3%	94.5%	95.5%	96.4%	98.4%	98.7%	99.0%	99.3%	99.5%	99.6%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%

Massachusetts Colleges & Universities - Cluster 4
Medical

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Ultimate Loss		Ultimate Loss		Change in Ultimate Loss		Change in Ultimate Loss	
Accident	As of 6/12		As of 6/12		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	391,800	436,881	371,104	384,329	(20,696)	-5.3%	(52,552)	-12.0%
6/30/82-83	53,310	53,575	53,310	53,575	0	0.0%	0	0.0%
6/30/83-84	27,912	28,051	27,912	28,051	0	0.0%	0	0.0%
6/30/84-85	113,455	114,020	113,455	114,020	0	0.0%	0	0.0%
6/30/85-86	386,269	388,190	386,269	388,190	0	0.0%	0	0.0%
6/30/86-87	239,246	240,437	239,246	240,437	0	0.0%	0	0.0%
6/30/87-88	639,000	640,000	641,000	641,000	2,000	0.3%	1,000	0.2%
6/30/88-89	428,000	428,000	427,000	428,000	(1,000)	-0.2%	0	0.0%
6/30/89-90	543,000	544,000	545,000	545,000	2,000	0.4%	1,000	0.2%
6/30/90-91	475,000	475,000	474,000	474,000	(1,000)	-0.2%	(1,000)	-0.2%
6/30/91-92	763,000	764,000	771,000	771,000	8,000	1.0%	7,000	0.9%
6/30/92-93	508,880	511,411	508,880	511,411	0	0.0%	0	0.0%
6/30/93-94	574,000	574,000	587,000	587,000	13,000	2.3%	13,000	2.3%
6/30/94-95	556,000	557,000	555,000	555,000	(1,000)	-0.2%	(2,000)	-0.4%
6/30/95-96	584,752	587,661	584,752	587,661	0	0.0%	0	0.0%
6/30/96-97	690,000	690,000	718,000	719,000	28,000	4.1%	29,000	4.2%
6/30/97-98	444,000	444,000	446,000	446,000	2,000	0.5%	2,000	0.5%
6/30/98-99	352,000	353,000	355,000	355,000	3,000	0.9%	2,000	0.6%
6/30/99-00	512,000	513,000	513,000	513,000	1,000	0.2%	0	0.0%
6/30/00-01	608,000	609,000	604,000	605,000	(4,000)	-0.7%	(4,000)	-0.7%
6/30/01-02	577,000	577,000	582,000	582,000	5,000	0.9%	5,000	0.9%
6/30/02-03	606,000	607,000	623,000	623,000	17,000	2.8%	16,000	2.6%
6/30/03-04	763,000	764,000	758,000	759,000	(5,000)	-0.7%	(5,000)	-0.7%
6/30/04-05	731,000	734,000	734,000	742,000	3,000	0.4%	8,000	1.1%
6/30/05-06	813,000	820,000	839,000	843,000	26,000	3.2%	23,000	2.8%
6/30/06-07	724,000	738,000	731,000	752,000	7,000	1.0%	14,000	1.9%
6/30/07-08	973,000	986,000	1,003,000	1,011,000	30,000	3.1%	25,000	2.5%
6/30/08-09	969,000	976,000	1,016,000	1,020,000	47,000	4.9%	44,000	4.5%
6/30/09-10	1,128,000	1,177,000	1,109,000	1,120,000	(19,000)	-1.7%	(57,000)	-4.8%
6/30/10-11	1,237,000	1,335,000	1,275,000	1,328,000	38,000	3.1%	(7,000)	-0.5%
6/30/11-12	1,174,000	1,189,000	1,101,000	1,157,000	(73,000)	-6.2%	(32,000)	-2.7%
6/30/12-13								
Total	18,584,624	18,854,226	18,691,928	18,883,675	107,304	0.6%	29,448	0.2%

NOTES:

(2), (3) From Aon analysis as of June 30, 2012

(4), (5) From Section 7, Exhibit 2, Page 1, Columns 6, 7

(6) = (4) - (2)

(7) = (4) / (2) - 1

(8) = (5) - (3)

(9) = (5) / (3) - 1

Massachusetts Colleges & Universities - Cluster 4
Medical

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At: 4%	6%
384	100.0%	0.3%	0.0%	0.1%	0.0%	1.000	1.000
372	99.7%	0.0%	0.3%	0.0%	0.0%	1.000	1.000
360	99.7%	0.0%	0.3%	0.0%	0.0%	1.000	1.000
348	99.7%	0.0%	0.3%	0.0%	0.0%	1.000	1.000
336	99.7%	0.0%	0.3%	0.0%	0.0%	1.000	1.000
324	99.7%	0.0%	0.3%	0.0%	0.0%	1.000	1.000
312	99.7%	0.0%	0.3%	0.0%	0.0%	0.806	0.726
300	99.7%	0.0%	0.3%	0.0%	0.0%	0.775	0.685
288	99.7%	0.0%	0.3%	0.0%	0.0%	0.745	0.646
276	99.7%	0.1%	0.3%	0.0%	0.0%	0.717	0.609
264	99.6%	0.1%	0.4%	0.0%	0.0%	0.763	0.676
252	99.5%	0.2%	0.5%	0.1%	0.1%	0.784	0.705
240	99.3%	0.3%	0.7%	0.1%	0.1%	0.819	0.753
228	99.0%	0.3%	1.0%	0.1%	0.1%	0.846	0.789
216	98.7%	0.3%	1.3%	0.1%	0.1%	0.852	0.797
204	98.4%	2.1%	1.6%	1.1%	0.8%	0.849	0.793
192	96.4%	0.8%	3.6%	0.5%	0.3%	0.910	0.875
180	95.5%	1.0%	4.5%	0.6%	0.4%	0.894	0.852
168	94.5%	1.2%	5.5%	0.7%	0.5%	0.882	0.834
156	93.3%	1.7%	6.7%	1.0%	0.8%	0.871	0.820
144	91.7%	0.0%	8.3%	0.0%	0.0%	0.867	0.813
132	91.6%	0.6%	8.4%	0.4%	0.4%	0.834	0.768
120	91.0%	1.6%	9.0%	1.1%	0.9%	0.815	0.742
108	89.4%	0.8%	10.6%	0.6%	0.5%	0.813	0.742
96	88.5%	1.0%	11.5%	0.7%	0.6%	0.797	0.719
84	87.5%	1.2%	12.5%	0.9%	0.8%	0.783	0.702
72	86.3%	1.6%	13.7%	1.3%	1.1%	0.773	0.690
60	84.8%	3.6%	15.2%	3.0%	2.8%	0.768	0.683
48	81.2%	9.6%	18.8%	8.4%	7.8%	0.784	0.707
36	71.6%	10.1%	28.4%	9.1%	8.7%	0.831	0.770
24	61.5%	34.3%	38.5%	32.3%	31.4%	0.846	0.790
12	27.2%	27.2%	72.8%	26.7%	26.5%	0.892	0.852
Total		100.0%					

NOTES:

(2) = 1 / Section 7, Exhibit 2, Page 2, Column 4

(3) Incremental % based on (2)

(4) = 1 - (2)

(5) = [(3) / 1.04] ^ {[(1) - 6] / 12}

(6) = [(3) / 1.06] ^ {[(1) - 6] / 12}

(7), (8) Discount factor based on (5), (6)

Massachusetts Colleges & Universities - Cluster 4
Medical

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	32,649	45,874		28,554	40,121
6/30/82-83	265	530	1.000	265	530
6/30/83-84	139	278	1.000	139	278
6/30/84-85	564	1,129	1.000	564	1,129
6/30/85-86	1,922	3,843	1.000	1,922	3,843
6/30/86-87	1,190	2,381	1.000	1,190	2,381
6/30/87-88	2,296	2,296	0.806	1,851	1,851
6/30/88-89	986	1,986	0.775	764	1,539
6/30/89-90	1,869	1,869	0.745	1,392	1,392
6/30/90-91	1,528	1,528	0.717	1,095	1,095
6/30/91-92	2,569	2,569	0.763	1,960	1,960
6/30/92-93	2,532	5,063	0.784	1,984	3,969
6/30/93-94	3,679	3,679	0.819	3,013	3,013
6/30/94-95	5,286	5,286	0.846	4,470	4,470
6/30/95-96	2,909	5,818	0.852	2,478	4,956
6/30/96-97	10,708	11,708	0.849	9,094	9,943
6/30/97-98	16,581	16,581	0.910	15,082	15,082
6/30/98-99	16,086	16,086	0.894	14,387	14,387
6/30/99-00	27,811	27,811	0.882	24,520	24,520
6/30/00-01	39,700	40,700	0.871	34,597	35,468
6/30/01-02	48,389	48,389	0.867	41,930	41,930
6/30/02-03	51,622	51,622	0.834	43,043	43,043
6/30/03-04	67,401	68,401	0.815	54,906	55,721
6/30/04-05	77,722	85,722	0.813	63,215	69,722
6/30/05-06	92,835	96,835	0.797	73,956	77,142
6/30/06-07	90,619	111,619	0.783	70,961	87,406
6/30/07-08	130,186	138,186	0.773	100,640	106,824
6/30/08-09	151,216	155,216	0.768	116,078	119,148
6/30/09-10	199,622	210,622	0.784	156,603	165,232
6/30/10-11	324,320	377,320	0.831	269,424	313,453
6/30/11-12	424,027	480,027	0.846	358,900	406,299
6/30/12-13	776,964	997,964	0.892	693,326	890,536
Total	2,606,194	3,018,941		2,192,305	2,548,385
			(7) Total Discount Factor:	0.841	0.844

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	32,649	45,874
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	4,664	6,553
(11) Discounted Value at 4%:	28,554	40,121

NOTES:
(2), (3) From Section 7, Exhibit 2, Page 1, Columns 8, 9
(4) From Section 7, Exhibit 2, Page 9, Column 7
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Massachusetts Colleges & Universities - Cluster 4
Medical

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	32,649	45,874		26,818	37,682
6/30/82-83	265	530	1.000	265	530
6/30/83-84	139	278	1.000	139	278
6/30/84-85	564	1,129	1.000	564	1,129
6/30/85-86	1,922	3,843	1.000	1,922	3,843
6/30/86-87	1,190	2,381	1.000	1,190	2,381
6/30/87-88	2,296	2,296	0.726	1,667	1,667
6/30/88-89	986	1,986	0.685	675	1,360
6/30/89-90	1,869	1,869	0.646	1,207	1,207
6/30/90-91	1,528	1,528	0.609	931	931
6/30/91-92	2,569	2,569	0.676	1,736	1,736
6/30/92-93	2,532	5,063	0.705	1,785	3,570
6/30/93-94	3,679	3,679	0.753	2,772	2,772
6/30/94-95	5,286	5,286	0.789	4,172	4,172
6/30/95-96	2,909	5,818	0.797	2,318	4,636
6/30/96-97	10,708	11,708	0.793	8,490	9,282
6/30/97-98	16,581	16,581	0.875	14,503	14,503
6/30/98-99	16,086	16,086	0.852	13,711	13,711
6/30/99-00	27,811	27,811	0.834	23,200	23,200
6/30/00-01	39,700	40,700	0.820	32,549	33,368
6/30/01-02	48,389	48,389	0.813	39,345	39,345
6/30/02-03	51,622	51,622	0.768	39,642	39,642
6/30/03-04	67,401	68,401	0.742	50,027	50,769
6/30/04-05	77,722	85,722	0.742	57,633	63,565
6/30/05-06	92,835	96,835	0.719	66,794	69,672
6/30/06-07	90,619	111,619	0.702	63,619	78,362
6/30/07-08	130,186	138,186	0.690	89,773	95,290
6/30/08-09	151,216	155,216	0.683	103,343	106,076
6/30/09-10	199,622	210,622	0.707	141,174	148,954
6/30/10-11	324,320	377,320	0.770	249,688	290,492
6/30/11-12	424,027	480,027	0.790	335,185	379,452
6/30/12-13	776,964	997,964	0.852	661,920	850,196
Total	2,606,194	3,018,941		2,038,756	2,373,772
			(7) Total Discount Factor:	0.782	0.786

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	32,649	45,874
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	4,664	6,553
(11) Discounted Value at 6%:	26,818	37,682

NOTES:
(2), (3) From Section 7, Exhibit 2, Page 1, Columns 8, 9
(4) From Section 7, Exhibit 2, Page 9, Column 8
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95

Indemnity

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Pd Loss Including Lump Sum	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		43,173,266			49,462,894	54,188,670	6,289,628	11,015,403		
6/30/82-83		5,556,961	5,990,742		5,840,973	6,290,279	284,012	733,318		
6/30/83-84		7,928,752	8,631,468		8,415,681	9,063,041	486,929	1,134,289		
6/30/84-85	732,729	16,575,338	18,225,945	17,249,189	17,249,000	18,226,000	673,662	1,650,662	2.354	2.487
6/30/85-86	787,208	19,473,822	21,254,390	20,473,189	20,473,000	21,254,000	999,178	1,780,178	2.601	2.700
6/30/86-87	902,483	19,851,857	21,888,359	21,105,039	21,105,000	21,888,000	1,253,143	2,036,143	2.339	2.425
6/30/87-88	1,366,586	27,132,631	29,495,461	29,443,714	29,444,000	30,233,000	2,311,369	3,100,369	2.155	2.212
6/30/88-89	1,486,478	24,854,644	27,300,639	26,954,859	26,955,000	27,983,000	2,100,356	3,128,356	1.813	1.883
6/30/89-90	1,494,463	23,455,855	26,149,828	26,088,412	26,088,000	26,804,000	2,632,145	3,348,145	1.746	1.794
6/30/90-91	1,405,560	20,627,446	23,376,007	23,356,418	23,356,000	23,960,000	2,728,554	3,332,554	1.662	1.705
6/30/91-92	1,364,510	12,463,408	14,379,250	14,356,577	14,357,000	15,098,000	1,893,592	2,634,592	1.052	1.106
6/30/92-93	1,347,359	9,362,882	11,932,263	11,087,611	11,088,000	12,529,000	1,725,118	3,166,118	0.823	0.930
6/30/93-94	1,424,410	10,226,625	12,193,140	12,151,501	12,152,000	12,803,000	1,925,375	2,576,375	0.853	0.899
6/30/94-95	1,497,829	9,221,567	11,144,909	11,104,805	11,105,000	11,702,000	1,883,433	2,480,433	0.741	0.781
6/30/95-96	1,582,635	9,444,993	11,756,964	11,698,972	11,699,000	12,345,000	2,254,007	2,900,007	0.739	0.780
6/30/96-97	1,979,748	9,907,530	12,452,670	12,408,169	12,408,000	13,075,000	2,500,470	3,167,470	0.627	0.660
6/30/97-98	1,917,994	8,671,657	10,898,929	10,887,457	10,887,000	11,444,000	2,215,343	2,772,343	0.568	0.597
6/30/98-99	2,081,524	8,735,352	11,296,186	11,289,021	11,289,000	11,861,000	2,553,648	3,125,648	0.542	0.570
6/30/99-00	2,207,243	10,086,322	13,489,030	13,441,784	13,442,000	14,163,000	3,355,678	4,076,678	0.609	0.642
6/30/00-01	2,201,008	9,452,289	12,998,836	12,970,352	12,970,000	13,649,000	3,517,711	4,196,711	0.589	0.620
6/30/01-02	2,292,592	10,123,636	14,173,187	14,151,176	14,151,000	14,882,000	4,027,364	4,758,364	0.617	0.649
6/30/02-03	2,260,534	9,654,882	13,998,465	13,981,166	13,981,000	14,698,000	4,326,118	5,043,118	0.618	0.650
6/30/03-04	2,255,942	8,689,735	12,876,782	12,907,452	12,877,000	13,553,000	4,187,265	4,863,265	0.571	0.601
6/30/04-05	2,309,083	9,998,983	15,043,893	15,119,552	15,044,000	15,120,000	5,045,017	5,121,017	0.652	0.655
6/30/05-06	2,480,693	9,460,257	14,698,697	15,510,377	14,699,000	15,510,000	5,238,743	6,049,743	0.593	0.625
6/30/06-07	2,612,577	8,237,171	13,573,955	15,262,871	13,574,000	15,263,000	5,336,829	7,025,829	0.520	0.584
6/30/07-08	2,783,717	11,118,825	19,638,734	19,804,424	18,657,000	19,804,000	7,538,175	8,685,175	0.670	0.711
6/30/08-09	2,750,907	10,761,910	20,965,427	20,792,176	20,792,000	20,965,000	10,030,090	10,203,090	0.756	0.762
6/30/09-10	2,806,048	9,957,062	22,492,660	21,979,047	21,979,000	22,493,000	12,021,938	12,535,938	0.783	0.802
6/30/10-11	2,942,638	9,565,970	26,814,034	25,310,489	25,310,000	26,814,000	15,744,030	17,248,030	0.860	0.911
6/30/11-12	3,006,849	6,814,851	27,245,426	25,379,689	25,380,000	27,245,000	18,565,149	20,430,149	0.844	0.906
6/30/12-13	3,138,905	3,201,952	28,520,685	27,006,832	27,007,000	28,521,000	23,805,048	25,319,048	0.860	0.909
Total	57,420,250	413,788,430	534,896,959	513,272,322	573,237,548	603,426,990	159,449,119	189,638,560		
Tot 6/30/84-13	57,420,250	357,129,450	520,274,750	513,272,322	509,518,000	533,885,000	152,388,550	176,755,550	0.887	0.930

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) Sum of Section 8, Exhibit 1, Page 2, Column 3 and Section 8, Exhibit 1, Page 9, Column 8

(4) From Section 8, Exhibit 1, Page 2, Column 8

(5) From Section 8, Exhibit 1, Page 3, Column 8

(6), (7) Selected based on (3), (4), and (5)

(8) = (6) - (3)

(9) = (7) - (3)

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Indemnity

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Accident Year	Payroll (000's)	Paid Loss Excluding Lump Sum	Paid LDF	Adjstmnt for Extra Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/11-12	Paid Counts 7/1/12-13	Average Outstanding Claim	Average Age
All Prior Yrs		41,513,052							16	16		82
6/30/82-83		5,513,211	1.027	1.050	5,946,336	44,406	5,990,742		2	2	216,562	74
6/30/83-84		7,445,202	1.041	1.050	8,140,664	490,803	8,631,468		1	1	695,462	67
6/30/84-85	732,729	15,828,834	1.051	1.050	17,468,244	757,702	18,225,945	2.487	3	3	546,470	81
6/30/85-86	787,208	18,367,288	1.064	1.030	20,131,259	1,123,132	21,254,390	2.700	5	4	440,993	77
6/30/86-87	902,483	18,331,993	1.078	1.030	20,345,697	1,542,662	21,888,359	2.425	7	7	287,672	75
6/30/87-88	1,366,586	25,061,227	1.093	1.000	27,392,986	2,102,475	29,495,461	2.158	9	8	291,470	70
6/30/88-89	1,486,478	21,928,411	1.109	1.000	24,322,977	2,977,662	27,300,639	1.837	10	10	239,457	72
6/30/89-90	1,494,463	20,740,230	1.127	1.000	23,379,448	2,770,380	26,149,828	1.750	8	9	293,246	68
6/30/90-91	1,405,560	18,129,844	1.148	1.000	20,811,145	2,564,862	23,376,007	1.663	6	6	446,883	77
6/30/91-92	1,364,510	11,121,672	1.168	1.000	12,990,474	1,388,776	14,379,250	1.054	7	7	266,972	70
6/30/92-93	1,347,359	8,148,509	1.190	1.100	10,669,432	1,262,831	11,932,263	0.886	7	6	420,154	69
6/30/93-94	1,424,410	8,920,103	1.214	1.000	10,826,941	1,366,199	12,193,140	0.856	6	8	238,355	65
6/30/94-95	1,497,829	7,689,350	1.239	1.000	9,529,046	1,615,862	11,144,909	0.744	6	5	367,939	74
6/30/95-96	1,582,635	8,199,310	1.271	1.000	10,424,297	1,332,667	11,756,964	0.743	5	4	556,247	71
6/30/96-97	1,979,748	7,998,711	1.302	1.000	10,413,838	2,038,832	12,452,670	0.629	8	4	603,782	68
6/30/97-98	1,917,994	6,269,462	1.329	1.000	8,334,603	2,564,326	10,898,929	0.568	6	1	2,065,141	71
6/30/98-99	2,081,524	6,682,288	1.360	1.000	9,086,172	2,210,014	11,296,186	0.543	5	4	600,971	51
6/30/99-00	2,207,243	8,192,773	1.394	1.000	11,422,973	2,066,057	13,489,030	0.611	7	5	646,040	61
6/30/00-01	2,201,008	7,849,861	1.430	1.000	11,224,673	1,774,163	12,998,836	0.591	8	9	374,979	59
6/30/01-02	2,292,592	8,123,218	1.469	1.000	11,934,752	2,238,435	14,173,187	0.618	6	9	423,504	54
6/30/02-03	2,260,534	7,917,384	1.512	1.000	11,972,872	2,025,593	13,998,465	0.619	9	5	811,098	53
6/30/03-04	2,255,942	7,027,971	1.554	1.000	10,921,750	1,955,032	12,876,782	0.571	9	6	648,963	51
6/30/04-05	2,309,083	7,676,782	1.602	1.000	12,298,723	2,745,170	15,043,893	0.652	15	9	513,549	56
6/30/05-06	2,480,693	7,199,757	1.657	1.000	11,927,007	2,771,690	14,698,697	0.593	24	10	472,725	51
6/30/06-07	2,612,577	6,546,082	1.730	1.000	11,322,652	2,251,303	13,573,955	0.520	27	20	238,829	52
6/30/07-08	2,783,717	9,094,716	1.830	1.000	16,639,624	2,999,110	19,638,734	0.705	54	27	279,441	54
6/30/08-09	2,750,907	8,997,984	1.985	1.000	17,859,887	3,105,540	20,965,427	0.762	96	50	177,238	51
6/30/09-10	2,806,048	8,649,349	2.243	1.000	19,397,511	3,095,149	22,492,660	0.802	114	71	151,383	49
6/30/10-11	2,942,638	8,335,371	2.678	1.000	22,323,641	4,490,394	26,814,034	0.911	252	99	141,296	51
6/30/11-12	3,006,849	6,520,051	3.632	1.000	23,683,847	3,561,579	27,245,426	0.906	561	246	69,772	48
6/30/12-13	3,138,905	3,164,952	7.771	1.000	24,593,549	3,927,137	28,520,685	0.909		515	41,609	46
Total	57,420,250	363,184,948			467,737,018	67,159,941	534,896,959		1,299	1,186		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3), (4) From Section 8, Exhibit 1, Page 7

(5) Based on information from the MA WCRIB

(6) = (3) x (4) x (5)

(7) From Section 8, Exhibit 1, Page 9, Column 13

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10), (11) Provided by Commonwealth of Massachusetts

(12) = Maximum of [{(6) - (3)} / (11)] and 0

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Indemnity

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident Year	Payroll (000's)	A Priori Loss Rate	Paid Loss Excluding Lump Sum	Paid LDF	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Ultimate Loss Cost Excluding Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	732,729	1.863	15,828,834	1.051	16,491,487	757,702	17,249,189	2.354	2.251
6/30/85-86	787,208	2.072	18,367,288	1.064	19,350,058	1,123,132	20,473,189	2.601	2.458
6/30/86-87	902,483	1.895	18,331,993	1.078	19,562,377	1,542,662	21,105,039	2.339	2.168
6/30/87-88	1,366,586	1.960	25,061,227	1.093	27,341,239	2,102,475	29,443,714	2.155	2.001
6/30/88-89	1,486,478	1.400	21,928,411	1.109	23,977,197	2,977,662	26,954,859	1.813	1.613
6/30/89-90	1,494,463	1.528	20,740,230	1.127	23,318,032	2,770,380	26,088,412	1.746	1.560
6/30/90-91	1,405,560	1.470	18,129,844	1.148	20,791,556	2,564,862	23,356,418	1.662	1.479
6/30/91-92	1,364,510	0.940	11,121,672	1.168	12,967,801	1,388,776	14,356,577	1.052	0.950
6/30/92-93	1,347,359	0.778	8,148,509	1.190	9,824,780	1,262,831	11,087,611	0.823	0.729
6/30/93-94	1,424,410	0.744	8,920,103	1.214	10,785,302	1,366,199	12,151,501	0.853	0.757
6/30/94-95	1,497,829	0.622	7,689,350	1.239	9,488,942	1,615,862	11,104,805	0.741	0.634
6/30/95-96	1,582,635	0.641	8,199,310	1.271	10,366,304	1,332,667	11,698,972	0.739	0.655
6/30/96-97	1,979,748	0.516	7,998,711	1.302	10,369,337	2,038,832	12,408,169	0.627	0.524
6/30/97-98	1,917,994	0.432	6,269,462	1.329	8,323,132	2,564,326	10,887,457	0.568	0.434
6/30/98-99	2,081,524	0.435	6,682,288	1.360	9,079,007	2,210,014	11,289,021	0.542	0.436
6/30/99-00	2,207,243	0.510	8,192,773	1.394	11,375,727	2,066,057	13,441,784	0.609	0.515
6/30/00-01	2,201,008	0.506	7,849,861	1.430	11,196,189	1,774,163	12,970,352	0.589	0.509
6/30/01-02	2,292,592	0.518	8,123,218	1.469	11,912,741	2,238,435	14,151,176	0.617	0.520
6/30/02-03	2,260,534	0.527	7,917,384	1.512	11,955,573	2,025,593	13,981,166	0.618	0.529
6/30/03-04	2,255,942	0.488	7,027,971	1.554	10,952,421	1,955,032	12,907,452	0.572	0.485
6/30/04-05	2,309,083	0.541	7,676,782	1.602	12,374,382	2,745,170	15,119,552	0.655	0.536
6/30/05-06	2,480,693	0.563	7,199,757	1.657	12,738,688	2,771,690	15,510,377	0.625	0.514
6/30/06-07	2,612,577	0.587	6,546,082	1.730	13,011,569	2,251,303	15,262,871	0.584	0.498
6/30/07-08	2,783,717	0.611	9,094,716	1.830	16,805,313	2,999,110	19,804,424	0.711	0.604
6/30/08-09	2,750,907	0.637	8,997,984	1.985	17,686,636	3,105,540	20,792,176	0.756	0.643
6/30/09-10	2,806,048	0.658	8,649,349	2.243	18,883,899	3,095,149	21,979,047	0.783	0.673
6/30/10-11	2,942,638	0.677	8,335,371	2.678	20,820,095	4,490,394	25,310,489	0.860	0.708
6/30/11-12	3,006,849	0.702	6,520,051	3.632	21,818,110	3,561,579	25,379,689	0.844	0.726
6/30/12-13	3,138,905	0.728	3,164,952	7.771	23,079,695	3,927,137	27,006,832	0.860	0.735
Total	57,420,250		308,713,483		446,647,591	66,624,732	513,272,322		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 8, Exhibit 1, Page 4, Column 11

(4) From Section 8, Exhibit 1, Page 2, Column 3

(5) From Section 8, Exhibit 1, Page 2, Column 4

(6) = (4) + [{1 - {1 / (5)}} x (3) x (2) x 10]

(7) From Section 8, Exhibit 1, Page 9, Column 13

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10) = (6) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Indemnity

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Exp Ult Loss Excluding Lump Sum	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									1.863	1.863
6/30/85-86									2.072	2.072
6/30/86-87									1.895	1.895
6/30/87-88									1.960	1.960
6/30/88-89									1.400	1.400
6/30/89-90									1.528	1.528
6/30/90-91	1,405,560	20,811,145	1.481	0.953	1.411	1.974	2.784	0.399	1.464	1.470
6/30/91-92	1,364,510	12,990,474	0.952	1.045	0.995	1.916	1.907	0.375	0.929	0.940
6/30/92-93	1,347,359	10,669,432	0.792	1.219	0.965	1.860	1.795	0.331	0.768	0.778
6/30/93-94	1,424,410	10,826,941	0.760	1.203	0.914	1.806	1.652	0.345	0.737	0.744
6/30/94-95	1,497,829	9,529,046	0.636	1.192	0.758	1.754	1.330	0.359	0.619	0.622
6/30/95-96	1,582,635	10,424,297	0.659	1.183	0.779	1.702	1.326	0.373	0.641	0.641
6/30/96-97	1,979,748	10,413,838	0.526	1.171	0.616	1.653	1.018	0.388	0.516	0.516
6/30/97-98	1,917,994	8,334,603	0.435	1.156	0.502	1.605	0.806	0.404	0.437	0.432
6/30/98-99	2,081,524	9,086,172	0.437	1.141	0.498	1.558	0.776	0.422	0.439	0.435
6/30/99-00	2,207,243	11,422,973	0.518	1.122	0.581	1.513	0.878	0.442	0.513	0.510
6/30/00-01	2,201,008	11,224,673	0.510	1.094	0.558	1.469	0.819	0.467	0.507	0.506
6/30/01-02	2,292,592	11,934,752	0.521	1.072	0.558	1.426	0.796	0.491	0.526	0.518
6/30/02-03	2,260,534	11,972,872	0.530	1.069	0.566	1.384	0.783	0.507	0.538	0.527
6/30/03-04	2,255,942	10,921,750	0.484	1.069	0.517	1.344	0.695	0.522	0.496	0.488
6/30/04-05	2,309,083	12,298,723	0.533	1.062	0.566	1.305	0.738	0.541	0.524	0.541
6/30/05-06	2,480,693	11,927,007	0.481	1.051	0.505	1.267	0.640	0.563	0.545	0.563
6/30/06-07	2,612,577	11,322,652	0.433	1.040	0.451	1.230	0.554	0.587	0.568	0.587
6/30/07-08	2,783,717	16,639,624	0.598	1.028	0.615	1.194	0.734	0.611	0.591	0.611
6/30/08-09	2,750,907	17,859,887	0.649	1.016	0.660	1.159	0.765	0.637	0.616	0.637
6/30/09-10	2,806,048	19,397,511	0.691	1.012	0.700	1.126	0.788	0.658	0.637	0.658
6/30/10-11	2,942,638	22,323,641	0.759	1.014	0.769	1.093	0.840	0.677	0.655	0.677
6/30/11-12	3,006,849	23,683,847	0.788	1.007	0.793	1.061	0.841	0.702	0.680	0.702
6/30/12-13	3,138,905	24,593,549	0.784	1.000	0.784	1.030	0.807	0.728		0.728
Total	50,650,303	320,609,408								

Trend Last 4 (ex 12-13):	6.7%	Avg 3 (x12-13):	0.823
Trend Last 8 (ex 12-13):	7.2%	Avg 5 (x12-13):	0.794
Trend Last 12 (ex 12-13):	3.4%	Avg 10 (x12-13):	0.738
Prior Selected Trend:	3.0%	Prior Sel Avg:	0.700
Selected Trend:	3.0%	Sel. Loss Cost:	0.750

NOTES:
(2) Provided by Commonwealth of Massachusetts
(3) From Section 8, Exhibit 1, Page 2, Column 6
(4) = (3) / (2) / 10
(5) Based on information from the MA WCRIB
(6) = (4) x (5)
(7) Based on Selected Trend from (6)
(8) = (6) x (7)
(9) = Sel. Loss Cost / [(5) * (7)]
(10) From Aon analysis as of June 30, 2012
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Indemnity

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend	0.950	
(2)	Credibility	62%	
(3)	Average Pmt Trend Statewide	0.960	
(4)	Credibility Weighted Trend	0.954	
		(Low)	(High)
(5)	Selected Range	0.949	0.973
(6)	Incremental Paid for 2013	610,950	610,950
(7)	Estimated Reserve	11,385,143	22,016,812
(8)	Paid to Date (82 & Prior)	41,513,052	41,513,052
(9)	Est Ult Paid for 1982 & Prior	52,898,195	63,529,864

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	651,131	712,238
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	4,557,918	4,985,663
(13)	Paid to Date (82 & Prior)	41,513,052	40,902,103
(14)	Est Ult Paid for 1982 & Prior	46,070,971	45,887,765
(14a)	Paid Counts During Fiscal Year	16	16
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	47,777,777	52,503,552
(16)	Lump Sum Ultimates	1,685,117	1,685,117
(17)	Ult Loss Including Lump Sums	**49,462,894**	**54,188,670**
(18)	Implied Tail	1.151	1.265
(19)	Ult Loss Inc Lump Sums @ 6/12	49,394,764	54,287,417

NOTES:

(1) From Section 8, Exhibit 1, Page 6
(2) = (Average of Section 8, Exhibit 1, Page 6, Column 3 / 3,000,000) ^ 0.5
(3) Average Statewide Trend
(4) = (1) x (2) + (4) x {1 - (2)}
(5) Selected judgmentally based on (4)
(6), (14a) Provided by Commonwealth of Massachusetts
(7) = (6) x (5) / {1 - (5)}
(8), (16) From Section 8, Exhibit 1, Page 2, Column 3
(9) = (7) + (8)
(10) Avg of 3 latest years from Section 8, Exhibit 1, Page 6, Column 3
(11) Selected judgmentally
(12) = (10 x (11)
(14) = (12) + (13)
(15) = Average of (9) and (14)
(16) From Section 8, Exhibit 1, Page 9, Column 13
(17) = (15) + (16)
(18) = (15) / (8)
(19) From Aon analysis as of June 30, 2012

All Other - Clusters 5-17 & 95

Indemnity

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paids	LN	Average Observed Trend		Trend Calculations
1992	1	1,836,769	14.424			
1993	2	1,798,132	14.402	0.979		
1994	3	1,805,622	14.406	1.004		
1995	4	1,547,567	14.252	0.857		
1996	5	1,421,249	14.167	0.918		
1997	6	1,347,840	14.114	0.948		
1998	7	1,296,821	14.075	0.962		
1999	8	1,188,256	13.988	0.916		
2000	9	1,366,125	14.127	1.150	n =	22
2001	10	1,385,608	14.142	1.014	S(x) =	44,055
2002	11	1,127,515	13.936	0.814	S(x-sq) =	88,221,023
2003	12	1,046,115	13.861	0.928	S(xy) =	611,813
2004	13	1,007,259	13.823	0.963	S(y) =	306
2005	14	889,985	13.699	0.884	D =	19,481
2006	15	854,725	13.659	0.960	slope =	-0.052
2007	16	901,012	13.711	1.054	Avg Trend =	0.948
2008	17	757,677	13.538	0.841		
2009	18	716,898	13.483	0.946		
2010	19	794,268	13.585	1.108		
2011	20	682,924	13.434	0.860		
2012	21	659,520	13.399	0.966		
2013	22	610,950	13.323	0.926		
					Selected Trend:	**0.950**

NOTES:

(3) 2013 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2012

(4) LN [(3)]

(5) Eg. 2013: 0.926 = 610950 / 659520

Commonwealth of Massachusetts Workers Compensation
All Other - Clusters 5-17 & 95
INDEMNITY
Paid Loss Development
Paid Loss (Excluding Lump Sum)

Acc Yr Ending	*12*	*24*	*36*	*48*	*60*	*72*	*84*	*96*	*108*	*120*	*132*	*144*	*156*	*168*	*180*	*192*	*204*	*216*	*228*	*240*	*252*	*264*	*276*	*288*	*300*	*312*	*324*	*336*	*348*	*360*	*372*
June-83	231,024	575,253	850,794	1,079,038	1,313,630	1,547,045	1,752,282	2,008,011	2,253,139	2,495,680	2,697,289	2,900,500	3,128,719	3,307,827	3,431,589	3,539,243	3,710,205	3,863,378	3,993,953	4,130,963	4,277,923	4,408,084	4,548,681	4,684,745	4,831,991	4,987,790	5,125,598	5,253,262	5,365,011	5,438,336	5,513,211
June-84	474,232	1,177,837	1,738,838	2,206,285	2,688,699	3,194,391	3,593,923	3,979,171	4,253,324	4,483,497	4,692,563	4,887,962	5,105,946	5,268,212	5,510,171	5,713,715	5,953,029	6,114,581	6,330,589	6,551,091	6,749,135	6,911,821	7,056,179	7,158,846	7,234,716	7,305,169	7,339,786	7,374,258	7,408,772	7,445,202	
June-85	977,090	2,372,578	3,464,586	4,349,747	5,275,439	6,134,761	6,920,369	7,655,499	8,408,427	8,983,219	9,607,477	10,145,930	10,640,204	11,178,862	11,641,664	12,100,236	12,599,733	13,016,766	13,426,358	13,778,892	14,131,892	14,427,029	14,710,082	14,949,032	15,141,235	15,309,397	15,476,853	15,650,018	15,828,834		
June-86	1,346,949	3,307,907	4,829,702	6,090,487	7,340,375	8,352,083	9,113,471	9,830,455	10,384,747	11,054,823	11,652,485	12,298,057	12,995,823	13,464,328	13,904,681	14,437,279	14,899,857	15,315,399	15,687,156	16,043,093	16,396,498	16,749,018	17,081,069	17,430,688	17,722,515	17,979,439	18,192,658	18,367,288			
June-87	1,601,233	3,880,011	5,503,885	7,082,566	8,405,662	9,270,533	9,956,299	10,556,456	11,085,673	11,623,420	12,106,294	12,632,595	13,327,657	13,820,597	14,335,672	14,795,690	15,267,959	15,661,703	15,953,801	16,321,920	16,607,046	16,861,857	17,127,747	17,450,228	17,735,296	18,028,041	18,331,993				
June-88	2,137,513	5,007,777	7,745,041	10,041,912	12,075,717	13,478,064	14,314,633	15,200,521	15,990,897	16,687,795	17,326,343	17,991,163	18,710,472	19,340,236	19,962,128	20,594,429	21,200,720	21,738,131	22,267,656	22,756,365	23,248,699	23,645,371	23,973,193	24,351,090	24,721,300	25,061,227					
June-89	1,712,857	5,080,303	7,663,780	9,679,037	11,203,387	12,173,513	13,105,806	13,862,567	14,433,962	15,035,025	15,605,979	16,156,892	16,752,699	17,314,807	17,864,824	18,333,675	18,761,144	19,180,530	19,588,446	20,011,654	20,402,670	20,798,618	21,197,603	21,577,022	21,928,411						
June-90	2,296,897	5,721,042	8,298,538	10,219,139	11,305,744	12,281,818	13,134,163	13,878,235	14,556,408	15,345,419	15,898,180	16,435,568	16,919,598	17,383,167	17,777,202	18,153,288	18,514,019	18,829,999	19,129,560	19,445,117	19,770,540	20,083,209	20,405,842	20,740,230							
June-91	1,963,238	4,739,981	6,742,583	8,047,589	9,308,882	10,318,373	10,933,284	11,411,152	12,022,048	12,546,665	13,141,453	13,738,283	14,329,913	14,888,135	15,354,127	15,837,750	16,311,134	16,689,475	17,129,945	17,375,269	17,615,173	17,862,598	18,129,844								
June-92	1,567,027	3,199,073	4,248,177	5,126,895	5,548,304	5,823,625	6,278,092	6,617,495	6,955,659	7,247,236	7,617,889	7,987,140	8,298,781	8,572,496	8,940,354	9,365,337	9,715,209	10,024,920	10,338,595	10,607,880	10,865,629	11,121,672									
June-93	1,093,248	2,645,187	3,492,766	4,149,352	4,610,531	4,966,351	5,148,147	5,423,620	5,783,566	6,064,338	6,275,882	6,484,665	6,664,357	6,833,263	7,010,090	7,177,333	7,331,914	7,520,747	7,748,152	7,957,233	8,148,509										
June-94	1,108,341	2,442,329	3,499,107	4,117,213	4,786,813	5,345,023	5,784,388	6,350,297	6,596,878	6,855,808	7,108,040	7,401,172	7,629,538	7,841,336	8,036,532	8,208,058	8,388,758	8,566,268	8,735,517	8,920,103											
June-95	1,320,706	2,682,119	3,617,627	4,377,145	4,799,858	5,146,590	5,470,951	5,690,639	5,928,230	6,125,266	6,322,277	6,510,106	6,695,050	6,862,701	7,023,885	7,185,394	7,342,550	7,524,723	7,689,350												
June-96	1,108,821	2,267,039	3,245,140	3,817,977	4,427,598	4,928,644	5,324,160	5,709,230	6,066,925	6,359,154	6,633,555	6,919,769	7,184,823	7,415,770	7,649,372	7,874,542	8,065,046	8,199,310													
June-97	1,085,126	2,350,834	3,458,998	4,440,774	5,289,243	5,991,102	6,443,225	6,730,818	6,877,491	7,036,406	7,147,793	7,354,650	7,473,882	7,593,508	7,713,847	7,874,055	7,998,711														
June-98	760,353	2,208,225	3,319,672	3,933,784	4,535,498	4,913,580	5,187,189	5,377,292	5,538,593	5,683,480	5,803,895	5,909,062	5,992,596	6,108,804	6,223,326	6,269,462															
June-99	1,160,394	2,519,810	3,441,432	4,263,196	4,763,871	5,080,496	5,423,838	5,694,351	5,858,839	6,093,043	6,235,873	6,377,337	6,494,424	6,587,838	6,682,288																
June-00	1,478,087	3,369,760	4,601,283	5,433,894	6,170,827	6,679,071	7,051,320	7,313,676	7,476,289	7,629,742	7,749,526	7,893,815	8,042,197	8,192,773																	
June-01	1,609,875	3,605,278	4,700,879	5,525,999	6,126,399	6,527,511	6,768,096	7,002,422	7,073,145	7,226,294	7,426,582	7,654,033	7,849,861																		
June-02	1,821,131	4,134,238	5,441,659	6,321,376	6,748,539	7,056,349	7,305,019	7,488,627	7,707,068	7,893,060	8,009,207	8,123,218																			
June-03	2,185,619	4,646,586	6,055,662	6,651,765	7,013,996	7,231,292	7,459,850	7,624,463	7,742,363	7,842,222	7,917,384																				
June-04	1,753,076	3,756,461	4,930,176	5,714,500	6,081,077	6,318,306	6,512,915	6,733,332	6,893,294	7,027,971																					
June-05	1,819,778	3,933,297	5,289,170	6,002,168	6,318,763	6,666,265	7,108,767	7,449,646	7,676,782																						
June-06	1,788,326	3,829,026	4,910,437	5,443,647	5,995,523	6,675,753	7,041,075	7,199,757																							
June-07	1,734,963	3,632,388	4,091,097	4,999,633	5,805,615	6,226,124	6,546,082																								
June-08	2,020,827	4,505,431	6,126,330	7,479,871	8,430,592	9,094,716																									
June-09	1,952,179	4,646,609	6,562,837	7,998,181	8,997,984																										
June-10	2,633,117	5,635,921	7,589,725	8,649,349																											
June-11	3,051,305	6,236,233	8,335,371																												
June-12	3,091,255	6,520,051																													
June-13	3,164,952																														

Age-to-Age Factors

Acc Yr Ending	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	
June-83	2.490	1.479	1.268	1.217	1.178	1.133	1.146	1.122	1.108	1.081	1.075	1.079	1.057	1.037	1.031	1.048	1.041	1.034	1.034	1.036	1.030	1.032	1.030	1.031	1.032	1.028	1.025	1.021	1.014	1.014	
June-84	2.484	1.476	1.269	1.219	1.188	1.125	1.107	1.069	1.054	1.047	1.042	1.045	1.032	1.046	1.037	1.042	1.027	1.035	1.035	1.030	1.024	1.021	1.015	1.011	1.010	1.005	1.005	1.005	1.005		
June-85	2.428	1.460	1.255	1.213	1.163	1.128	1.106	1.098	1.068	1.069	1.056	1.049	1.051	1.041	1.039	1.041	1.033	1.031	1.026	1.026	1.021	1.020	1.016	1.013	1.011	1.011	1.011	1.011	1.011		
June-86	2.456	1.460	1.261	1.205	1.138	1.091	1.079	1.056	1.065	1.054	1.055	1.057	1.036	1.033	1.038	1.032	1.028	1.024	1.023	1.022	1.021	1.020	1.020	1.017	1.014	1.012	1.010				
June-87	2.423	1.419	1.287	1.187	1.103	1.074	1.060	1.050	1.049	1.042	1.043	1.055	1.037	1.037	1.032	1.032	1.026	1.019	1.023	1.017	1.015	1.016	1.019	1.016	1.017	1.017					
June-88	2.343	1.547	1.297	1.203	1.116	1.062	1.062	1.052	1.044	1.038	1.038	1.040	1.034	1.032	1.032	1.029	1.025	1.024	1.022	1.022	1.017	1.014	1.016	1.015	1.014						
June-89	2.966	1.509	1.263	1.157	1.087	1.077	1.058	1.041	1.042	1.038	1.035	1.037	1.034	1.032	1.026	1.023	1.022	1.021	1.022	1.020	1.019	1.019	1.018	1.016							
June-90	2.491	1.451	1.231	1.106	1.086	1.069	1.057	1.049	1.054	1.036	1.034	1.029	1.027	1.023	1.021	1.020	1.017	1.016	1.016	1.017	1.016	1.016	1.016								
June-91	2.414	1.427	1.194	1.157	1.108	1.060	1.044	1.054	1.044	1.047	1.045	1.043	1.039	1.031	1.031	1.030	1.023	1.026	1.014	1.014	1.014	1.015									
June-92	2.041	1.328	1.207	1.082	1.050	1.078	1.054	1.051	1.042	1.051	1.048	1.039	1.033	1.043	1.048	1.037	1.032	1.031	1.026	1.024	1.024										
June-93	2.420	1.320	1.188	1.111	1.077	1.037	1.054	1.066	1.049	1.035	1.033	1.028	1.025	1.026	1.024	1.022	1.026	1.030	1.027	1.024											
June-94	2.204	1.433	1.177	1.163	1.117	1.082	1.098	1.039	1.039	1.037	1.041	1.031	1.028	1.025	1.021	1.022	1.021	1.020	1.021												
June-95	2.031	1.349	1.210	1.097	1.072	1.063	1.040	1.042	1.033	1.032	1.030	1.028	1.025	1.023	1.023	1.022	1.025	1.022													
June-96	2.045	1.431	1.177	1.160	1.113	1.080	1.072	1.063	1.048	1.043	1.043	1.038	1.032	1.032	1.029	1.024	1.017														
June-97	2.166	1.471	1.284	1.191	1.133	1.075	1.045	1.022	1.023	1.016	1.029	1.016	1.016	1.016	1.021	1.016															
June-98	2.904	1.503	1.185	1.153	1.083	1.056	1.037	1.030	1.026	1.021	1.018	1.014	1.019	1.019	1.007																
June-99	2.172	1.366	1.239	1.117	1.066	1.068	1.050	1.029	1.040	1.023	1.023	1.018	1.014	1.014																	
June-00	2.280	1.365	1.181	1.136	1.082	1.056	1.037	1.022	1.021	1.016	1.019	1.019	1.019																		
June-01	2.239	1.304	1.176	1.109	1.065	1.037	1.035	1.010	1.022	1.028	1.031	1.026																			
June-02	2.270	1.316	1.162	1.068	1.046	1.035	1.025	1.029	1.024	1.015	1.014																				
June-03	2.126	1.303	1.098	1.054	1.031	1.032	1.022	1.015	1.013	1.010																					
June-04	2.143	1.312	1.159	1.064	1.039	1.031	1.034	1.024	1.020																						
June-05	2.161	1.345	1.135	1.053	1.055	1.066	1.048	1.030																							
June-06	2.141	1.282	1.109	1.101	1.113	1.055	1.023																								
June-07	2.094	1.126	1.222	1.161	1.072	1.051																									
June-08	2.229	1.360	1.221	1.127	1.079																										
June-09	2.380	1.412	1.219	1.125																											
June-10	2.140	1.347	1.140																												
June-11	2.044	1.337																													
June-12	2.109																														

Averages	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*To Ult*
Simple Avg																															
All Yrs	2.294	1.387	1.208	1.138	1.095	1.069	1.058	1.046	1.042	1.037	1.038	1.036	1.031	1.030	1.029	1.029	1.026	1.026	1.024	1.023	1.020	1.019	1.019	1.017	1.016	1.014	1.013	1.012	1.009	1.014	
Latest 5	2.181	1.316	1.182	1.113	1.072	1.047	1.030	1.022	1.020	1.018	1.021	1.019	1.020	1.021	1.020	1.021	1.024	1.026	1.021	1.020	1.018	1.016	1.018	1.015	1.013	1.014					
Latest 3	2.098	1.365	1.193	1.138	1.088	1.057	1.035	1.023	1.019	1.017	1.021	1.021	1.017	1.016	1.019	1.021	1.021	1.024	1.025	1.021	1.018	1.017	1.017	1.016	1.015	1.013	1.008	1.012			
Volume Wtd																															
All Yrs	2.263	1.381	1.205	1.134	1.090	1.066	1.055	1.044	1.041	1.037	1.038	1.037	1.032	1.030	1.029	1.028	1.025	1.024	1.022	1.021	1.019	1.018	1.018	1.016	1.015	1.013	1.011	1.011	1.009		
Latest 5	2.161	1.326	1.181	1.114	1.072	1.047	1.030	1.022	1.020	1.018	1.021	1.019	1.020	1.021	1.021	1.021	1.024	1.026	1.019	1.019	1.018	1.016	1.018	1.016	1.014	1.013					
Latest 3	2.096	1.361	1.190	1.135	1.087	1.058	1.035	1.023	1.019	1.017	1.021	1.021	1.018	1.016	1.020	1.021	1.021	1.024	1.025	1.019	1.017	1.017	1.017	1.016	1.015	1.013	1.009	1.011			

Dev Factor Selection																															
Industry 1	2.781	1.499	1.187	1.084	1.039	1.019	1.012																								
Industry 2		1.746	1.300	1.126	1.062	1.029	1.020	1.009	1.008	1.005	1.006	1.010	1.003	1.002	1.004	1.003	1.001	1.001	1.001	1.001											
Prior	*2.183*	*1.356*	*1.204*	*1.123*	*1.079*	*1.055*	*1.046*	*1.034*	*1.033*	*1.029*	*1.031*	*1.029*	*1.027*	*1.027*	*1.026*	*1.025*	*1.025*	*1.025*	*1.021*	*1.019*	*1.018*	*1.018*	*1.018*	*1.016*	*1.016*	*1.014*	*1.014*	*1.013*	*1.014*	*1.028*	
Selected	2.139	1.356	1.194	1.130	1.085	1.058	1.044	1.034	1.031	1.028	1.029	1.027	1.026	1.025	1.023	1.021	1.024	1.026	1.021	1.020	1.019	1.018	1.018	1.016	1.015	1.014	1.013	1.012	1.009	1.014	1.027
FacToUlt	7.771	3.632	2.678	2.243	1.985	1.830	1.730	1.657	1.602	1.554	1.512	1.469	1.430	1.394	1.360	1.329	1.302	1.271	1.239	1.214	1.190	1.168	1.148	1.127	1.109	1.093	1.078	1.064	1.051	1.041	1.027
Percent of Ult	12.9%	27.5%	37.3%	44.6%	50.4%	54.7%	57.8%	60.4%	62.4%	64.3%	66.1%	68.1%	69.9%	71.7%	73.5%	75.2%	76.8%	78.7%	80.7%	82.4%	84.0%	85.6%	87.1%	88.7%	90.2%	91.5%	92.8%	94.0%	95.1%	96.0%	97.4%

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Indemnity

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Ultimate Loss		Ultimate Loss		Change in Ultimate Loss		Change in Ultimate Loss	
Accident	As of 6/12		As of 6/13		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	49,394,764	54,287,417	49,462,894	54,188,670	68,130	0.1%	(98,747)	-0.2%
6/30/82-83	5,765,299	6,208,783	5,840,973	6,290,279	75,674	1.3%	81,496	1.3%
6/30/83-84	8,380,290	9,024,928	8,415,681	9,063,041	35,391	0.4%	38,113	0.4%
6/30/84-85	17,123,000	18,099,000	17,249,000	18,226,000	126,000	0.7%	127,000	0.7%
6/30/85-86	20,378,000	21,167,000	20,473,000	21,254,000	95,000	0.5%	87,000	0.4%
6/30/86-87	20,902,000	21,679,000	21,105,000	21,888,000	203,000	1.0%	209,000	1.0%
6/30/87-88	29,301,000	30,076,000	29,444,000	30,233,000	143,000	0.5%	157,000	0.5%
6/30/88-89	26,776,000	27,809,000	26,955,000	27,983,000	179,000	0.7%	174,000	0.6%
6/30/89-90	25,994,000	26,697,000	26,088,000	26,804,000	94,000	0.4%	107,000	0.4%
6/30/90-91	23,291,000	23,895,000	23,356,000	23,960,000	65,000	0.3%	65,000	0.3%
6/30/91-92	14,210,000	14,946,000	14,357,000	15,098,000	147,000	1.0%	152,000	1.0%
6/30/92-93	10,990,000	12,408,000	11,088,000	12,529,000	98,000	0.9%	121,000	1.0%
6/30/93-94	12,088,000	12,740,000	12,152,000	12,803,000	64,000	0.5%	63,000	0.5%
6/30/94-95	11,075,000	11,676,000	11,105,000	11,702,000	30,000	0.3%	26,000	0.2%
6/30/95-96	11,728,000	12,381,000	11,699,000	12,345,000	(29,000)	-0.2%	(36,000)	-0.3%
6/30/96-97	12,488,000	13,166,000	12,408,000	13,075,000	(80,000)	-0.6%	(91,000)	-0.7%
6/30/97-98	11,091,000	11,667,000	10,887,000	11,444,000	(204,000)	-1.8%	(223,000)	-1.9%
6/30/98-99	11,472,000	12,064,000	11,289,000	11,861,000	(183,000)	-1.6%	(203,000)	-1.7%
6/30/99-00	13,614,000	14,361,000	13,442,000	14,163,000	(172,000)	-1.3%	(198,000)	-1.4%
6/30/00-01	13,032,000	13,729,000	12,970,000	13,649,000	(62,000)	-0.5%	(80,000)	-0.6%
6/30/01-02	14,510,000	15,282,000	14,151,000	14,882,000	(359,000)	-2.5%	(400,000)	-2.6%
6/30/02-03	14,346,000	15,108,000	13,981,000	14,698,000	(365,000)	-2.5%	(410,000)	-2.7%
6/30/03-04	13,228,000	13,900,000	12,877,000	13,553,000	(351,000)	-2.7%	(347,000)	-2.5%
6/30/04-05	15,088,000	15,232,000	15,044,000	15,120,000	(44,000)	-0.3%	(112,000)	-0.7%
6/30/05-06	15,288,000	15,806,000	14,699,000	15,510,000	(589,000)	-3.9%	(296,000)	-1.9%
6/30/06-07	13,872,000	15,405,000	13,574,000	15,263,000	(298,000)	-2.1%	(142,000)	-0.9%
6/30/07-08	18,965,000	20,127,000	18,657,000	19,804,000	(308,000)	-1.6%	(323,000)	-1.6%
6/30/08-09	20,695,000	21,217,000	20,792,000	20,965,000	97,000	0.5%	(252,000)	-1.2%
6/30/09-10	22,299,000	23,909,000	21,979,000	22,493,000	(320,000)	-1.4%	(1,416,000)	-5.9%
6/30/10-11	24,263,000	26,795,000	25,310,000	26,814,000	1,047,000	4.3%	19,000	0.1%
6/30/11-12	24,995,000	28,674,000	25,380,000	27,245,000	385,000	1.5%	(1,429,000)	-5.0%
6/30/12-13								
Total	546,642,353	579,536,128	546,230,548	574,905,990	(411,805)	-0.1%	(4,630,139)	-0.8%

NOTES:

(2), (3) From Aon analysis as of June 30, 2012

(4), (5) From Section 8, Exhibit 1, Page 1, Columns 6, 7

(6) = (4) - (2)

(7) = (4) / (2) - 1

(8) = (5) - (3)

(9) = (5) / (3) - 1

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Indemnity

Calculation of Ultimate Lump Sum Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Accident Year	Paid Loss Excluding Lump Sum	Implied Cumulative LDF	Ult Loss Excluding Lump Sum	Selected Incr Lump Sum % Outstdg	Cumulative Lump Sum % Outstdg	Total Lump Sum Outstdg	Paid Lump Sum to Date	Est Ult Lump Sum - Incr Method	Ultimate Lump Sum Percentage	Lump Sum LDF	Est Ult Lump Sum - Paid Method	Selected Est Ultimate Lump Sums	Prior Est Ultimate Lump Sums
All Prior Yrs	41,513,052	1.208	50,140,665	0.0%	0.0%	0	1,660,214	1,660,214	3.3%	1.030	1,710,020	1,685,117	1,685,117
6/30/82-83	5,513,211	1.079	5,946,336	0.0%	0.0%	0	43,750	43,750	0.7%	1.030	45,063	44,406	44,406
6/30/83-84	7,445,202	1.093	8,140,664	0.0%	0.0%	0	483,550	483,550	5.9%	1.030	498,057	490,803	490,803
6/30/84-85	15,828,834	1.104	17,468,244	0.0%	0.0%	0	746,504	746,504	4.3%	1.030	768,899	757,702	757,702
6/30/85-86	18,367,288	1.096	20,131,259	0.0%	0.0%	0	1,106,534	1,106,534	5.5%	1.030	1,139,730	1,123,132	1,123,132
6/30/86-87	18,331,993	1.110	20,345,697	0.0%	0.0%	0	1,519,864	1,519,864	7.5%	1.030	1,565,460	1,542,662	1,542,662
6/30/87-88	25,061,227	1.093	27,392,986	0.0%	0.0%	0	2,071,404	2,071,404	7.6%	1.030	2,133,546	2,102,475	2,107,809
6/30/88-89	21,928,411	1.109	24,322,977	0.0%	0.0%	0	2,926,233	2,926,233	12.0%	1.035	3,029,090	2,977,662	2,985,234
6/30/89-90	20,740,230	1.127	23,379,448	0.0%	0.0%	0	2,715,625	2,715,625	11.6%	1.040	2,825,135	2,770,380	2,789,071
6/30/90-91	18,129,844	1.148	20,811,145	0.1%	0.1%	20,811	2,497,602	2,518,413	12.1%	1.046	2,611,311	2,564,862	2,581,715
6/30/91-92	11,121,672	1.168	12,990,474	0.1%	0.2%	25,981	1,341,736	1,367,717	10.5%	1.051	1,409,835	1,388,776	1,396,698
6/30/92-93	8,148,509	1.309	10,669,432	0.1%	0.3%	28,901	1,214,373	1,243,274	11.7%	1.056	1,282,389	1,262,831	1,276,550
6/30/93-94	8,920,103	1.214	10,826,941	0.1%	0.4%	40,154	1,306,522	1,346,676	12.4%	1.061	1,385,721	1,366,199	1,391,697
6/30/94-95	7,689,350	1.239	9,529,046	0.1%	0.5%	45,760	1,532,217	1,577,977	16.6%	1.079	1,653,747	1,615,862	1,638,371
6/30/95-96	8,199,310	1.271	10,424,297	0.1%	0.6%	61,458	1,245,683	1,307,141	12.5%	1.090	1,358,193	1,332,667	1,371,743
6/30/96-97	7,998,711	1.302	10,413,838	0.0%	0.6%	61,397	1,908,819	1,970,216	18.9%	1.104	2,107,449	2,038,832	2,107,891
6/30/97-98	6,269,462	1.329	8,334,603	0.0%	0.6%	49,138	2,402,195	2,451,333	29.4%	1.115	2,677,319	2,564,326	2,651,536
6/30/98-99	6,682,288	1.360	9,086,172	0.1%	0.7%	65,202	2,053,064	2,118,266	23.3%	1.121	2,301,761	2,210,014	2,293,060
6/30/99-00	8,192,773	1.394	11,422,973	0.1%	0.8%	88,066	1,893,548	1,981,614	17.3%	1.136	2,150,500	2,066,057	2,151,498
6/30/00-01	7,849,861	1.430	11,224,673	0.2%	1.0%	107,536	1,602,428	1,709,964	15.2%	1.147	1,838,362	1,774,163	1,788,004
6/30/01-02	8,123,218	1.469	11,934,752	0.2%	1.1%	136,960	2,000,418	2,137,378	17.9%	1.170	2,339,493	2,238,435	2,372,773
6/30/02-03	7,917,384	1.512	11,972,872	0.4%	1.5%	185,385	1,737,498	1,922,883	16.1%	1.225	2,128,303	2,025,593	2,109,091
6/30/03-04	7,027,971	1.554	10,921,750	0.2%	1.7%	190,279	1,661,764	1,852,043	17.0%	1.238	2,058,020	1,955,032	2,073,099
6/30/04-05	7,676,782	1.602	12,298,723	0.3%	2.0%	250,568	2,322,201	2,572,769	20.9%	1.256	2,917,571	2,745,170	2,772,312
6/30/05-06	7,199,757	1.657	11,927,007	0.5%	2.5%	301,361	2,260,500	2,561,861	21.5%	1.319	2,981,518	2,771,690	2,968,083
6/30/06-07	6,546,082	1.730	11,322,652	1.1%	3.7%	413,726	1,691,089	2,104,815	18.6%	1.418	2,397,791	2,251,303	2,382,758
6/30/07-08	9,094,716	1.830	16,639,624	1.1%	4.8%	795,460	2,024,110	2,819,570	16.9%	1.570	3,178,651	2,999,110	3,337,025
6/30/08-09	8,997,984	1.985	17,859,887	1.7%	6.5%	1,164,473	1,763,926	2,928,399	16.4%	1.861	3,282,682	3,105,540	3,322,842
6/30/09-10	8,649,349	2.243	19,397,511	2.1%	8.6%	1,676,429	1,307,713	2,984,141	15.4%	2.452	3,206,156	3,095,149	3,467,169
6/30/10-11	8,335,371	2.678	22,323,641	3.1%	11.7%	2,621,558	1,230,599	3,852,157	17.3%	4.168	5,128,630	4,490,394	4,020,652
6/30/11-12	6,520,051	3.632	23,683,847	2.6%	14.3%	3,393,034	294,800	3,687,834	15.6%	11.653	3,435,323	3,561,579	4,032,695
6/30/12-13	3,164,952	7.771	24,593,549	1.5%	15.8%	3,890,137	37,000	3,927,137	16.0%	50.740	1,877,368	3,927,137	
Total	363,184,948		517,877,683			15,613,774	50,603,482	66,217,256	12.8%		69,423,092	68,845,058	67,033,199

NOTES:

(2) From Section 8, Exhibit 1, Page 2, Column 3
(3) = (4) / (2)
(4) From Section 8, Exhibit 1, Page 2, Column 6
(5) From Section 8, Exhibit 1, Page 11
(6) Downward sum of (5)
(7) = (6) x (4)
(8) From Section 8, Exhibit 1, Page 10
(9) = (7) + (8)
(10) = (9) / (4)
(11) From Section 8, Exhibit 1, Page 12
(12) = (8) x (11)
(13) Selected based on (9) and (12)
(14) From Aon analysis as of June 30, 2012

Commonwealth of Massachusetts Workers Compensation
All Other - Clusters 5-17 & 95
INDEMNITY
Lump Sum Development
Incremental Lump Sum Payments

Acc Yr Ending	0-12	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384
All Prior Yrs	0	0	0	0	0	0	0	22,500	0	0	137,500	40,000	80,500	250,234	367,000	139,604	85,000	0	57,500	55,001	30,000	12,250	84,000	140,000	66,000	0	78,125	0	0	7,500	7,500	0
Jun-83	0	0	0	0	0	0	0	0	0	0	35,000	7,750	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jun-84	0	0	0	0	0	0	91,600	53,250	15,000	55,000	59,700	57,000	0	57,000	0	0	0	85,000	0	0	0	0	0	10,000	0	0	0	0	0	0		
Jun-85	0	0	0	30,000	3,000	52,500	34,554	34,000	58,000	215,750	30,200	92,500	50,000	40,000	0	49,000	32,000	0	25,000	0	0	0	0	0	0	0	0	0	0			
Jun-86	0	0	12,000	40,559	73,500	32,500	75,000	175,399	179,500	0	92,000	20,000	50,000	0	0	0	0	30,000	55,000	64,000	16,000	45,000	58,275	87,801	0	0	0	0				
Jun-87	0	25,000	130,000	100,666	150,501	60,866	192,525	168,500	91,501	59,806	28,000	0	12,500	65,000	50,000	164,999	50,000	80,000	80,000	10,000	0	0	0	0	0	0	0					
Jun-88	0	49,000	40,808	39,958	205,752	408,847	243,000	223,039	268,000	62,000	75,000	30,000	61,000	0	0	0	155,000	20,000	0	100,000	90,000	0	0	0	0	0						
Jun-89	0	69,855	143,500	275,776	374,100	341,500	255,000	238,502	222,500	170,500	146,000	30,000	123,000	40,000	25,000	0	63,500	185,000	50,000	110,000	62,500	0	0	0	0							
Jun-90	0	114,301	281,968	342,440	535,751	231,565	150,800	494,500	46,300	140,000	0	157,000	0	15,000	0	25,000	106,000	60,000	0	15,000	0	0	0	0								
Jun-91	3,500	73,750	373,500	399,501	281,850	319,500	203,500	25,001	143,000	0	10,000	54,000	0	0	10,000	153,000	72,500	255,000	120,000	0	0	0	0									
Jun-92	12,000	110,012	182,635	135,586	76,000	151,001	0	112,000	76,500	98,000	105,000	20,000	13,500	86,268	20,867	20,867	86,500	35,000	0	0	0	0										
Jun-93	6,000	137,948	181,424	231,001	158,000	58,000	49,000	16,000	77,000	85,000	0	55,000	0	0	0	0	50,000	40,000	35,000	35,000	0											
Jun-94	9,500	273,155	204,001	189,365	168,500	29,001	28,000	96,000	0	14,000	0	230,000	65,000	0	0	0	0	0	0	0												
Jun-95	185,350	223,402	371,000	281,000	90,965	116,600	17,000	0	0	62,000	58,400	34,000	0	80,000	0	12,500	0	0	0													
Jun-96	6,000	246,050	463,500	224,701	104,430	25,501	3,000	40,000	0	1	35,000	62,500	0	18,400	16,600	0	0	0														
Jun-97	23,365	498,701	322,500	317,501	204,000	108,251	0	105,000	106,501	60,000	83,000	0	0	0	40,000	40,000	0															
Jun-98	287,037	356,948	285,460	504,000	281,500	83,000	69,535	88,965	20,000	0	10,000	202,750	75,000	69,000	69,000	0																
Jun-99	203,500	124,500	487,181	242,900	185,982	168,001	201,000	120,000	65,000	170,000	20,000	65,000	0	0	0																	
Jun-00	97,731	486,478	307,037	269,800	93,500	190,999	184,884	110,118	53,001	76,000	24,000	0	0	0																		
Jun-01	10,000	182,428	335,500	71,500	244,500	251,000	145,000	220,000	80,000	0	0	0	62,500																			
Jun-02	0	114,545	362,081	283,539	440,001	286,251	109,000	265,000	25,001	50,000	50,000	15,000																				
Jun-03	0	77,201	596,801	430,835	218,160	255,001	75,000	65,000	6,000	6,000	7,500																					
Jun-04	47,500	25,277	294,987	520,000	358,000	189,000	27,000	100,000	100,000	0																						
Jun-05	6,157	60,866	417,500	949,001	378,677	150,000	105,000	105,000	150,000																							
Jun-06	0	159,500	370,000	715,000	208,000	359,500	359,500	89,000																								
Jun-07	26,000	238,583	574,002	426,500	153,002	153,002	120,000																									
Jun-08	0	282,500	346,648	610,000	610,000	174,962																										
Jun-09	250,000	140,000	501,500	501,500	370,926																											
Jun-10	0	385,501	385,501	536,711																												
Jun-11	307,191	319,191	604,218																													
Jun-12	0	294,800																														
Jun-13	37,000																															

Cumulative Lump Sum Payment

Acc Yr Ending	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384
All Prior Yrs	0	0	0	0	0	0	0	22,500	22,500	22,500	160,000	200,000	280,500	530,734	897,734	1,037,338	1,122,338	1,122,338	1,179,838	1,234,839	1,264,839	1,277,089	1,361,089	1,501,089	1,567,089	1,567,089	1,645,214	1,645,214	1,645,214	1,652,714	1,660,214	1,660,214
Jun-83	0	0	0	0	0	0	0	0	0	0	35,000	42,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750		
Jun-84	0	0	0	0	0	0	91,600	144,850	159,850	214,850	274,550	331,550	331,550	388,550	388,550	388,550	388,550	473,550	473,550	473,550	473,550	473,550	473,550	483,550	483,550	483,550	483,550	483,550	483,550	483550		
Jun-85	0	0	0	30,000	33,000	85,500	120,054	154,054	212,054	427,804	458,004	550,504	600,504	640,504	640,504	689,504	721,504	721,504	746,504	746,504	746,504	746,504	746,504	746,504	746,504	746,504	746,504	746,504	746,504	746,504		
Jun-86	0	0	12,000	52,559	126,059	158,559	233,559	408,958	588,458	588,458	680,458	700,458	750,458	750,458	750,458	750,458	750,458	780,458	835,458	899,458	915,458	960,458	1,018,733	1,106,534	1,106,534	1,106,534	1,106,534	1106533.6				
Jun-87	0	25,000	155,000	255,666	406,167	467,033	659,558	828,058	919,559	979,365	1,007,365	1,007,365	1,019,865	1,084,865	1,134,865	1,299,864	1,349,864	1,429,864	1,509,864	1,519,864	1,519,864	1,519,864	1,519,864	1,519,864	1,519,864	1,519,864	1519864					
Jun-88	0	49,000	89,808	129,766	335,518	744,365	987,365	1,210,404	1,478,404	1,540,404	1,615,404	1,645,404	1,706,404	1,706,404	1,706,404	1,706,404	1,861,404	1,881,404	1,881,404	1,981,404	2,071,404	2,071,404	2,071,404	2,071,404	2,071,404	2071404							
Jun-89	0	69,855	213,355	489,131	863,231	1,204,731	1,459,731	1,698,233	1,920,733	2,091,233	2,237,233	2,267,233	2,390,233	2,430,233	2,455,233	2,455,233	2,518,733	2,703,733	2,753,733	2,863,733	2,926,233	2,926,233	2,926,233	2,926,233	2926233							
Jun-90	0	114,301	396,269	738,709	1,274,460	1,506,025	1,656,825	2,151,325	2,197,625	2,337,625	2,337,625	2,494,625	2,494,625	2,509,625	2,509,625	2,534,625	2,640,625	2,700,625	2,700,625	2,715,625	2,715,625	2,715,625	2,715,625	2715625									
Jun-91	3,500	77,250	450,750	850,251	1,132,101	1,451,601	1,655,101	1,680,102	1,823,102	1,823,102	1,833,102	1,887,102	1,887,102	1,887,102	1,897,102	2,050,102	2,122,602	2,377,602	2,497,602	2,497,602	2,497,602	2,497,602	2497602										
Jun-92	12,000	122,012	304,647	440,233	516,233	667,234	667,234	779,234	855,734	953,734	1,058,734	1,078,734	1,092,234	1,178,502	1,199,369	1,220,236	1,306,736	1,341,736	1,341,736	1,341,736	1,341,736	1341735.66											
Jun-93	6,000	143,948	325,372	556,373	714,373	772,373	821,373	837,373	914,373	999,373	999,373	1,054,373	1,054,373	1,054,373	1,054,373	1,054,373	1,104,373	1,144,373	1,179,373	1,214,373	1214373											
Jun-94	9,500	282,655	486,656	676,021	844,521	873,522	901,522	997,522	997,522	1,011,522	1,011,522	1,241,522	1,306,522	1,306,522	1,306,522	1,306,522	1,306,522	1,306,522	1,306,522	1306522													
Jun-95	185,350	408,752	779,752	1,060,752	1,151,717	1,268,317	1,285,317	1,285,317	1,285,317	1,347,317	1,405,717	1,439,717	1,439,717	1,519,717	1,519,717	1,532,217	1,532,217	1,532,217	1532217														
Jun-96	6,000	252,050	715,550	940,251	1,044,681	1,070,182	1,073,182	1,113,182	1,113,182	1,113,183	1,148,183	1,210,683	1,210,683	1,229,083	1,245,683	1,245,683	1,245,683	1245683														
Jun-97	23,365	522,066	844,566	1,162,067	1,366,067	1,474,318	1,474,318	1,579,318	1,685,819	1,745,819	1,828,819	1,828,819	1,828,819	1,828,819	1,868,819	1,908,819	1908819																
Jun-98	287,037	643,985	929,445	1,433,445	1,714,945	1,797,945	1,867,480	1,956,445	1,976,445	1,976,445	1,986,445	2,189,195	2,264,195	2,333,195	2,402,195	2402195																
Jun-99	203,500	328,000	815,181	1,058,081	1,244,063	1,412,064	1,613,064	1,733,064	1,798,064	1,968,064	1,988,064	2,053,064	2,053,064	2,053,064	2053064																	
Jun-00	97,731	584,209	891,246	1,161,046	1,254,546	1,445,545	1,630,429	1,740,547	1,793,548	1,869,548	1,893,548	1,893,548	1,893,548	1893548.4																		
Jun-01	10,000	192,428	527,928	599,428	843,928	1,094,928	1,239,928	1,459,928	1,539,928	1,539,928	1,539,928	1,539,928	1602428																			
Jun-02	0	114,545	476,626	760,165	1,200,166	1,486,417	1,595,417	1,860,417	1,885,418	1,935,418	1,985,418	2000418																				
Jun-03	0	77,201	674,002	1,104,837	1,322,997	1,577,998	1,652,998	1,717,998	1,723,998	1,729,998	1737497.76																					
Jun-04	47,500	72,777	367,764	887,764	1,245,764	1,434,764	1,461,764	1,561,764	1,661,764	1661764																						
Jun-05	6,157	67,023	484,523	1,433,524	1,812,201	1,962,201	2,067,201	2,172,201	2322201.11																							
Jun-06	0	159,500	529,500	1,244,500	1,452,500	1,812,000	2,171,500	2260500																								
Jun-07	26,000	264,583	838,585	1,265,085	1,418,087	1,571,089	1691089																									
Jun-08	0	282,500	629,148	1,239,148	1,849,148	2024109.59																										
Jun-09	250,000	390,000	891,500	1,393,000	1763926																											
Jun-10	0	385,501	771,002	1307712.5																												
Jun-11	307,191	626,381	1,230,599																													
Jun-12	0	294,800																														
Jun-13	37,000																															

Commonwealth of Massachusetts Workers Compensation
All Other - Clusters 5-17 & 95
INDEMNITY
Lump Sum Development
Incremental Lump Sums as a % of Ultimate Losses Excluding Lump Sums

Acc Yr Ending	*0-12*	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*372-384*
All Prior Yrs	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.001	0.002	0.005	0.007	0.003	0.002	0.000	0.001	0.001	0.001	0.000	0.002	0.003	0.001	0.000	0.002	0.000	0.000	0.000	0.000	0.000
Jun-83	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-84	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.007	0.002	0.007	0.007	0.007	0.000	0.007	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000		
Jun-85	0.000	0.000	0.000	0.002	0.000	0.003	0.002	0.002	0.003	0.012	0.002	0.005	0.003	0.002	0.000	0.003	0.002	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
Jun-86	0.000	0.000	0.001	0.002	0.004	0.002	0.004	0.009	0.009	0.000	0.005	0.001	0.002	0.000	0.000	0.000	0.000	0.001	0.003	0.003	0.001	0.002	0.003	0.004	0.000	0.000	0.000	0.000				
Jun-87	0.000	0.001	0.006	0.005	0.007	0.003	0.009	0.008	0.004	0.003	0.001	0.000	0.001	0.003	0.002	0.008	0.002	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
Jun-88	0.000	0.002	0.001	0.001	0.008	0.015	0.009	0.008	0.010	0.002	0.003	0.001	0.002	0.000	0.000	0.000	0.006	0.001	0.000	0.004	0.003	0.000	0.000	0.000	0.000	0.000						
Jun-89	0.000	0.003	0.006	0.011	0.015	0.014	0.010	0.010	0.009	0.007	0.006	0.001	0.005	0.002	0.001	0.000	0.003	0.008	0.002	0.005	0.003	0.000	0.000	0.000	0.000							
Jun-90	0.000	0.005	0.012	0.015	0.023	0.010	0.006	0.021	0.002	0.006	0.000	0.007	0.000	0.001	0.000	0.001	0.005	0.003	0.000	0.001	0.000	0.000	0.000	0.000								
Jun-91	0.000	0.004	0.018	0.019	0.014	0.015	0.010	0.001	0.007	0.000	0.000	0.003	0.000	0.000	0.000	0.007	0.003	0.012	0.006	0.000	0.000	0.000	0.000									
Jun-92	0.001	0.008	0.014	0.010	0.006	0.012	0.000	0.009	0.006	0.008	0.008	0.002	0.001	0.007	0.002	0.002	0.007	0.003	0.000	0.000	0.000	0.000										
Jun-93	0.001	0.013	0.017	0.022	0.015	0.005	0.005	0.001	0.007	0.008	0.000	0.005	0.000	0.000	0.000	0.000	0.005	0.004	0.003	0.003	0.000											
Jun-94	0.001	0.025	0.019	0.017	0.016	0.003	0.003	0.009	0.000	0.001	0.000	0.021	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000												
Jun-95	0.019	0.023	0.039	0.029	0.010	0.012	0.002	0.000	0.000	0.007	0.006	0.004	0.000	0.008	0.000	0.001	0.000	0.000	0.000													
Jun-96	0.001	0.024	0.044	0.022	0.010	0.002	0.000	0.004	0.000	0.000	0.003	0.006	0.000	0.002	0.002	0.000	0.000	0.000														
Jun-97	0.002	0.048	0.031	0.030	0.020	0.010	0.000	0.010	0.010	0.006	0.008	0.000	0.000	0.000	0.004	0.004	0.000															
Jun-98	0.034	0.043	0.034	0.060	0.034	0.010	0.008	0.011	0.002	0.000	0.001	0.024	0.009	0.008	0.008	0.000																
Jun-99	0.022	0.014	0.054	0.027	0.020	0.018	0.022	0.013	0.007	0.019	0.002	0.007	0.000	0.000	0.000																	
Jun-00	0.009	0.043	0.027	0.024	0.008	0.017	0.016	0.010	0.005	0.007	0.002	0.000	0.000	0.000																		
Jun-01	0.001	0.016	0.030	0.006	0.022	0.022	0.013	0.020	0.007	0.000	0.000	0.000	0.006																			
Jun-02	0.000	0.010	0.030	0.024	0.037	0.024	0.009	0.022	0.002	0.004	0.004	0.001																				
Jun-03	0.000	0.006	0.050	0.036	0.018	0.021	0.006	0.005	0.001	0.001	0.001																					
Jun-04	0.004	0.002	0.027	0.048	0.033	0.017	0.002	0.009	0.009	0.000																						
Jun-05	0.001	0.005	0.034	0.077	0.031	0.012	0.009	0.009	0.012																							
Jun-06	0.000	0.013	0.031	0.060	0.017	0.030	0.030	0.007																								
Jun-07	0.002	0.021	0.051	0.038	0.014	0.014	0.011																									
Jun-08	0.000	0.017	0.021	0.037	0.037	0.011																										
Jun-09	0.014	0.008	0.028	0.028	0.021																											
Jun-10	0.000	0.020	0.020	0.028																												
Jun-11	0.014	0.014	0.027																													
Jun-12	0.000	0.012																														
Jun-13	0.002																															

Averages		*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*372-384*
Simple Avg																																
All Yrs (ex P)	0.004	0.013	0.023	0.024	0.016	0.012	0.008	0.009	0.005	0.004	0.003	0.005	0.002	0.002	0.001	0.002	0.002	0.003	0.001	0.001	0.001	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000		
Latest 5	0.006	0.014	0.029	0.038	0.024	0.017	0.012	0.011	0.006	0.002	0.002	0.007	0.003	0.002	0.003	0.001	0.001	0.001	0.002	0.001	0.001	0.000	0.000	0.001	0.000	0.000	0.000					
Latest 3	0.005	0.016	0.025	0.031	0.024	0.018	0.016	0.008	0.007	0.002	0.002	0.000	0.002	0.003	0.004	0.001	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
Olympic Avg																																
All Yrs (ex P)	0.003	0.013	0.023	0.023	0.016	0.011	0.007	0.008	0.005	0.004	0.003	0.004	0.002	0.002	0.001	0.001	0.002	0.003	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
Latest 10	0.003	0.012	0.031	0.037	0.024	0.018	0.012	0.011	0.005	0.003	0.002	0.006	0.002	0.002	0.001	0.001	0.003	0.003	0.002	0.001	0.000	0.000										
Latest 5	0.005	0.015	0.025	0.034	0.023	0.014	0.008	0.008	0.006	0.002	0.002	0.003	0.002	0.001	0.002	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000						

Dev Factor Selection																																
Prior	*NA*	*0.015*	*0.025*	*0.035*	*0.021*	*0.018*	*0.011*	*0.011*	*0.005*	*0.003*	*0.002*	*0.004*	*0.002*	*0.002*	*0.001*	*0.002*	*0.000*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.001*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	
Selected	NA	0.015	0.026	0.031	0.021	0.017	0.011	0.011	0.005	0.003	0.002	0.004	0.002	0.002	0.001	0.001	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FacToUlt	NA	0.158	0.143	0.117	0.086	0.065	0.048	0.037	0.025	0.020	0.017	0.015	0.011	0.010	0.008	0.007	0.006	0.006	0.006	0.005	0.004	0.003	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Commonwealth of Massachusetts Workers Compensation
All Other - Clusters 5-17 & 95
INDEMNITY
Paid Loss Development
Paid Loss - Lump Sum only

Acc Yr Ending	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384
All Prior Yrs	0	0	0	0	0	0	0	22,500	22,500	22,500	160,000	200,000	280,500	530,734	897,734	1,037,338	1,122,338	1,122,338	1,179,838	1,234,839	1,264,839	1,277,089	1,361,089	1,501,089	1,567,089	1,567,089	1,645,214	1,645,214	1,645,214	1,652,714	1,660,214	1,660,214
Jun-83	0	0	0	0	0	0	0	0	0	0	35,000	42,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	
Jun-84	0	0	0	0	0	0	91,600	144,850	159,850	214,850	274,550	331,550	331,550	388,550	388,550	388,550	388,550	473,550	473,550	473,550	473,550	473,550	473,550	483,550	483,550	483,550	483,550	483,550	483,550	483,550		
Jun-85	0	0	0	30,000	33,000	85,500	120,054	154,054	212,054	427,804	458,004	550,504	600,504	640,504	640,504	689,504	721,504	721,504	746,504	746,504	746,504	746,504	746,504	746,504	746,504	746,504	746,504	746,504	746,504	746,504		
Jun-86	0	0	12,000	52,559	126,059	158,559	233,559	408,958	588,458	588,458	680,458	700,458	750,458	750,458	750,458	750,458	750,458	780,458	835,458	899,458	915,458	960,458	1,018,733	1,106,534	1,106,534	1,106,534	1,106,534	1,106,534				
Jun-87	0	25,000	155,000	255,666	406,167	467,033	659,558	828,058	919,559	979,365	1,007,365	1,007,365	1,019,865	1,084,865	1,134,865	1,299,864	1,349,864	1,429,864	1,509,864	1,519,864	1,519,864	1,519,864	1,519,864	1,519,864	1,519,864	1,519,864	1,519,864	1,519,864				
Jun-88	0	49,000	89,808	129,766	335,518	744,365	987,365	1,210,404	1,478,404	1,540,404	1,615,404	1,645,404	1,706,404	1,706,404	1,706,404	1,706,404	1,861,404	1,881,404	1,881,404	1,981,404	2,071,404	2,071,404	2,071,404	2,071,404	2,071,404	2,071,404						
Jun-89	0	69,855	213,355	489,131	863,231	1,204,731	1,459,731	1,698,233	1,920,733	2,091,233	2,237,233	2,267,233	2,390,233	2,430,233	2,455,233	2,455,233	2,518,733	2,703,733	2,753,733	2,863,733	2,926,233	2,926,233	2,926,233	2,926,233	2,926,233							
Jun-90	0	114,301	396,269	738,709	1,274,460	1,506,025	1,656,825	2,151,325	2,197,625	2,337,625	2,337,625	2,494,625	2,494,625	2,509,625	2,509,625	2,534,625	2,640,625	2,700,625	2,700,625	2,715,625	2,715,625	2,715,625	2,715,625	2,715,625								
Jun-91	3,500	77,250	450,750	850,251	1,132,101	1,451,601	1,655,101	1,680,102	1,823,102	1,823,102	1,833,102	1,887,102	1,887,102	1,887,102	1,897,102	2,050,102	2,122,602	2,377,602	2,497,602	2,497,602	2,497,602	2,497,602	2,497,602									
Jun-92	12,000	122,012	304,647	440,233	516,233	667,234	667,234	779,234	855,734	953,734	1,058,734	1,078,734	1,092,234	1,178,502	1,199,369	1,220,236	1,306,736	1,341,736	1,341,736	1,341,736	1,341,736	1,341,736										
Jun-93	6,000	143,948	325,372	556,373	714,373	772,373	821,373	837,373	914,373	999,373	999,373	1,054,373	1,054,373	1,054,373	1,054,373	1,054,373	1,104,373	1,144,373	1,179,373	1,214,373	1,214,373											
Jun-94	9,500	282,655	486,656	676,021	844,521	873,522	901,522	997,522	997,522	1,011,522	1,011,522	1,241,522	1,306,522	1,306,522	1,306,522	1,306,522	1,306,522	1,306,522	1,306,522	1,306,522												
Jun-95	185,350	408,752	779,752	1,060,752	1,151,717	1,268,317	1,285,317	1,285,317	1,285,317	1,347,317	1,405,717	1,439,717	1,439,717	1,519,717	1,519,717	1,532,217	1,532,217	1,532,217	1,532,217													
Jun-96	6,000	252,050	715,550	940,251	1,044,681	1,070,182	1,073,182	1,113,182	1,113,182	1,113,183	1,148,183	1,210,683	1,210,683	1,229,083	1,245,683	1,245,683	1,245,683	1,245,683														
Jun-97	23,365	522,066	844,566	1,162,067	1,366,067	1,474,318	1,474,318	1,579,318	1,685,819	1,745,819	1,828,819	1,828,819	1,828,819	1,828,819	1,868,819	1,908,819	1,908,819															
Jun-98	287,037	643,985	929,445	1,433,445	1,714,945	1,797,945	1,867,480	1,956,445	1,976,445	1,976,445	1,986,445	2,189,195	2,264,195	2,333,195	2,402,195	2,402,195																
Jun-99	203,500	328,000	815,181	1,058,081	1,244,063	1,412,064	1,613,064	1,733,064	1,798,064	1,968,064	1,988,064	2,053,064	2,053,064	2,053,064	2,053,064																	
Jun-00	97,731	584,209	891,246	1,161,046	1,254,546	1,445,545	1,630,429	1,740,547	1,793,548	1,869,548	1,893,548	1,893,548	1,893,548	1,893,548																		
Jun-01	10,000	192,428	527,928	599,428	843,928	1,094,928	1,239,928	1,459,928	1,539,928	1,539,928	1,539,928	1,539,928	1,602,428																			
Jun-02	0	114,545	476,626	760,165	1,200,166	1,486,417	1,595,417	1,860,417	1,885,418	1,935,418	1,985,418	2,000,418																				
Jun-03	0	77,201	674,002	1,104,837	1,322,997	1,577,998	1,652,998	1,717,998	1,723,998	1,729,998	1,737,498																					
Jun-04	47,500	72,777	367,764	887,764	1,245,764	1,434,764	1,461,764	1,561,764	1,661,764	1,661,764																						
Jun-05	6,157	67,023	484,523	1,433,524	1,812,201	1,962,201	2,067,201	2,172,201	2,322,201																							
Jun-06	0	159,500	529,500	1,244,500	1,452,500	1,812,000	2,171,500	2,260,500																								
Jun-07	26,000	264,583	838,585	1,265,085	1,418,087	1,571,089	1,691,089																									
Jun-08	0	282,500	629,148	1,239,148	1,849,148	2,024,110																										
Jun-09	250,000	390,000	891,500	1,393,000	1,763,926																											
Jun-10	0	385,501	771,002	1,307,713																												
Jun-11	307,191	626,381	1,230,599																													
Jun-12	0	294,800																														
Jun-13	37,000																															

Age-to-Age Factors

Acc Yr Ending	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	To Ult
All Prior Yrs								1.000	1.000	7.111	1.250	1.403	1.892	1.691	1.156	1.082	1.000	1.051	1.047	1.024	1.010	1.066	1.103	1.044	1.000	1.050	1.000	1.000	1.005	1.005	1.000	
Jun-83											1.221	1.023	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
Jun-84							1.581	1.104	1.344	1.278	1.208	1.000	1.172	1.000	1.000	1.000	1.219	1.000	1.000	1.000	1.000	1.000	1.021	1.000	1.000	1.000	1.000	1.000	1.000			
Jun-85				1.100	2.591	1.404	1.283	1.376	2.017	1.071	1.202	1.091	1.067	1.000	1.077	1.046	1.000	1.035	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Jun-86			4.380	2.398	1.258	1.473	1.751	1.439	1.000	1.156	1.029	1.071	1.000	1.000	1.000	1.000	1.040	1.070	1.077	1.018	1.049	1.061	1.086	1.000	1.000	1.000	1.000	1.000				
Jun-87		6.200	1.649	1.589	1.150	1.412	1.255	1.111	1.065	1.029	1.000	1.012	1.064	1.046	1.145	1.038	1.059	1.056	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
Jun-88		1.833	1.445	2.586	2.219	1.326	1.226	1.221	1.042	1.049	1.019	1.037	1.000	1.000	1.000	1.091	1.011	1.000	1.053	1.045	1.000	1.000	1.000	1.000	1.000	1.000						
Jun-89		3.054	2.293	1.765	1.396	1.212	1.163	1.131	1.089	1.070	1.013	1.054	1.017	1.010	1.000	1.026	1.073	1.018	1.040	1.022	1.000	1.000	1.000	1.000								
Jun-90		3.467	1.864	1.725	1.182	1.100	1.298	1.022	1.064	1.000	1.067	1.000	1.006	1.000	1.010	1.042	1.023	1.000	1.006	1.000	1.000	1.000	1.000									
Jun-91	22.071	5.835	1.886	1.331	1.282	1.140	1.015	1.085	1.000	1.005	1.029	1.000	1.000	1.005	1.081	1.035	1.120	1.050	1.000	1.000	1.000	1.000										
Jun-92	10.168	2.497	1.445	1.173	1.293	1.000	1.168	1.098	1.115	1.110	1.019	1.013	1.079	1.018	1.017	1.071	1.027	1.000	1.000	1.000	1.000											
Jun-93	23.991	2.260	1.710	1.284	1.081	1.063	1.019	1.092	1.093	1.000	1.055	1.000	1.000	1.000	1.000	1.047	1.036	1.031	1.030	1.000												
Jun-94	29.753	1.722	1.389	1.249	1.034	1.032	1.106	1.000	1.014	1.000	1.227	1.052	1.000	1.000	1.000	1.000	1.000	1.000	1.000													
Jun-95	2.205	1.908	1.360	1.086	1.101	1.013	1.000	1.000	1.048	1.043	1.024	1.000	1.056	1.000	1.008	1.000	1.000	1.000														
Jun-96	42.008	2.839	1.314	1.111	1.024	1.003	1.037	1.000	1.000	1.031	1.054	1.000	1.015	1.014	1.000	1.000	1.000															
Jun-97	22.344	1.618	1.376	1.176	1.079	1.000	1.071	1.067	1.036	1.048	1.000	1.000	1.000	1.022	1.021	1.000																
Jun-98	2.244	1.443	1.542	1.196	1.048	1.039	1.048	1.010	1.000	1.005	1.102	1.034	1.030	1.030	1.000																	
Jun-99	1.612	2.485	1.298	1.176	1.135	1.142	1.074	1.038	1.095	1.010	1.033	1.000	1.000	1.000																		
Jun-00	5.978	1.526	1.303	1.081	1.152	1.128	1.068	1.030	1.042	1.013	1.000	1.000	1.000																			
Jun-01	19.243	2.744	1.135	1.408	1.297	1.132	1.177	1.055	1.000	1.000	1.000	1.041																				
Jun-02		4.161	1.595	1.579	1.239	1.073	1.166	1.013	1.027	1.026	1.008																					
Jun-03		8.730	1.639	1.197	1.193	1.048	1.039	1.003	1.003	1.004																						
Jun-04	1.532	5.053	2.414	1.403	1.152	1.019	1.068	1.064	1.000																							
Jun-05	10.886	7.229	2.959	1.264	1.083	1.054	1.051	1.069																								
Jun-06		3.320	2.350	1.167	1.248	1.198	1.041																									
Jun-07	10.176	3.169	1.509	1.121	1.108	1.076																										
Jun-08		2.227	1.970	1.492	1.095																											
Jun-09	1.560	2.286	1.563	1.266																												
Jun-10		2.000	1.696																													
Jun-11	2.039	1.965																														
Jun-12																																

Averages	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	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	To Ult
Simple Avg																																
All Yrs (ex P)	12.988	3.263	1.803	1.397	1.268	1.134	1.161	1.092	1.100	1.047	1.066	1.023	1.028	1.008	1.022	1.026	1.043	1.020	1.018	1.008	1.005	1.007	1.013	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
Latest 5		2.329	1.817	1.262	1.137	1.079	1.073	1.041	1.014	1.011	1.028	1.015	1.009	1.013	1.006	1.009	1.013	1.016	1.007	1.004	1.000	1.000	1.017	1.000	1.000	1.000						
Latest 3		2.084	1.743	1.293	1.150	1.109	1.053	1.046	1.010	1.010	1.003	1.014	1.010	1.017	1.007	1.000	1.000	1.010	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
Volume Wtd																																
All Yrs (ex P)	4.423	2.371	1.637	1.285	1.167	1.100	1.104	1.061	1.046	1.031	1.041	1.019	1.019	1.010	1.021	1.030	1.042	1.020	1.019	1.010	1.003	1.004	1.008	1.000	1.000	1.000	1.000	1.000	1.000			
Latest 5		2.238	1.762	1.262	1.132	1.082	1.070	1.041	1.015	1.011	1.030	1.014	1.009	1.014	1.006	1.007	1.012	1.020	1.006	1.006	1.000	1.000	1.009	1.000	1.000	1.000						
Latest 3		2.064	1.719	1.291	1.146	1.109	1.052	1.047	1.011	1.011	1.003	1.011	1.011	1.018	1.007	1.000	1.000	1.009	1.009	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				

Dev Factor Selection																																
Prior	4.285	2.959	1.792	1.317	1.193	1.102	1.085	1.039	1.033	1.014	1.047	1.018	1.010	1.013	1.006	1.024	1.037	1.010	1.019	1.013	1.005	1.005	1.005	1.005	1.005	1.000	1.000	1.000	1.000	1.000	1.030	
Selected	4.354	2.796	1.700	1.317	1.185	1.108	1.075	1.050	1.014	1.011	1.047	1.019	1.010	1.013	1.006	1.009	1.013	1.010	1.018	1.004	1.005	1.005	1.005	1.005	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.030
FacToUlt	50.740	11.653	4.168	2.452	1.861	1.570	1.418	1.319	1.256	1.238	1.225	1.170	1.147	1.136	1.121	1.115	1.104	1.090	1.079	1.061	1.056	1.051	1.046	1.040	1.035	1.030	1.030	1.030	1.030	1.030	1.030	
Percent of Ult	2.0%	8.6%	24.0%	40.8%	53.7%	63.7%	70.5%	75.8%	79.6%	80.7%	81.6%	85.5%	87.2%	88.1%	89.2%	89.7%	90.6%	91.7%	92.7%	94.3%	94.7%	95.2%	95.6%	96.1%	96.6%	97.1%	97.1%	97.1%	97.1%	97.1%	97.1%	

All Other - Clusters 5-17 & 95

Indemnity

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At: 4%	6%
384	100.0%	2.6%	0.0%	0.8%	0.4%	1.000	1.000
372	97.4%	1.3%	2.6%	0.4%	0.2%	0.981	0.971
360	96.0%	0.9%	4.0%	0.3%	0.2%	0.955	0.935
348	95.1%	1.2%	4.9%	0.4%	0.2%	0.930	0.898
336	94.0%	1.2%	6.0%	0.4%	0.2%	0.911	0.871
324	92.8%	1.3%	7.2%	0.5%	0.3%	0.893	0.846
312	91.5%	1.3%	8.5%	0.5%	0.3%	0.877	0.825
300	90.2%	1.4%	9.8%	0.6%	0.3%	0.862	0.805
288	88.7%	1.6%	11.3%	0.6%	0.4%	0.848	0.786
276	87.1%	1.5%	12.9%	0.6%	0.4%	0.836	0.770
264	85.6%	1.6%	14.4%	0.7%	0.5%	0.823	0.752
252	84.0%	1.6%	16.0%	0.7%	0.5%	0.810	0.736
240	82.4%	1.7%	17.6%	0.8%	0.5%	0.797	0.720
228	80.7%	2.0%	19.3%	1.0%	0.7%	0.785	0.705
216	78.7%	1.8%	21.3%	0.9%	0.7%	0.777	0.694
204	76.8%	1.6%	23.2%	0.8%	0.6%	0.765	0.680
192	75.2%	1.7%	24.8%	0.9%	0.7%	0.752	0.663
180	73.5%	1.8%	26.5%	1.0%	0.8%	0.739	0.647
168	71.7%	1.8%	28.3%	1.1%	0.8%	0.728	0.634
156	69.9%	1.9%	30.1%	1.1%	0.9%	0.717	0.620
144	68.1%	1.9%	31.9%	1.2%	1.0%	0.706	0.608
132	66.1%	1.8%	33.9%	1.2%	1.0%	0.696	0.596
120	64.3%	1.9%	35.7%	1.3%	1.1%	0.685	0.583
108	62.4%	2.1%	37.6%	1.5%	1.3%	0.675	0.571
96	60.4%	2.6%	39.6%	1.9%	1.6%	0.666	0.561
84	57.8%	3.2%	42.2%	2.4%	2.2%	0.661	0.556
72	54.7%	4.3%	45.3%	3.4%	3.1%	0.660	0.556
60	50.4%	5.8%	49.6%	4.9%	4.5%	0.664	0.563
48	44.6%	7.3%	55.4%	6.3%	5.9%	0.675	0.577
36	37.3%	9.8%	62.7%	8.9%	8.5%	0.687	0.594
24	27.5%	14.7%	72.5%	13.8%	13.4%	0.704	0.616
12	12.9%	12.9%	87.1%	12.6%	12.5%	0.728	0.647
Total		100.0%					

NOTES:

(2) = 1 / Section 8, Exhibit 1, Page 2, Column 4

(3) Incremental % based on (2)

(4) = 1 - (2)

(5) = [(3) / 1.04] ^ {[(1) - 6] / 12}

(6) = [(3) / 1.06] ^ {[(1) - 6] / 12}

(7), (8) Discount factor based on (5), (6)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Indemnity

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	6,289,628	11,015,403		5,500,815	9,633,908
6/30/82-83	284,012	733,318	0.981	278,497	719,077
6/30/83-84	486,929	1,134,289	0.955	465,224	1,083,729
6/30/84-85	673,662	1,650,662	0.930	626,474	1,535,037
6/30/85-86	999,178	1,780,178	0.911	910,225	1,621,696
6/30/86-87	1,253,143	2,036,143	0.893	1,118,984	1,818,158
6/30/87-88	2,311,369	3,100,369	0.877	2,028,189	2,720,524
6/30/88-89	2,100,356	3,128,356	0.862	1,811,050	2,697,451
6/30/89-90	2,632,145	3,348,145	0.848	2,233,293	2,840,797
6/30/90-91	2,728,554	3,332,554	0.836	2,281,712	2,786,797
6/30/91-92	1,893,592	2,634,592	0.823	1,557,480	2,166,953
6/30/92-93	1,725,118	3,166,118	0.810	1,397,174	2,564,240
6/30/93-94	1,925,375	2,576,375	0.797	1,535,168	2,054,233
6/30/94-95	1,883,433	2,480,433	0.785	1,479,324	1,948,232
6/30/95-96	2,254,007	2,900,007	0.777	1,750,796	2,252,575
6/30/96-97	2,500,470	3,167,470	0.765	1,914,082	2,424,663
6/30/97-98	2,215,343	2,772,343	0.752	1,665,280	2,083,979
6/30/98-99	2,553,648	3,125,648	0.739	1,887,522	2,310,315
6/30/99-00	3,355,678	4,076,678	0.728	2,443,278	2,968,239
6/30/00-01	3,517,711	4,196,711	0.717	2,521,417	3,008,109
6/30/01-02	4,027,364	4,758,364	0.706	2,844,422	3,360,708
6/30/02-03	4,326,118	5,043,118	0.696	3,012,447	3,511,722
6/30/03-04	4,187,265	4,863,265	0.685	2,868,610	3,331,724
6/30/04-05	5,045,017	5,121,017	0.675	3,406,654	3,457,973
6/30/05-06	5,238,743	6,049,743	0.666	3,491,364	4,031,855
6/30/06-07	5,336,829	7,025,829	0.661	3,529,589	4,646,634
6/30/07-08	7,538,175	8,685,175	0.660	4,974,624	5,731,557
6/30/08-09	10,030,090	10,203,090	0.664	6,663,621	6,778,556
6/30/09-10	12,021,938	12,535,938	0.675	8,109,151	8,455,859
6/30/10-11	15,744,030	17,248,030	0.687	10,816,225	11,849,480
6/30/11-12	18,565,149	20,430,149	0.704	13,067,916	14,380,680
6/30/12-13	23,805,048	25,319,048	0.728	17,328,456	18,430,545
Total	159,449,119	189,638,560		115,519,064	139,206,008
			(7) Total Discount Factor:	0.724	0.734

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	6,289,628	11,015,403
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	898,518	1,573,629
(11) Discounted Value at 4%:	5,500,815	9,633,908

NOTES:
(2), (3) From Section 8, Exhibit 1, Page 1, Columns 8, 9
(4) From Section 8, Exhibit 1, Page 13, Column 7
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Indemnity

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	6,289,628	11,015,403		5,166,348	9,048,135
6/30/82-83	284,012	733,318	0.971	275,857	712,261
6/30/83-84	486,929	1,134,289	0.935	455,092	1,060,125
6/30/84-85	673,662	1,650,662	0.898	604,966	1,482,339
6/30/85-86	999,178	1,780,178	0.871	870,593	1,551,086
6/30/86-87	1,253,143	2,036,143	0.846	1,060,475	1,723,090
6/30/87-88	2,311,369	3,100,369	0.825	1,907,169	2,558,193
6/30/88-89	2,100,356	3,128,356	0.805	1,689,793	2,516,846
6/30/89-90	2,632,145	3,348,145	0.786	2,069,233	2,632,109
6/30/90-91	2,728,554	3,332,554	0.770	2,101,195	2,566,321
6/30/91-92	1,893,592	2,634,592	0.752	1,424,068	1,981,333
6/30/92-93	1,725,118	3,166,118	0.736	1,269,247	2,329,455
6/30/93-94	1,925,375	2,576,375	0.720	1,385,542	1,854,016
6/30/94-95	1,883,433	2,480,433	0.705	1,326,969	1,747,585
6/30/95-96	2,254,007	2,900,007	0.694	1,564,158	2,012,446
6/30/96-97	2,500,470	3,167,470	0.680	1,700,033	2,153,516
6/30/97-98	2,215,343	2,772,343	0.663	1,467,713	1,836,738
6/30/98-99	2,553,648	3,125,648	0.647	1,652,185	2,022,264
6/30/99-00	3,355,678	4,076,678	0.634	2,126,216	2,583,054
6/30/00-01	3,517,711	4,196,711	0.620	2,180,857	2,601,813
6/30/01-02	4,027,364	4,758,364	0.608	2,446,638	2,890,723
6/30/02-03	4,326,118	5,043,118	0.596	2,577,816	3,005,057
6/30/03-04	4,187,265	4,863,265	0.583	2,439,348	2,833,161
6/30/04-05	5,045,017	5,121,017	0.571	2,881,887	2,925,301
6/30/05-06	5,238,743	6,049,743	0.561	2,940,559	3,395,781
6/30/06-07	5,336,829	7,025,829	0.556	2,968,620	3,908,129
6/30/07-08	7,538,175	8,685,175	0.556	4,190,133	4,827,699
6/30/08-09	10,030,090	10,203,090	0.563	5,645,974	5,743,356
6/30/09-10	12,021,938	12,535,938	0.577	6,937,279	7,233,884
6/30/10-11	15,744,030	17,248,030	0.594	9,348,639	10,241,698
6/30/11-12	18,565,149	20,430,149	0.616	11,432,866	12,581,378
6/30/12-13	23,805,048	25,319,048	0.647	15,393,311	16,372,325
Total	159,449,119	189,638,560		101,500,778	122,931,217
			(7) Total Discount Factor:	0.637	0.648

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	6,289,628	11,015,403
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	898,518	1,573,629
(11) Discounted Value at 6%:	5,166,348	9,048,135

NOTES:
(2), (3) From Section 8, Exhibit 1, Page 1, Columns 8, 9
(4) From Section 8, Exhibit 1, Page 13, Column 8
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Total Indemnity (Including Lump Sums) + Medical

Calculation of Fiscal Year 7/1/13 - 14 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Cumulative	Incremental Paid		Estimated Payments from		FY 7/1/13 - 6/30/14	
Accident	Est Ult Losses	Est Ult Losses	Paid Losses	Reserves	Reserves	Percent	as a % of	as a % of	7/1/13 - 6/30/14		as a % of Reserves	
Year	(Low)	(High)	to Date	(Low)	(High)	Paid	Ultimates	Reserves	(Low)	(High)	(Low)	(High)
All Prior Yrs	52,680,854	57,430,241	46,126,291	6,554,562	11,303,950				580,402	638,442	8.9%	5.6%
6/30/82-83	6,349,155	6,815,326	6,065,143	284,012	750,183	92.1%	1.5%	19.1%	54,229	143,238	19.1%	19.1%
6/30/83-84	9,206,494	9,876,133	8,719,565	486,929	1,156,569	91.4%	1.5%	17.4%	84,806	201,434	17.4%	17.4%
6/30/84-85	18,399,000	19,376,000	17,699,160	699,840	1,676,840	93.7%	1.5%	23.8%	166,849	399,776	23.8%	23.8%
6/30/85-86	22,384,690	23,185,000	21,351,810	1,032,880	1,833,190	93.7%	1.0%	15.9%	164,225	291,472	15.9%	15.9%
6/30/86-87	22,808,000	23,592,000	21,500,166	1,307,834	2,091,834	92.7%	1.0%	13.6%	178,498	285,502	13.6%	13.6%
6/30/87-88	32,701,000	33,494,000	30,268,483	2,432,517	3,225,517	91.5%	1.0%	11.7%	284,587	377,363	11.7%	11.7%
6/30/88-89	30,653,000	31,684,000	28,397,353	2,255,647	3,286,647	91.1%	1.0%	11.2%	253,704	369,666	11.2%	11.2%
6/30/89-90	30,081,000	30,803,000	27,262,313	2,818,687	3,540,687	89.6%	1.5%	14.4%	404,787	508,473	14.4%	14.4%
6/30/90-91	26,953,660	27,596,000	24,076,284	2,877,376	3,519,716	88.3%	1.5%	12.8%	368,042	450,203	12.8%	12.8%
6/30/91-92	17,281,000	18,024,000	15,224,860	2,056,140	2,799,140	86.2%	1.5%	10.9%	224,267	305,308	10.9%	10.9%
6/30/92-93	13,697,000	15,141,000	11,813,416	1,883,584	3,327,584	81.9%	1.5%	8.3%	156,353	276,217	8.3%	8.3%
6/30/93-94	15,237,000	15,892,000	13,102,263	2,134,737	2,789,737	84.2%	1.5%	9.5%	202,414	264,521	9.5%	9.5%
6/30/94-95	13,739,000	14,340,000	11,656,934	2,082,066	2,683,066	83.0%	1.5%	8.8%	184,032	237,153	8.8%	8.8%
6/30/95-96	13,948,000	14,596,000	11,506,266	2,441,734	3,089,734	80.6%	1.5%	7.7%	189,001	239,159	7.7%	7.7%
6/30/96-97	15,287,000	15,957,000	12,508,247	2,778,753	3,448,753	80.1%	1.5%	7.5%	209,119	259,541	7.5%	7.5%
6/30/97-98	13,120,000	13,679,000	10,645,590	2,474,410	3,033,410	79.4%	1.5%	7.3%	180,593	221,392	7.3%	7.3%
6/30/98-99	14,144,000	14,717,000	11,224,337	2,919,663	3,492,663	77.8%	1.7%	7.5%	218,880	261,836	7.5%	7.5%
6/30/99-00	16,738,000	17,463,000	12,921,134	3,816,866	4,541,866	75.6%	2.2%	9.1%	347,025	412,942	9.1%	9.1%
6/30/00-01	16,238,000	16,917,000	12,199,357	4,038,643	4,717,643	73.6%	2.0%	7.5%	301,273	351,925	7.5%	7.5%
6/30/01-02	17,266,000	18,004,000	12,697,340	4,568,660	5,306,660	72.0%	1.6%	5.7%	259,287	301,171	5.7%	5.7%
6/30/02-03	17,549,000	18,269,000	12,535,145	5,013,855	5,733,855	70.0%	2.0%	6.7%	335,396	383,559	6.7%	6.7%
6/30/03-04	16,644,000	17,324,000	11,643,493	5,000,507	5,680,507	68.6%	1.4%	4.6%	228,664	259,759	4.6%	4.6%
6/30/04-05	19,744,000	20,661,000	14,225,002	5,518,998	6,435,998	70.4%	2.0%	6.8%	373,058	435,042	6.8%	6.8%
6/30/05-06	18,799,000	20,060,000	12,774,679	6,024,321	7,285,321	65.7%	4.7%	13.6%	820,196	991,878	13.6%	13.6%
6/30/06-07	19,174,000	21,966,000	13,024,654	6,149,346	8,941,346	63.3%	2.4%	6.6%	407,404	592,379	6.6%	6.6%
6/30/07-08	23,757,000	25,449,000	14,952,071	8,804,929	10,496,929	60.8%	2.5%	6.5%	571,331	681,121	6.5%	6.5%
6/30/08-09	26,192,000	27,289,000	14,717,132	11,474,868	12,571,868	55.0%	5.7%	12.8%	1,463,990	1,603,948	12.8%	12.8%
6/30/09-10	27,579,000	29,082,000	13,786,820	13,792,180	15,295,180	48.7%	6.4%	12.4%	1,712,110	1,898,686	12.4%	12.4%
6/30/10-11	31,610,000	34,115,000	13,528,741	18,081,259	20,586,259	41.2%	7.5%	12.7%	2,303,946	2,623,138	12.7%	12.7%
6/30/11-12	32,180,000	35,238,000	10,284,459	21,895,541	24,953,541	30.5%	10.0%	14.4%	3,150,870	3,590,930	14.4%	14.4%
6/30/12-13	34,407,000	37,606,000	4,705,107	29,701,893	32,900,893	13.1%	17.4%	20.1%	5,959,386	6,601,233	20.1%	20.1%
Total	686,546,853	725,640,701	503,143,615	183,403,238	222,497,086				22,338,725	26,458,406	12.2%	11.9%

NOTES:

(2) Exhibit 1, Page 1, Column (4) + Exhibit 2, Page 1, Column (4)
(3) Exhibit 1, Page 1, Column (5) + Exhibit 2, Page 1, Column (5)
(4) Exhibit 1, Page 1, Column (2) + Exhibit 2, Page 1, Column (2)
(5) = (2) - (4)
(6) = (3) - (4)
(7) = (4) / Average of Columns (2), (3)
(8) = (7) - Prior Year's (7)
(9) = (8) / (1.00 - (7))
(10) = (5) * (9)
(11) = (6) * (9)
(12) = (10) / (5)
(13) = (11) / (6)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2011
All Other - Clusters 5-17 & 95
Indemnity

Allocation of Outstanding Reserve to MassDOT Agencies

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
						MassDOT Allocation - Method 1					**MassDOT Allocation - Method 2**					**MassDOT Allocation - Method 3**								
Accident		Aon	Aon	Outstanding	Outstanding																MassDOT	MassDOT	All Other	All Other
		Selected Ult	Selected Ult	Losses	Losses	Paid Counts	MassDOT	MassDOT /	MassDOT OS	MassDOT OS	Total Paid	MassDOT	MassDOT /	MassDOT OS	MassDOT OS	Total Payroll	MassDOT	MassDOT /	MassDOT OS	MassDOT OS	Outstanding	Outstanding	Outstanding	Outstanding
Year	Paid Loss	(Low)	(High)	(Low)	(High)	7/1/11-12	7/1/11-12	Paid Counts	(Low)	(High)	7/1/11-12	7/1/11-12	Total Paid	(Low)	(High)	($000)	($000)	Total Payroll	(Low)	(High)	(Low)	(High)	(Low)	(High)
All Prior Yrs	42,562,317	49,394,764	54,287,417	6,832,447	11,725,100	16					659,520	0	0.0%	0	0				442,138	758,749	147,379	252,916	6,685,068	11,472,184
6/30/82-83	5,482,086	5,765,299	6,208,783	283,213	726,697	2					73,325								18,327	47,026	6,109	15,675	277,104	711,022
6/30/83-84	7,892,322	8,380,290	9,024,928	487,969	1,132,606	1					34,513								31,577	73,293	10,526	24,431	477,443	1,108,175
6/30/84-85	16,396,522	17,123,000	18,099,000	726,478	1,702,478	3	1	33.3%	242,159	567,493	173,166	56,954	32.9%	238,939	559,946				47,011	110,170	110,987	260,095	615,490	1,442,382
6/30/85-86	19,299,192	20,378,000	21,167,000	1,078,808	1,867,808	5	1	20.0%	215,762	373,562	213,219	58,318	27.4%	295,065	510,865				69,811	120,869	193,546	335,098	885,262	1,532,710
6/30/86-87	19,547,905	20,902,000	21,679,000	1,354,095	2,131,095	7	1	14.3%	193,442	304,442	292,745	58,414	20.0%	270,194	425,236				87,626	137,906	183,754	289,195	1,170,341	1,841,900
6/30/87-88	26,792,704	29,301,000	30,076,000	2,508,296	3,283,296	9	1	11.1%	278,700	364,811	370,210	44,046	11.9%	298,424	390,630				162,316	212,467	246,480	322,636	2,261,816	2,960,660
6/30/88-89	24,503,255	26,776,000	27,809,000	2,272,745	3,305,745	10	2	20.0%	454,549	661,149	379,420	41,007	10.8%	245,634	357,278				147,073	213,920	282,419	410,782	1,990,326	2,894,962
6/30/89-90	23,121,467	25,994,000	26,697,000	2,872,533	3,575,533	8	2	25.0%	718,133	893,883	322,633	50,857	15.8%	452,798	563,612				185,886	231,378	452,272	562,958	2,420,261	3,012,576
6/30/90-91	20,360,200	23,291,000	23,895,000	2,930,800	3,534,800	6	1	16.7%	488,467	589,133	247,425	21,063	8.5%	249,493	300,910				189,657	228,742	309,205	372,929	2,621,595	3,161,871
6/30/91-92	12,207,364	14,210,000	14,946,000	2,002,636	2,738,636	7					257,749								129,594	177,221	43,198	59,074	1,959,438	2,679,562
6/30/92-93	9,171,606	10,990,000	12,408,000	1,818,394	3,236,394	7	1	14.3%	259,771	462,342	244,081	30,655	12.6%	228,382	406,476				117,671	209,432	201,941	359,417	1,616,453	2,876,977
6/30/93-94	10,042,039	12,088,000	12,740,000	2,045,961	2,697,961	6	2	33.3%	681,987	899,320	169,249	38,194	22.6%	461,704	608,839				132,397	174,589	297,051	391,714	1,748,910	2,306,247
6/30/94-95	9,056,940	11,075,000	11,676,000	2,018,060	2,619,060	6	1	16.7%	336,343	436,510	182,173	22,260	12.2%	246,594	320,032				130,592	169,483	237,843	308,675	1,780,217	2,310,385
6/30/95-96	9,310,729	11,728,000	12,381,000	2,417,271	3,070,271	5					190,504								156,425	198,682	52,142	66,227	2,365,129	3,004,043
6/30/96-97	9,782,874	12,488,000	13,166,000	2,705,126	3,383,126	8	1	12.5%	338,141	422,891	200,208	4,430	2.2%	59,854	74,855				175,053	218,927	191,016	238,891	2,514,111	3,144,235
6/30/97-98	8,625,521	11,091,000	11,667,000	2,465,479	3,041,479	6					183,522					1,917,994	137,500	7.2%	176,749	218,042	176,749	218,042	2,288,730	2,823,437
6/30/98-99	8,640,902	11,472,000	12,064,000	2,831,098	3,423,098	5	1	20.0%	566,220	684,620	93,414	712	0.8%	21,565	26,075	2,081,524	136,688	6.6%	185,911	224,786	257,899	311,827	2,573,200	3,111,272
6/30/99-00	9,935,745	13,614,000	14,361,000	3,678,255	4,425,255	7	1	14.3%	525,465	632,179	148,381	597	0.4%	14,809	17,816	2,207,243	137,892	6.2%	229,790	276,458	229,790	276,458	3,448,464	4,148,797
6/30/00-01	9,193,961	13,032,000	13,729,000	3,838,039	4,535,039	8	1	12.5%	479,755	566,880	227,451	20,943	9.2%	353,391	417,568	2,201,008	145,149	6.6%	253,105	299,070	362,084	427,839	3,475,956	4,107,200
6/30/01-02	9,994,625	14,510,000	15,282,000	4,515,375	5,287,375	6	1	16.7%	752,562	881,229	166,147	48	0.0%	1,309	1,532	2,292,592	140,223	6.1%	276,177	323,395	276,177	323,395	4,239,198	4,963,980
6/30/02-03	9,572,220	14,346,000	15,108,000	4,773,780	5,535,780	9					105,859	6,000	5.7%	270,574	313,763	2,260,534	140,250	6.2%	296,179	343,456	188,918	219,073	4,584,862	5,316,707
6/30/03-04	8,555,058	13,228,000	13,900,000	4,672,942	5,344,942	9					259,962					2,255,942	137,408	6.1%	284,625	325,556	284,625	325,556	4,388,317	5,019,386
6/30/04-05	9,621,847	15,088,000	15,232,000	5,466,153	5,610,153	15	1	6.7%	364,410	374,010	445,879	-12,794	-2.9%	-156,843	-160,975	2,309,083	145,033	6.3%	343,328	352,373	183,632	188,469	5,282,521	5,421,683
6/30/05-06	9,212,575	15,288,000	15,806,000	6,075,425	6,593,425	24	1	4.2%	253,143	274,726	724,822	12,663	1.7%	106,142	115,192	2,480,693	156,390	6.3%	383,013	415,669	247,433	268,529	5,827,993	6,324,896
6/30/06-07	7,797,213	13,872,000	15,405,000	6,074,787	7,607,787	27	6	22.2%	1,349,953	1,690,619	573,511	85,415	14.9%	904,738	1,133,053	2,612,577	157,146	6.0%	365,396	457,606	635,067	795,329	5,439,720	6,812,458
6/30/07-08	10,279,740	18,965,000	20,127,000	8,685,260	9,847,260	54	4	7.4%	643,353	729,427	1,560,720	253,768	16.3%	1,412,194	1,601,131	2,783,717	168,663	6.1%	526,231	596,635	860,593	975,731	7,824,667	8,871,529
6/30/08-09	9,391,181	20,695,000	21,217,000	11,303,819	11,825,819	96	9	9.4%	1,059,733	1,108,671	1,936,845	132,863	6.9%	775,415	811,223	2,750,907	180,456	6.6%	741,515	775,757	858,888	898,550	10,444,931	10,927,268
6/30/09-10	8,360,727	22,299,000	23,909,000	13,938,273	15,548,273	114	6	5.3%	733,593	818,330	2,339,304	174,874	7.5%	1,041,949	1,162,304	2,806,048	203,138	7.2%	1,009,030	1,125,582	928,191	1,035,405	13,010,083	14,512,868
6/30/10-11	6,862,614	24,263,000	26,795,000	17,400,386	19,932,386	252	17	6.7%	1,173,836	1,344,645	3,504,118	222,792	6.4%	1,106,317	1,267,301	2,942,638	197,766	6.7%	1,169,431	1,339,600	1,149,861	1,317,182	16,250,524	18,615,204
6/30/11-12	3,091,255	24,995,000	28,674,000	21,903,745	25,582,745	561	47	8.4%	1,835,073	2,143,296	3,091,255	249,011	8.1%	1,764,424	2,060,780	3,006,849	207,447	6.9%	1,511,174	1,764,994	1,511,174	1,764,994	20,392,571	23,817,751
Total	394,664,707	546,642,353	579,536,128	151,977,647	184,871,422	1,299	109	8.4%	13,944,548	17,224,168	19,371,332	1,573,089	8.1%	10,663,063	13,285,442						11,116,946	13,617,093	140,860,701	171,254,328

Sel. FY97 & Prior	6.5%

NOTES:

(2), (7), (8), (12), (13), (17). (18) Provided by Commonwealth of Massachusetts
(3) From Prior Analysis - Section 8, Exhibit 2, Page 1, Column 6
(4) From Prior Analysis - Section 8, Exhibit 2, Page 1, Column 7
(5) = (3) - (2)
(6) = (4) - (2)
(9) = (8) / (7)
(10) = (9) * (5)
(11) = (9) * (6)

(14) = (13) / (12)
(15) = (14) * (5)
(16) = (14) * (6)
(19) = (18) / (17)
(20) = (19) * (5)
(21) = (19) * (6)

(22) Selected judgementally based on (10), (15), (20)
(23) Selected judgementally based on (11), (16). (21)
(24) = (5) - (22)
(25) = (6) - (23)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Indemnity

Allocation of Outstanding Reserve to MassDOT Agencies

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
		Aon	Aon	Outstanding	Outstanding	**MassDOT Allocation - Method 1**					**MassDOT Allocation - Method 2**					**MassDOT Allocation - Method 3**					MassDOT	MassDOT	All Other	All Other
Accident		Selected Ult	Selected Ult	Losses	Losses	Paid Counts	MassDOT	MassDOT /	MassDOT OS	MassDOT OS	Total Paid	MassDOT	MassDOT /	MassDOT OS	MassDOT OS	Total Payroll	MassDOT	MassDOT /	MassDOT OS	MassDOT OS	Outstanding	Outstanding	Outstanding	Outstanding
Year	Paid Loss	(Low)	(High)	(Low)	(High)	7/1/12-13	7/1/12-13	Paid Counts	(Low)	(High)	7/1/12-13	7/1/12-13	Total Paid	(Low)	(High)	($000)	($000)	Total Payroll	(Low)	(High)	(Low)	(High)	(Low)	(High)
All Prior Yrs	43,173,266	49,462,894	54,188,670	6,289,628	11,015,403	16					610,950								408,801	715,958	136,267	238,653	6,153,361	10,776,750
6/30/82-83	5,556,961	5,840,973	6,290,279	284,012	733,318	2					74,875								18,460	47,663	6,153	15,888	277,859	717,430
6/30/83-84	7,928,752	8,415,681	9,063,041	486,929	1,134,289	1					36,430								31,648	73,724	10,549	24,575	476,380	1,109,714
6/30/84-85	16,575,338	17,249,000	18,226,000	673,662	1,650,662	3	1	33.3%	224,554	550,221	178,816	58,812	32.9%	221,567	542,902				43,785	107,287	103,046	252,492	570,616	1,398,170
6/30/85-86	19,473,822	20,473,000	21,254,000	999,178	1,780,178	4	1	25.0%	249,794	445,044	174,631	60,222	34.5%	344,570	613,901				64,943	115,705	219,769	391,550	779,409	1,388,628
6/30/86-87	19,851,857	21,105,000	21,888,000	1,253,143	2,036,143	7	1	14.3%	179,020	290,878	303,952	60,222	19.8%	248,284	403,420				81,449	132,341	169,585	275,546	1,083,558	1,760,596
6/30/87-88	27,132,631	29,444,000	30,233,000	2,311,369	3,100,369	8	1	12.5%	288,921	387,546	339,927	45,483	13.4%	309,263	414,832				150,230	201,512	249,471	334,630	2,061,898	2,765,739
6/30/88-89	24,854,644	26,955,000	27,983,000	2,100,356	3,128,356	10	2	20.0%	420,071	625,671	351,389	35,549	10.1%	212,488	316,488				136,515	203,331	256,358	381,830	1,843,998	2,746,526
6/30/89-90	23,455,855	26,088,000	26,804,000	2,632,145	3,348,145	9	1	11.1%	292,461	372,016	334,388	52,507	15.7%	413,308	525,736				171,079	217,616	292,282	371,790	2,339,863	2,976,356
6/30/90-91	20,627,446	23,356,000	23,960,000	2,728,554	3,332,554	6	1	16.7%	454,759	555,426	267,246	33,498	12.5%	342,012	417,720				177,345	216,603	324,705	396,583	2,403,848	2,935,971
6/30/91-92	12,463,408	14,357,000	15,098,000	1,893,592	2,634,592	7					256,043								123,076	171,238	41,025	57,079	1,852,567	2,577,513
6/30/92-93	9,362,882	11,088,000	12,529,000	1,725,118	3,166,118	6	1	16.7%	287,520	527,686	191,276	31,053	16.2%	280,065	514,004				112,126	205,785	226,570	415,825	1,498,548	2,750,293
6/30/93-94	10,226,625	12,152,000	12,803,000	1,925,375	2,576,375	8	2	25.0%	481,344	644,094	184,586	40,261	21.8%	419,951	561,943				125,142	167,454	272,547	364,699	1,652,828	2,211,676
6/30/94-95	9,221,567	11,105,000	11,702,000	1,883,433	2,480,433	5	1	20.0%	376,687	496,087	164,627	22,548	13.7%	257,969	339,739				122,416	161,219	252,357	332,348	1,631,076	2,148,085
6/30/95-96	9,444,993	11,699,000	12,345,000	2,254,007	2,900,007	4					134,264								146,502	188,489	48,834	62,830	2,205,173	2,837,178
6/30/96-97	9,907,530	12,408,000	13,075,000	2,500,470	3,167,470	4					124,656								162,521	205,873	54,174	68,624	2,446,297	3,098,846
6/30/97-98	8,671,657	10,887,000	11,444,000	2,215,343	2,772,343	1					46,136					1,917,994	137,500	7.2%	158,816	198,747	158,816	198,747	2,056,527	2,573,596
6/30/98-99	8,735,352	11,289,000	11,861,000	2,553,648	3,125,648	4					94,450					2,081,524	136,688	6.6%	167,691	205,253	55,897	68,418	2,497,751	3,057,230
6/30/99-00	10,086,322	13,442,000	14,163,000	3,355,678	4,076,678	5	1	20.0%	671,136	815,336	150,576	554	0.4%	12,350	15,003	2,207,243	137,892	6.2%	209,638	254,681	209,638	254,681	3,146,040	3,821,997
6/30/00-01	9,452,289	12,970,000	13,649,000	3,517,711	4,196,711	9	1	11.1%	390,857	466,301	258,328	21,212	8.2%	288,851	344,606	2,201,008	145,149	6.6%	231,981	276,758	303,896	362,555	3,213,815	3,834,156
6/30/01-02	10,123,636	14,151,000	14,882,000	4,027,364	4,758,364	9	2	22.2%	894,970	1,057,414	129,011	777	0.6%	24,249	28,651	2,292,592	140,223	6.1%	246,328	291,039	246,328	291,039	3,781,035	4,467,325
6/30/02-03	9,654,882	13,981,000	14,698,000	4,326,118	5,043,118	5	1	20.0%	865,224	1,008,624	82,661	1,488	1.8%	77,890	90,799	2,260,534	140,250	6.2%	268,405	312,890	403,840	470,771	3,922,279	4,572,348
6/30/03-04	8,689,735	12,877,000	13,553,000	4,187,265	4,863,265	6					134,677					2,255,942	137,408	6.1%	255,043	296,218	255,043	296,218	3,932,223	4,567,048
6/30/04-05	9,998,983	15,044,000	15,120,000	5,045,017	5,121,017	9					377,136					2,309,083	145,033	6.3%	316,877	321,650	105,626	107,217	4,939,391	5,013,800
6/30/05-06	9,460,257	14,699,000	15,510,000	5,238,743	6,049,743	10					247,682					2,480,693	156,390	6.3%	330,266	381,394	110,089	127,131	5,128,655	5,922,612
6/30/06-07	8,237,171	13,574,000	15,263,000	5,336,829	7,025,829	20	5	25.0%	1,334,207	1,756,457	439,959	67,015	15.2%	812,917	1,070,189	2,612,577	157,146	6.0%	321,008	422,601	566,963	746,395	4,769,866	6,279,434
6/30/07-08	11,118,825	18,657,000	19,804,000	7,538,175	8,685,175	27	1	3.7%	279,192	321,673	839,085	51,687	6.2%	464,342	534,996	2,783,717	168,663	6.1%	456,730	526,226	400,088	460,965	7,138,087	8,224,210
6/30/08-09	10,761,910	20,792,000	20,965,000	10,030,090	10,203,090	50	5	10.0%	1,003,009	1,020,309	1,370,729	138,777	10.1%	1,015,481	1,032,996	2,750,907	180,456	6.6%	657,960	669,308	892,150	907,538	9,137,940	9,295,552
6/30/09-10	9,957,062	21,979,000	22,493,000	12,021,938	12,535,938	71	6	8.5%	1,015,938	1,059,375	1,596,335	-29,364	-1.8%	-221,143	-230,598	2,806,048	203,138	7.2%	870,301	907,511	555,032	578,763	11,466,906	11,957,175
6/30/10-11	9,565,970	25,310,000	26,814,000	15,744,030	17,248,030	99	10	10.1%	1,590,306	1,742,225	2,703,356	284,720	10.5%	1,658,174	1,816,576	2,942,638	197,766	6.7%	1,058,112	1,159,192	1,435,531	1,572,665	14,308,499	15,675,365
6/30/11-12	6,814,851	25,380,000	27,245,000	18,565,149	20,430,149	246	24	9.8%	1,811,234	1,993,185	3,723,596	134,578	3.6%	670,983	738,388	3,006,849	207,447	6.9%	1,280,839	1,409,508	1,254,352	1,380,360	17,310,797	19,049,789
6/30/12-13	3,201,952	27,007,000	28,521,000	23,805,048	25,319,048	515	39	7.6%	1,802,712	1,917,365	3,201,952	279,527	8.7%	2,078,153	2,210,323	3,138,905	217,415	6.9%	1,648,849	1,753,715	1,648,849	1,753,715	22,156,200	23,565,333
Total	413,788,430	573,237,548	603,426,990	159,449,119	189,638,560	1,186	107	9.0%	14,913,915	18,052,933	19,123,723	1,391,126	7.3%	9,931,724	12,302,615						11,265,830	13,562,119	148,183,288	176,076,441

Sel. FY97 & Prior	6.5%

NOTES:

(2), (7), (8), (12), (13), (17). (18) Provided by Commonwealth of Massachusetts
(3) From Section 8, Exhibit 1, Page 1, Column 6
(4) From Section 8, Exhibit 1, Page 1, Column 7
(5) = (3) - (2)
(6) = (4) - (2)
(9) = (8) / (7)
(10) = (9) * (5)
(11) = (9) * (6)
(14) = (13) / (12)
(15) = (14) * (5)
(16) = (14) * (6)
(19) = (18) / (17)
(20) = (19) * (5)
(21) = (19) * (6)
(22) Selected judgementally based on (10), (15), (20)
(23) Selected judgementally based on (11), (16). (21)
(24) = (5) - (22)
(25) = (6) - (23)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Medical

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Paid Loss	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		2,953,025			3,217,959	3,241,572	264,935	288,547		
6/30/82-83		508,182	514,752		508,182	525,047	0	16,865		
6/30/83-84		790,813	805,042		790,813	813,092	0	22,279		
6/30/84-85	732,729	1,123,821	1,149,763	1,150,107	1,150,000	1,150,000	26,179	26,179	0.157	0.157
6/30/85-86	787,208	1,877,988	1,930,944	1,930,882	1,911,690	1,931,000	33,702	53,012	0.243	0.245
6/30/86-87	902,483	1,648,308	1,703,262	1,703,631	1,703,000	1,704,000	54,692	55,692	0.189	0.189
6/30/87-88	1,366,586	3,135,852	3,256,601	3,261,008	3,257,000	3,261,000	121,148	125,148	0.238	0.239
6/30/88-89	1,486,478	3,542,709	3,697,520	3,701,414	3,698,000	3,701,000	155,291	158,291	0.249	0.249
6/30/89-90	1,494,463	3,806,458	3,992,659	3,998,817	3,993,000	3,999,000	186,542	192,542	0.267	0.268
6/30/90-91	1,405,560	3,448,838	3,635,632	3,634,427	3,597,660	3,636,000	148,822	187,162	0.256	0.259
6/30/91-92	1,364,510	2,761,452	2,925,572	2,923,757	2,924,000	2,926,000	162,548	164,548	0.214	0.214
6/30/92-93	1,347,359	2,450,534	2,611,752	2,609,402	2,609,000	2,612,000	158,466	161,466	0.194	0.194
6/30/93-94	1,424,410	2,875,638	3,089,342	3,084,915	3,085,000	3,089,000	209,362	213,362	0.217	0.217
6/30/94-95	1,497,829	2,435,367	2,637,698	2,633,874	2,634,000	2,638,000	198,633	202,633	0.176	0.176
6/30/95-96	1,582,635	2,061,273	2,251,419	2,249,261	2,249,000	2,251,000	187,727	189,727	0.142	0.142
6/30/96-97	1,979,748	2,600,718	2,881,809	2,878,616	2,879,000	2,882,000	278,282	281,282	0.145	0.146
6/30/97-98	1,917,994	1,973,933	2,232,996	2,234,880	2,233,000	2,235,000	259,067	261,067	0.116	0.117
6/30/98-99	2,081,524	2,488,986	2,856,298	2,855,062	2,855,000	2,856,000	366,014	367,014	0.137	0.137
6/30/99-00	2,207,243	2,834,813	3,299,512	3,295,747	3,296,000	3,300,000	461,187	465,187	0.149	0.150
6/30/00-01	2,201,008	2,747,068	3,268,399	3,267,590	3,268,000	3,268,000	520,932	520,932	0.148	0.148
6/30/01-02	2,292,592	2,573,704	3,114,754	3,121,654	3,115,000	3,122,000	541,296	548,296	0.136	0.136
6/30/02-03	2,260,534	2,880,263	3,568,193	3,570,639	3,568,000	3,571,000	687,737	690,737	0.158	0.158
6/30/03-04	2,255,942	2,953,758	3,767,003	3,770,570	3,767,000	3,771,000	813,242	817,242	0.167	0.167
6/30/04-05	2,309,083	4,226,019	5,540,847	5,229,744	4,700,000	5,541,000	473,981	1,314,981	0.204	0.240
6/30/05-06	2,480,693	3,314,422	4,482,123	4,549,909	4,100,000	4,550,000	785,578	1,235,578	0.165	0.183
6/30/06-07	2,612,577	4,787,482	6,702,584	6,271,604	5,600,000	6,703,000	812,518	1,915,518	0.214	0.257
6/30/07-08	2,783,717	3,833,245	5,593,612	5,644,669	5,100,000	5,645,000	1,266,755	1,811,755	0.183	0.203
6/30/08-09	2,750,907	3,955,223	6,022,688	5,996,731	5,400,000	6,324,000	1,444,777	2,368,777	0.196	0.230
6/30/09-10	2,806,048	3,829,758	6,152,608	6,274,806	5,600,000	6,589,000	1,770,242	2,759,242	0.200	0.235
6/30/10-11	2,942,638	3,962,771	6,872,429	6,953,191	6,300,000	7,301,000	2,337,229	3,338,229	0.214	0.248
6/30/11-12	3,006,849	3,469,608	7,612,083	7,554,354	6,800,000	7,993,000	3,330,392	4,523,392	0.226	0.266
6/30/12-13	3,138,905	1,503,155	8,652,752	8,236,578	7,400,000	9,085,000	5,896,845	7,581,845	0.236	0.289
Total	57,420,250	89,355,185	116,822,647	114,587,840	113,309,304	122,213,711	23,954,119	32,858,526		
Tot 6/30/84-13	57,420,250	85,103,165	115,502,853	114,587,840	108,792,350	117,634,000	23,689,185	32,530,835	0.189	0.205

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 8, Exhibit 2, Page 2, Column 3

(4) From Section 8, Exhibit 2, Page 2, Column 8

(5) From Section 8, Exhibit 2, Page 3, Column 8

(6), (7) Selected based on (3), (4), and (5)

(8) = (6) - (3)

(9) = (7) - (3)

(10) = (6) / (2) / 10

(11) = (7) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Medical

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Accident Year	Payroll (000's)	Paid Loss	Paid LDF	Adjustment for Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/11-12	Paid Counts 7/1/12-13	Average Outstanding Claim
All Prior Yrs		2,953,025							3	2	
6/30/82-83		508,182	1.013	1.000	514,752	N/A	514,752		1	1	6,570
6/30/83-84		790,813	1.018	1.000	805,042	N/A	805,042		0	0	
6/30/84-85	732,729	1,123,821	1.023	1.000	1,149,763	N/A	1,149,763	0.157	0	1	25,941
6/30/85-86	787,208	1,877,988	1.028	1.000	1,930,944	N/A	1,930,944	0.245	2	3	17,652
6/30/86-87	902,483	1,648,308	1.033	1.000	1,703,262	N/A	1,703,262	0.189	2	3	18,318
6/30/87-88	1,366,586	3,135,852	1.039	1.000	3,256,601	N/A	3,256,601	0.238	5	8	15,094
6/30/88-89	1,486,478	3,542,709	1.044	1.000	3,697,520	N/A	3,697,520	0.249	8	7	22,116
6/30/89-90	1,494,463	3,806,458	1.049	1.000	3,992,659	N/A	3,992,659	0.267	6	7	26,600
6/30/90-91	1,405,560	3,448,838	1.054	1.000	3,635,632	N/A	3,635,632	0.259	7	7	26,685
6/30/91-92	1,364,510	2,761,452	1.059	1.000	2,925,572	N/A	2,925,572	0.214	4	4	41,030
6/30/92-93	1,347,359	2,450,534	1.066	1.000	2,611,752	N/A	2,611,752	0.194	6	6	26,870
6/30/93-94	1,424,410	2,875,638	1.074	1.000	3,089,342	N/A	3,089,342	0.217	7	6	35,617
6/30/94-95	1,497,829	2,435,367	1.083	1.000	2,637,698	N/A	2,637,698	0.176	11	14	14,452
6/30/95-96	1,582,635	2,061,273	1.092	1.000	2,251,419	N/A	2,251,419	0.142	6	4	47,536
6/30/96-97	1,979,748	2,600,718	1.108	1.000	2,881,809	N/A	2,881,809	0.146	9	8	35,136
6/30/97-98	1,917,994	1,973,933	1.131	1.000	2,232,996	N/A	2,232,996	0.116	8	7	37,009
6/30/98-99	2,081,524	2,488,986	1.148	1.000	2,856,298	N/A	2,856,298	0.137	10	8	45,914
6/30/99-00	2,207,243	2,834,813	1.164	1.000	3,299,512	N/A	3,299,512	0.149	13	11	42,245
6/30/00-01	2,201,008	2,747,068	1.190	1.000	3,268,399	N/A	3,268,399	0.148	17	14	37,238
6/30/01-02	2,292,592	2,573,704	1.210	1.000	3,114,754	N/A	3,114,754	0.136	29	23	23,524
6/30/02-03	2,260,534	2,880,263	1.239	1.000	3,568,193	N/A	3,568,193	0.158	28	24	28,664
6/30/03-04	2,255,942	2,953,758	1.275	1.000	3,767,003	N/A	3,767,003	0.167	29	24	33,885
6/30/04-05	2,309,083	4,226,019	1.311	1.000	5,540,847	N/A	5,540,847	0.240	31	24	54,785
6/30/05-06	2,480,693	3,314,422	1.352	1.000	4,482,123	N/A	4,482,123	0.181	36	34	34,344
6/30/06-07	2,612,577	4,787,482	1.400	1.000	6,702,584	N/A	6,702,584	0.257	52	39	49,105
6/30/07-08	2,783,717	3,833,245	1.459	1.000	5,593,612	N/A	5,593,612	0.201	69	60	29,339
6/30/08-09	2,750,907	3,955,223	1.523	1.000	6,022,688	N/A	6,022,688	0.219	117	73	28,321
6/30/09-10	2,806,048	3,829,758	1.607	1.000	6,152,608	N/A	6,152,608	0.219	180	87	26,699
6/30/10-11	2,942,638	3,962,771	1.734	1.000	6,872,429	N/A	6,872,429	0.234	700	206	14,125
6/30/11-12	3,006,849	3,469,608	2.194	1.000	7,612,083	N/A	7,612,083	0.253	990	715	5,794
6/30/12-13	3,138,905	1,503,155	5.756	1.000	8,652,752	N/A	8,652,752	0.276		865	8,265
Total	57,420,250	89,355,185			116,822,647		116,822,647		2,386	2,295	

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3), (4) From Section 8, Exhibit 2, Page 7

(5) Based on information from the MA WCRIB 9/1/12 filing. Consideration for development beyond 252 months made in selection of LDF's.

(6) = (3) x (4) x (5)

(7) Lump Sum Payments are considered in the Indemnity analysis (Section 1)

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10), (11) Provided by Commonwealth of Massachusetts

(12) = Maximum of [{(6) - (3)} / (11)] and 0

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Medical

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident Year	Payroll (000's)	A Priori Loss Rate	Paid Loss	Paid LDF	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Ultimate Loss Cost Excluding Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	732,729	0.159	1,123,821	1.023	1,150,107	N/A	1,150,107	0.157	0.157
6/30/85-86	787,208	0.245	1,877,988	1.028	1,930,882	N/A	1,930,882	0.245	0.245
6/30/86-87	902,483	0.190	1,648,308	1.033	1,703,631	N/A	1,703,631	0.189	0.189
6/30/87-88	1,366,586	0.247	3,135,852	1.039	3,261,008	N/A	3,261,008	0.239	0.239
6/30/88-89	1,486,478	0.255	3,542,709	1.044	3,701,414	N/A	3,701,414	0.249	0.249
6/30/89-90	1,494,463	0.276	3,806,458	1.049	3,998,817	N/A	3,998,817	0.268	0.268
6/30/90-91	1,405,560	0.257	3,448,838	1.054	3,634,427	N/A	3,634,427	0.259	0.259
6/30/91-92	1,364,510	0.212	2,761,452	1.059	2,923,757	N/A	2,923,757	0.214	0.214
6/30/92-93	1,347,359	0.191	2,450,534	1.066	2,609,402	N/A	2,609,402	0.194	0.194
6/30/93-94	1,424,410	0.212	2,875,638	1.074	3,084,915	N/A	3,084,915	0.217	0.217
6/30/94-95	1,497,829	0.173	2,435,367	1.083	2,633,874	N/A	2,633,874	0.176	0.176
6/30/95-96	1,582,635	0.141	2,061,273	1.092	2,249,261	N/A	2,249,261	0.142	0.142
6/30/96-97	1,979,748	0.144	2,600,718	1.108	2,878,616	N/A	2,878,616	0.145	0.145
6/30/97-98	1,917,994	0.117	1,973,933	1.131	2,234,880	N/A	2,234,880	0.117	0.117
6/30/98-99	2,081,524	0.137	2,488,986	1.148	2,855,062	N/A	2,855,062	0.137	0.137
6/30/99-00	2,207,243	0.148	2,834,813	1.164	3,295,747	N/A	3,295,747	0.149	0.149
6/30/00-01	2,201,008	0.148	2,747,068	1.190	3,267,590	N/A	3,267,590	0.148	0.148
6/30/01-02	2,292,592	0.138	2,573,704	1.210	3,121,654	N/A	3,121,654	0.136	0.136
6/30/02-03	2,260,534	0.158	2,880,263	1.239	3,570,639	N/A	3,570,639	0.158	0.158
6/30/03-04	2,255,942	0.168	2,953,758	1.275	3,770,570	N/A	3,770,570	0.167	0.167
6/30/04-05	2,309,083	0.183	4,226,019	1.311	5,229,744	N/A	5,229,744	0.226	0.226
6/30/05-06	2,480,693	0.191	3,314,422	1.352	4,549,909	N/A	4,549,909	0.183	0.183
6/30/06-07	2,612,577	0.199	4,787,482	1.400	6,271,604	N/A	6,271,604	0.240	0.240
6/30/07-08	2,783,717	0.207	3,833,245	1.459	5,644,669	N/A	5,644,669	0.203	0.203
6/30/08-09	2,750,907	0.216	3,955,223	1.523	5,996,731	N/A	5,996,731	0.218	0.218
6/30/09-10	2,806,048	0.231	3,829,758	1.607	6,274,806	N/A	6,274,806	0.224	0.224
6/30/10-11	2,942,638	0.240	3,962,771	1.734	6,953,191	N/A	6,953,191	0.236	0.236
6/30/11-12	3,006,849	0.250	3,469,608	2.194	7,554,354	N/A	7,554,354	0.251	0.251
6/30/12-13	3,138,905	0.260	1,503,155	5.756	8,236,578	N/A	8,236,578	0.262	0.262
Total	57,420,250		85,103,165		114,587,840		114,587,840		

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 8, Exhibit 2, Page 4, Column 11

(4) From Section 8, Exhibit 2, Page 2, Column 3

(5) From Section 8, Exhibit 2, Page 2, Column 4

(6) = (4) + [{1 - {1 / (5)}} x (3) x (2) x 10]

(7) Lump Sum Payments are considered in the Indemnity analysis (Section 1)

(8) = (6) + (7)

(9) = (8) / (2) / 10

(10) = (6) / (2) / 10

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Medical

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Expected Ult Loss	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									0.159	0.159
6/30/85-86									0.245	0.245
6/30/86-87									0.190	0.190
6/30/87-88									0.247	0.247
6/30/88-89									0.255	0.255
6/30/89-90									0.276	0.276
6/30/90-91	1,405,560	3,635,632	0.259	1.194	0.309	2.465	0.761	0.092	0.255	0.257
6/30/91-92	1,364,510	2,925,572	0.214	1.189	0.255	2.370	0.604	0.096	0.208	0.212
6/30/92-93	1,347,359	2,611,752	0.194	1.189	0.231	2.279	0.525	0.100	0.190	0.191
6/30/93-94	1,424,410	3,089,342	0.217	1.178	0.256	2.191	0.560	0.105	0.212	0.212
6/30/94-95	1,497,829	2,637,698	0.176	1.170	0.206	2.107	0.434	0.110	0.172	0.173
6/30/95-96	1,582,635	2,251,419	0.142	1.155	0.164	2.026	0.333	0.115	0.142	0.141
6/30/96-97	1,979,748	2,881,809	0.146	1.137	0.165	1.948	0.322	0.122	0.137	0.144
6/30/97-98	1,917,994	2,232,996	0.116	1.135	0.132	1.873	0.247	0.127	0.117	0.117
6/30/98-99	2,081,524	2,856,298	0.137	1.135	0.156	1.801	0.280	0.132	0.136	0.137
6/30/99-00	2,207,243	3,299,512	0.149	1.135	0.170	1.732	0.294	0.137	0.146	0.148
6/30/00-01	2,201,008	3,268,399	0.148	1.109	0.165	1.665	0.274	0.146	0.146	0.148
6/30/01-02	2,292,592	3,114,754	0.136	1.101	0.150	1.601	0.239	0.153	0.134	0.138
6/30/02-03	2,260,534	3,568,193	0.158	1.073	0.169	1.539	0.261	0.163	0.158	0.158
6/30/03-04	2,255,942	3,767,003	0.167	1.046	0.175	1.480	0.259	0.174	0.167	0.168
6/30/04-05	2,309,083	5,540,847	0.240	1.036	0.248	1.423	0.354	0.183	0.183	0.183
6/30/05-06	2,480,693	4,482,123	0.181	1.032	0.186	1.369	0.255	0.191	0.191	0.191
6/30/06-07	2,612,577	6,702,584	0.257	1.032	0.265	1.316	0.348	0.199	0.199	0.199
6/30/07-08	2,783,717	5,593,612	0.201	1.032	0.207	1.265	0.262	0.207	0.207	0.207
6/30/08-09	2,750,907	6,022,688	0.219	1.027	0.225	1.217	0.273	0.216	0.217	0.216
6/30/09-10	2,806,048	6,152,608	0.219	1.000	0.219	1.170	0.257	0.231	0.231	0.231
6/30/10-11	2,942,638	6,872,429	0.234	1.000	0.234	1.125	0.263	0.240	0.240	0.240
6/30/11-12	3,006,849	7,612,083	0.253	1.000	0.253	1.082	0.274	0.250	0.250	0.250
6/30/12-13	3,138,905	8,652,752	0.276	1.000	0.276	1.040	0.287	0.260		0.260
Total	50,650,303	99,772,105								

Trend Last 4 (ex 12-13):	4.3%	Avg 3 (x12-13):	0.264
Trend Last 8 (ex 12-13):	0.9%	Avg 5 (x12-13):	0.266
Trend Last 12 (ex 12-13):	4.1%	Avg 10 (x12-13):	0.281
Prior Selected Trend:	4.0%	Prior Sel Avg:	0.260
Selected Trend:	4.0%	Sel. Loss Cost:	0.270

NOTES:
(2) Provided by Commonwealth of Massachusetts
(3) From Section 8, Exhibit 2, Page 2, Column 6
(4) = (3) / (2) / 10
(5) Based on information from the MA WCIRB
(6) = (4) x (5)
(7) Based on Selected Trend from (6)
(8) = (6) x (7)
(9) = Sel. Loss Cost / [(5) * (7)]
(10) From Aon analysis as of June 30, 2012
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Medical

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend	0.900	
(2)	Credibility	58%	
(3)	Average Pmt Trend Statewide	0.950	
(4)	Credibility Weighted Trend	0.921	
		(Low)	(High)
(5)	Selected Range	0.912	0.930
(6)	Incremental Paid for 2013	32,108	32,108
(7)	Estimated Reserve	331,112	426,697
(8)	Paid to Date (82 & Prior)	2,953,025	2,953,025
(9)	Est Ult Paid for 1982 & Prior	3,284,137	3,379,721

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	28,394	26,072
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	198,757	182,505
(13)	Paid to Date (82 & Prior)	2,953,025	2,920,917
(14)	Est Ult Paid for 1982 & Prior	3,151,782	3,103,422
(14a)	Paid Counts During Fiscal Year	2	3
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	3,217,959	3,241,572
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	**3,217,959**	**3,241,572**
(18)	Implied Tail	1.090	1.098
(19)	Ult Loss Inc Lump Sums @ 6/12	3,137,404	3,162,817

NOTES:

(1) From Section 8, Exhibit 2, Page 6
(2) = (Average of Section 8, Exhibit 2, Page 6, Column 3 / 175,000) ^ 0.5
(3) Average Statewide Trend
(4) = (1) x (2) + (4) x {1 - (2)}
(5) Selected judgmentally based on (4)
(6), (14a) Provided by Commonwealth of Massachusetts
(7) = (6) x (5) / {1 - (5)}
(8), (16) From Section 8, Exhibit 2, Page 2, Column 3
(9) = (7) + (8)
(10) Avg of 3 latest years from Section 8, Exhibit 2, Page 6, Column 3
(11) Selected judgmentally
(12) = (10 x (11)
(14) = (12) + (13)
(15) = Average of (9) and (14)
(16) Lump Sums are considered in Indemnity analysis (Section 1)
(17) = (15) + (16)
(18) = (15) / (8)
(19) From Prior Aon Analysis as of June 30, 2012

All Other - Clusters 5-17 & 95
Medical

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paids	LN	Average Observed Trend		Trend Calculations
1992	1	206,798	12.239			
1993	2	153,285	11.940	0.741		
1994	3	146,363	11.894	0.955		
1995	4	120,472	11.699	0.823		
1996	5	130,279	11.777	1.081		
1997	6	37,349	10.528	0.287		
1998	7	24,406	10.103	0.653		
1999	8	85,275	11.354	3.494		
2000	9	30,381	10.322	0.356	n =	22
2001	10	26,076	10.169	0.858	S(x) =	44,055
2002	11	28,013	10.240	1.074	S(x-sq) =	88,221,023
2003	12	24,232	10.095	0.865	S(xy) =	471,013
2004	13	32,198	10.380	1.329	S(y) =	235
2005	14	42,136	10.649	1.309	D =	19,481
2006	15	33,882	10.431	0.804	slope =	-0.086
2007	16	22,266	10.011	0.657	Avg Trend =	0.914
2008	17	32,986	10.404	1.481		
2009	18	25,370	10.141	0.769		
2010	19	25,142	10.132	0.991		
2011	20	28,691	10.264	1.141		
2012	21	24,383	10.102	0.850		
2013	22	32,108	10.377	1.317		
					Selected Trend:	**0.900**

NOTES:

(3) 2013 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2012

(4) LN [(3)]

(5) Eg. 2013: 1.317 = 32108 / 24383

Commonwealth of Massachusetts Workers Compensation
All Other - Clusters 5-17 & 95
MEDICAL
Paid Loss Development
Paid Loss (Excluding Lump Sum)

Acc Yr Ending	*12*	*24*	*36*	*48*	*60*	*72*	*84*	*96*	*108*	*120*	*132*	*144*	*156*	*168*	*180*	*192*	*204*	*216*	*228*	*240*	*252*	*264*	*276*	*288*	*300*	*312*	*324*	*336*	*348*	*360*	*372*
June-83	27,370	65,800	95,928	121,026	146,374	172,082	195,518	223,519	270,937	291,319	312,256	316,614	336,461	401,393	453,214	453,179	457,283	457,468	457,468	457,468	458,118	472,628	476,174	480,561	485,930	491,063	495,741	498,237	501,473	504,586	508,182
June-84	73,019	172,377	253,637	324,243	391,630	438,262	505,877	586,886	610,938	636,458	664,679	683,784	693,120	716,886	724,043	734,862	745,334	749,852	758,667	762,583	783,107	784,865	788,687	788,743	790,813	790,813	790,813	790,813	790,813	790,813	
June-85	91,462	222,608	324,021	409,170	488,686	592,053	702,853	747,423	785,283	911,116	929,832	957,391	968,422	980,992	1,009,751	1,031,712	1,051,061	1,066,218	1,077,726	1,088,791	1,096,356	1,103,232	1,110,832	1,116,052	1,122,649	1,123,312	1,123,581	1,123,581	1,123,821		
June-86	197,516	482,005	708,037	875,864	1,053,127	1,211,316	1,370,683	1,467,692	1,572,492	1,608,200	1,631,069	1,655,833	1,672,723	1,699,156	1,716,974	1,724,323	1,731,547	1,743,355	1,755,277	1,764,089	1,780,012	1,796,528	1,802,048	1,808,935	1,832,489	1,867,039	1,872,692	1,877,988				
June-87	199,777	488,687	761,278	928,992	1,116,174	1,247,272	1,326,215	1,394,678	1,416,827	1,433,554	1,451,102	1,461,072	1,470,676	1,482,961	1,498,691	1,507,156	1,517,732	1,527,729	1,533,186	1,539,237	1,545,443	1,554,224	1,564,621	1,590,009	1,608,659	1,628,722	1,648,308					
June-88	390,619	1,150,212	1,830,796	2,204,311	2,429,489	2,580,235	2,679,602	2,758,965	2,816,870	2,872,713	2,895,135	2,917,336	2,938,306	2,953,260	2,965,159	2,980,478	3,005,909	3,019,968	3,040,247	3,060,774	3,075,967	3,084,408	3,098,971	3,111,109	3,123,843	3,135,852						
June-89	348,632	1,379,611	1,965,598	2,380,914	2,616,790	2,882,836	2,988,159	3,078,524	3,143,724	3,188,707	3,222,672	3,251,157	3,271,467	3,290,603	3,312,237	3,338,112	3,358,373	3,385,594	3,459,727	3,477,288	3,487,596	3,504,078	3,526,921	3,535,629	3,542,709							
June-90	597,392	1,787,214	2,367,627	2,727,013	2,917,488	3,052,042	3,170,650	3,294,118	3,385,084	3,460,338	3,498,784	3,525,521	3,559,539	3,594,665	3,616,129	3,673,092	3,699,660	3,720,191	3,743,464	3,756,545	3,772,853	3,783,930	3,792,543	3,806,458								
June-91	708,625	1,924,338	2,444,979	2,785,515	2,902,296	3,018,419	3,064,528	3,074,954	3,092,506	3,113,710	3,131,050	3,142,716	3,165,865	3,200,123	3,230,691	3,265,408	3,303,782	3,334,465	3,363,420	3,385,556	3,405,270	3,425,312	3,448,838									
June-92	588,418	1,588,370	1,986,839	2,229,495	2,290,208	2,325,875	2,375,312	2,430,547	2,462,691	2,497,761	2,542,769	2,553,772	2,574,534	2,586,268	2,593,937	2,607,986	2,617,238	2,623,319	2,642,357	2,693,544	2,703,064	2,761,452										
June-93	415,674	1,315,738	1,611,871	1,719,235	1,836,642	1,871,759	1,907,504	1,930,526	1,977,226	2,009,894	2,048,320	2,106,226	2,144,269	2,190,485	2,240,879	2,296,700	2,349,467	2,390,884	2,414,691	2,428,953	2,450,534											
June-94	598,740	1,383,736	1,705,173	1,941,862	2,012,247	2,200,199	2,290,696	2,346,328	2,406,956	2,509,745	2,549,583	2,601,202	2,677,455	2,727,826	2,785,899	2,804,943	2,822,448	2,841,619	2,860,084	2,875,638												
June-95	625,005	1,262,191	1,500,916	1,627,990	1,716,166	1,770,565	1,843,652	1,919,317	2,018,626	2,068,939	2,105,461	2,177,442	2,207,352	2,235,130	2,265,454	2,289,441	2,313,135	2,411,441	2,435,367													
June-96	442,026	1,106,672	1,298,637	1,506,086	1,588,152	1,626,688	1,672,734	1,723,992	1,784,200	1,838,291	1,904,595	1,938,999	1,973,969	1,990,646	2,023,635	2,041,150	2,054,604	2,061,273														
June-97	490,343	1,177,901	1,656,955	1,851,037	1,939,610	2,054,998	2,100,197	2,157,406	2,207,438	2,247,927	2,302,138	2,315,796	2,338,520	2,350,446	2,367,170	2,457,338	2,600,718															
June-98	326,869	974,658	1,226,365	1,350,342	1,476,983	1,551,929	1,637,433	1,716,707	1,747,491	1,769,878	1,797,150	1,821,161	1,842,103	1,916,231	1,958,225	1,973,933																
June-99	484,930	1,204,187	1,456,433	1,645,438	1,757,364	1,866,452	1,932,933	2,065,834	2,135,187	2,187,567	2,264,558	2,353,171	2,390,481	2,459,300	2,488,986																	
June-00	687,002	1,407,750	1,709,714	1,905,283	2,094,421	2,260,264	2,375,651	2,506,812	2,566,510	2,618,716	2,644,619	2,679,121	2,756,324	2,834,813																		
June-01	555,924	1,355,841	1,668,220	1,965,335	2,137,275	2,265,629	2,333,456	2,389,586	2,477,500	2,581,034	2,640,810	2,693,375	2,747,068																			
June-02	456,844	1,259,496	1,683,493	1,908,166	2,029,871	2,101,432	2,140,880	2,212,890	2,279,178	2,337,107	2,491,961	2,573,704																				
June-03	314,443	1,423,035	2,006,147	2,291,763	2,403,958	2,513,521	2,608,269	2,678,105	2,752,202	2,844,031	2,880,263																					
June-04	598,148	1,733,246	2,216,316	2,434,141	2,548,142	2,669,710	2,729,591	2,840,027	2,905,967	2,953,758																						
June-05	744,557	2,314,627	3,030,458	3,409,706	3,640,720	3,806,314	3,993,880	4,101,306	4,226,019																							
June-06	971,841	2,207,952	2,611,952	2,837,745	3,016,501	3,153,780	3,240,647	3,314,422																								
June-07	1,118,370	3,111,007	3,990,645	4,226,540	4,465,130	4,612,091	4,787,482																									
June-08	1,399,818	2,842,788	3,291,021	3,540,051	3,665,019	3,833,245																										
June-09	1,326,874	2,783,994	3,440,192	3,757,225	3,955,223																											
June-10	1,396,833	3,068,894	3,532,579	3,829,758																												
June-11	1,591,468	3,339,318	3,962,771																													
June-12	1,578,463	3,469,608																														
June-13	1,503,155																															

Age-to-Age Factors

Acc Yr Ending	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*
June-83	2.404	1.458	1.262	1.209	1.176	1.136	1.143	1.212	1.075	1.072	1.014	1.063	1.193	1.129	1.000	1.009	1.000	1.000	1.000	1.001	1.032	1.008	1.009	1.011	1.011	1.010	1.005	1.006	1.006	1.007
June-84	2.361	1.471	1.278	1.208	1.119	1.154	1.160	1.041	1.042	1.044	1.029	1.014	1.034	1.010	1.015	1.014	1.006	1.012	1.005	1.027	1.002	1.005	1.000	1.003	1.000	1.000	1.000	1.000	1.000	
June-85	2.434	1.456	1.263	1.194	1.212	1.187	1.063	1.051	1.160	1.021	1.030	1.012	1.013	1.029	1.022	1.019	1.014	1.011	1.010	1.007	1.006	1.007	1.005	1.006	1.001	1.000	1.000	1.000		
June-86	2.440	1.469	1.237	1.202	1.150	1.132	1.071	1.071	1.023	1.014	1.015	1.010	1.016	1.010	1.004	1.004	1.007	1.007	1.005	1.009	1.009	1.003	1.004	1.013	1.019	1.003	1.003			
June-87	2.446	1.558	1.220	1.201	1.117	1.063	1.052	1.016	1.012	1.012	1.007	1.007	1.008	1.011	1.006	1.007	1.007	1.004	1.004	1.004	1.006	1.007	1.016	1.012	1.012	1.012				
June-88	2.945	1.592	1.204	1.102	1.062	1.039	1.030	1.021	1.020	1.008	1.008	1.007	1.005	1.004	1.005	1.009	1.005	1.007	1.007	1.005	1.003	1.005	1.004	1.004	1.004					
June-89	3.957	1.425	1.211	1.099	1.102	1.037	1.030	1.021	1.014	1.011	1.009	1.006	1.006	1.007	1.008	1.006	1.008	1.022	1.005	1.003	1.005	1.007	1.002	1.002						
June-90	2.992	1.325	1.152	1.070	1.046	1.039	1.039	1.028	1.022	1.011	1.008	1.010	1.010	1.006	1.016	1.007	1.006	1.006	1.003	1.004	1.003	1.002	1.004							
June-91	2.716	1.271	1.139	1.042	1.040	1.015	1.003	1.006	1.007	1.006	1.004	1.007	1.011	1.010	1.011	1.012	1.009	1.009	1.007	1.006	1.006	1.007								
June-92	2.699	1.251	1.122	1.027	1.016	1.021	1.023	1.013	1.014	1.018	1.004	1.008	1.005	1.003	1.005	1.004	1.002	1.007	1.019	1.004	1.022									
June-93	3.165	1.225	1.067	1.068	1.019	1.019	1.012	1.024	1.017	1.019	1.028	1.018	1.022	1.023	1.025	1.023	1.018	1.010	1.006	1.009										
June-94	2.311	1.232	1.139	1.036	1.093	1.041	1.024	1.026	1.043	1.016	1.020	1.029	1.019	1.021	1.007	1.006	1.007	1.006	1.005											
June-95	2.019	1.189	1.085	1.054	1.032	1.041	1.041	1.052	1.025	1.018	1.034	1.014	1.013	1.014	1.011	1.010	1.042	1.010												
June-96	2.504	1.173	1.160	1.054	1.024	1.028	1.031	1.035	1.030	1.036	1.018	1.018	1.008	1.017	1.009	1.007	1.003													
June-97	2.402	1.407	1.117	1.048	1.059	1.022	1.027	1.023	1.018	1.024	1.006	1.010	1.005	1.007	1.038	1.058														
June-98	2.982	1.258	1.101	1.094	1.051	1.055	1.048	1.018	1.013	1.015	1.013	1.011	1.040	1.022	1.008															
June-99	2.483	1.209	1.130	1.068	1.062	1.036	1.069	1.034	1.025	1.035	1.039	1.016	1.029	1.012																
June-00	2.049	1.215	1.114	1.099	1.079	1.051	1.055	1.024	1.020	1.010	1.013	1.029	1.028																	
June-01	2.439	1.230	1.178	1.087	1.060	1.030	1.024	1.037	1.042	1.023	1.020	1.020																		
June-02	2.757	1.337	1.133	1.064	1.035	1.019	1.034	1.030	1.025	1.066	1.033																			
June-03	4.526	1.410	1.142	1.049	1.046	1.038	1.027	1.028	1.033	1.013																				
June-04	2.898	1.279	1.098	1.047	1.048	1.022	1.040	1.023	1.016																					
June-05	3.109	1.309	1.125	1.068	1.045	1.049	1.027	1.030																						
June-06	2.272	1.183	1.086	1.063	1.046	1.028	1.023																							
June-07	2.782	1.283	1.059	1.056	1.033	1.038																								
June-08	2.031	1.158	1.076	1.035	1.046																									
June-09	2.098	1.236	1.092	1.053																										
June-10	2.197	1.151	1.084																											
June-11	2.098	1.187																												
June-12	2.198																													

Averages	*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*	*240-252*	*252-264*	*264-276*	*276-288*	*288-300*	*300-312*	*312-324*	*324-336*	*336-348*	*348-360*	*360-372*	*To Ult*
Simple Avg																															
All Yrs	2.624	1.308	1.146	1.089	1.070	1.054	1.046	1.038	1.032	1.023	1.018	1.016	1.026	1.020	1.012	1.013	1.010	1.008	1.006	1.007	1.009	1.005	1.006	1.007	1.008	1.005	1.002	1.002	1.003	1.007	
Latest 5	2.124	1.203	1.080	1.055	1.044	1.035	1.030	1.030	1.027	1.029	1.024	1.017	1.022	1.014	1.014	1.021	1.014	1.008	1.008	1.005	1.008	1.005	1.006	1.007	1.007	1.005					
Latest 3	2.164	1.191	1.084	1.048	1.041	1.038	1.030	1.027	1.025	1.034	1.022	1.022	1.033	1.014	1.018	1.025	1.018	1.009	1.010	1.006	1.010	1.005	1.003	1.006	1.012	1.005	1.001	1.002			
Volume Wtd																															
All Yrs	2.481	1.265	1.121	1.068	1.055	1.040	1.035	1.028	1.025	1.020	1.016	1.014	1.016	1.013	1.012	1.013	1.010	1.009	1.007	1.006	1.007	1.005	1.005	1.006	1.008	1.005	1.002	1.001	1.002		
Latest 5	2.126	1.203	1.079	1.055	1.043	1.036	1.029	1.029	1.027	1.028	1.024	1.018	1.022	1.014	1.015	1.021	1.014	1.008	1.008	1.005	1.007	1.005	1.005	1.006	1.008	1.005					
Latest 3	2.163	1.190	1.084	1.049	1.041	1.039	1.029	1.028	1.025	1.032	1.022	1.022	1.032	1.013	1.019	1.027	1.017	1.009	1.010	1.006	1.009	1.005	1.003	1.005	1.010	1.006	1.001	1.001			

Dev Factor Selection																															
Industry 1	1.968	1.143	1.054	1.030	1.018	1.014	1.012																								
Industry 2		1.266	1.074	1.040	1.013	1.011	1.010	1.015	1.008	1.013	1.013	1.009	1.008	1.008	1.008	1.005	1.004	1.002	1.004	1.005											
Prior	*2.638*	*1.271*	*1.088*	*1.054*	*1.043*	*1.039*	*1.036*	*1.031*	*1.032*	*1.030*	*1.018*	*1.017*	*1.019*	*1.016*	*1.018*	*1.010*	*1.016*	*1.008*	*1.008*	*1.008*	*1.006*	*1.005*	*1.005*	*1.005*	*1.005*	*1.005*	*1.005*	*1.005*	*1.005*	1.014	
Selected	2.624	1.265	1.080	1.055	1.044	1.042	1.035	1.031	1.028	1.029	1.024	1.017	1.022	1.014	1.014	1.021	1.014	1.008	1.008	1.008	1.006	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.013
FacToUlt	5.756	2.194	1.734	1.607	1.523	1.459	1.400	1.352	1.311	1.275	1.239	1.210	1.190	1.164	1.148	1.131	1.108	1.092	1.083	1.074	1.066	1.059	1.054	1.049	1.044	1.039	1.033	1.028	1.023	1.018	1.013
Percent of Ult	17.4%	45.6%	57.7%	62.2%	65.7%	68.5%	71.4%	73.9%	76.3%	78.4%	80.7%	82.6%	84.0%	85.9%	87.1%	88.4%	90.2%	91.6%	92.3%	93.1%	93.8%	94.4%	94.9%	95.3%	95.8%	96.3%	96.8%	97.3%	97.7%	98.2%	98.7%

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Medical

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Ultimate Loss		Ultimate Loss		Change in Ultimate Loss		Change in Ultimate Loss	
Accident	As of 6/12		As of 6/13		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	3,137,404	3,162,817	3,217,959	3,241,572	80,555	2.6%	78,755	2.5%
6/30/82-83	504,586	521,834	508,182	525,047	3,596	0.7%	3,213	0.6%
6/30/83-84	790,813	813,876	790,813	813,092	0	0.0%	(784)	-0.1%
6/30/84-85	1,151,000	1,151,000	1,150,000	1,150,000	(1,000)	-0.1%	(1,000)	-0.1%
6/30/85-86	1,907,730	1,927,000	1,911,690	1,931,000	3,960	0.2%	4,000	0.2%
6/30/86-87	1,685,000	1,686,000	1,703,000	1,704,000	18,000	1.1%	18,000	1.1%
6/30/87-88	3,247,000	3,252,000	3,257,000	3,261,000	10,000	0.3%	9,000	0.3%
6/30/88-89	3,694,000	3,698,000	3,698,000	3,701,000	4,000	0.1%	3,000	0.1%
6/30/89-90	3,982,000	3,989,000	3,993,000	3,999,000	11,000	0.3%	10,000	0.3%
6/30/90-91	3,576,870	3,614,000	3,597,660	3,636,000	20,790	0.6%	22,000	0.6%
6/30/91-92	2,868,000	2,869,000	2,924,000	2,926,000	56,000	2.0%	57,000	2.0%
6/30/92-93	2,597,000	2,599,000	2,609,000	2,612,000	12,000	0.5%	13,000	0.5%
6/30/93-94	3,080,000	3,085,000	3,085,000	3,089,000	5,000	0.2%	4,000	0.1%
6/30/94-95	2,617,000	2,621,000	2,634,000	2,638,000	17,000	0.6%	17,000	0.6%
6/30/95-96	2,266,000	2,268,000	2,249,000	2,251,000	(17,000)	-0.8%	(17,000)	-0.7%
6/30/96-97	2,738,000	2,740,000	2,879,000	2,882,000	141,000	5.1%	142,000	5.2%
6/30/97-98	2,222,000	2,224,000	2,233,000	2,235,000	11,000	0.5%	11,000	0.5%
6/30/98-99	2,835,000	2,836,000	2,855,000	2,856,000	20,000	0.7%	20,000	0.7%
6/30/99-00	3,236,000	3,239,000	3,296,000	3,300,000	60,000	1.9%	61,000	1.9%
6/30/00-01	3,218,000	3,218,000	3,268,000	3,268,000	50,000	1.6%	50,000	1.6%
6/30/01-02	3,032,000	3,041,000	3,115,000	3,122,000	83,000	2.7%	81,000	2.7%
6/30/02-03	3,564,000	3,567,000	3,568,000	3,571,000	4,000	0.1%	4,000	0.1%
6/30/03-04	3,757,000	3,761,000	3,767,000	3,771,000	10,000	0.3%	10,000	0.3%
6/30/04-05	4,600,000	5,467,000	4,700,000	5,541,000	100,000	2.2%	74,000	1.4%
6/30/05-06	4,100,000	4,551,000	4,100,000	4,550,000	0	0.0%	(1,000)	0.0%
6/30/06-07	5,600,000	6,622,000	5,600,000	6,703,000	0	0.0%	81,000	1.2%
6/30/07-08	5,000,000	5,582,000	5,100,000	5,645,000	100,000	2.0%	63,000	1.1%
6/30/08-09	5,300,000	6,238,000	5,400,000	6,324,000	100,000	1.9%	86,000	1.4%
6/30/09-10	5,600,000	6,554,000	5,600,000	6,589,000	0	0.0%	35,000	0.5%
6/30/10-11	6,500,000	7,655,000	6,300,000	7,301,000	(200,000)	-3.1%	(354,000)	-4.6%
6/30/11-12	7,000,000	9,548,000	6,800,000	7,993,000	(200,000)	-2.9%	(1,555,000)	-16.3%
6/30/12-13								
Total	105,406,403	114,100,527	105,909,304	113,128,711	502,901	0.5%	(971,816)	-0.9%

NOTES:

(2), (3) From Aon analysis as of June 30, 2012

(4), (5) From Section 8, Exhibit 2, Page 1, Columns 6, 7

(6) = (4) - (2)

(7) = (4) / (2) - 1

(8) = (5) - (3)

(9) = (5) / (3) - 1

All Other - Clusters 5-17 & 95
Medical

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At: 4%	6%
384	100.0%	1.3%	0.0%	0.4%	0.2%	1.000	1.000
372	98.7%	0.5%	1.3%	0.1%	0.1%	0.981	0.971
360	98.2%	0.5%	1.8%	0.2%	0.1%	0.953	0.932
348	97.7%	0.5%	2.3%	0.2%	0.1%	0.931	0.899
336	97.3%	0.5%	2.7%	0.2%	0.1%	0.910	0.870
324	96.8%	0.5%	3.2%	0.2%	0.1%	0.891	0.843
312	96.3%	0.5%	3.7%	0.2%	0.1%	0.873	0.818
300	95.8%	0.5%	4.2%	0.2%	0.1%	0.855	0.795
288	95.3%	0.5%	4.7%	0.2%	0.1%	0.839	0.772
276	94.9%	0.5%	5.1%	0.2%	0.1%	0.822	0.751
264	94.4%	0.6%	5.6%	0.2%	0.2%	0.807	0.731
252	93.8%	0.7%	6.2%	0.3%	0.2%	0.794	0.715
240	93.1%	0.8%	6.9%	0.4%	0.2%	0.787	0.707
228	92.3%	0.8%	7.7%	0.4%	0.3%	0.779	0.696
216	91.6%	1.3%	8.4%	0.7%	0.5%	0.770	0.686
204	90.2%	1.8%	9.8%	1.0%	0.7%	0.773	0.691
192	88.4%	1.3%	11.6%	0.7%	0.5%	0.781	0.702
180	87.1%	1.2%	12.9%	0.7%	0.5%	0.773	0.693
168	85.9%	1.9%	14.1%	1.1%	0.9%	0.764	0.681
156	84.0%	1.4%	16.0%	0.9%	0.7%	0.764	0.681
144	82.6%	1.9%	17.4%	1.2%	1.0%	0.754	0.669
132	80.7%	2.3%	19.3%	1.5%	1.3%	0.751	0.665
120	78.4%	2.1%	21.6%	1.5%	1.2%	0.749	0.664
108	76.3%	2.3%	23.7%	1.7%	1.4%	0.744	0.658
96	73.9%	2.5%	26.1%	1.9%	1.6%	0.739	0.652
84	71.4%	2.9%	28.6%	2.2%	2.0%	0.734	0.646
72	68.5%	2.9%	31.5%	2.3%	2.1%	0.731	0.643
60	65.7%	3.4%	34.3%	2.9%	2.6%	0.726	0.637
48	62.2%	4.6%	37.8%	4.0%	3.7%	0.724	0.635
36	57.7%	12.1%	42.3%	11.0%	10.4%	0.727	0.639
24	45.6%	28.2%	54.4%	26.6%	25.8%	0.762	0.685
12	17.4%	17.4%	82.6%	17.0%	16.9%	0.817	0.757
Total		100.0%					

NOTES:

(2) = 1 / Section 8, Exhibit 2, Page 2, Column 4

(3) Incremental % based on (2)

(4) = 1 - (2)

(5) = [(3) / 1.04] ^ {[(1) - 6] / 12}

(6) = [(3) / 1.06] ^ {[(1) - 6] / 12}

(7), (8) Discount factor based on (5), (6)

Commonwealth of Massachusetts
Workers Compensation
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All Other - Clusters 5-17 & 95
Medical

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	264,935	288,547		231,708	252,359
6/30/82-83	0	16,865	0.981	0	16,537
6/30/83-84	0	22,279	0.953	0	21,240
6/30/84-85	26,179	26,179	0.931	24,360	24,360
6/30/85-86	33,702	53,012	0.910	30,667	48,238
6/30/86-87	54,692	55,692	0.891	48,719	49,610
6/30/87-88	121,148	125,148	0.873	105,719	109,210
6/30/88-89	155,291	158,291	0.855	132,816	135,382
6/30/89-90	186,542	192,542	0.839	156,424	161,455
6/30/90-91	148,822	187,162	0.822	122,389	153,919
6/30/91-92	162,548	164,548	0.807	131,131	132,745
6/30/92-93	158,466	161,466	0.794	125,883	128,266
6/30/93-94	209,362	213,362	0.787	164,802	167,951
6/30/94-95	198,633	202,633	0.779	154,706	157,821
6/30/95-96	187,727	189,727	0.770	144,578	146,119
6/30/96-97	278,282	281,282	0.773	215,038	217,356
6/30/97-98	259,067	261,067	0.781	202,291	203,853
6/30/98-99	366,014	367,014	0.773	283,036	283,810
6/30/99-00	461,187	465,187	0.764	352,417	355,474
6/30/00-01	520,932	520,932	0.764	397,748	397,748
6/30/01-02	541,296	548,296	0.754	408,304	413,584
6/30/02-03	687,737	690,737	0.751	516,196	518,448
6/30/03-04	813,242	817,242	0.749	609,438	612,436
6/30/04-05	473,981	1,314,981	0.744	352,657	978,387
6/30/05-06	785,578	1,235,578	0.739	580,585	913,160
6/30/06-07	812,518	1,915,518	0.734	596,746	1,406,834
6/30/07-08	1,266,755	1,811,755	0.731	926,585	1,325,232
6/30/08-09	1,444,777	2,368,777	0.726	1,049,493	1,720,690
6/30/09-10	1,770,242	2,759,242	0.724	1,281,772	1,997,873
6/30/10-11	2,337,229	3,338,229	0.727	1,699,182	2,426,916
6/30/11-12	3,330,392	4,523,392	0.762	2,536,254	3,444,782
6/30/12-13	5,896,845	7,581,845	0.817	4,817,915	6,194,615
Total	23,954,119	32,858,526		18,399,559	25,116,409
			(7) Total Discount Factor:	0.768	0.764

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	264,935	288,547
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	37,848	41,221
(11) Discounted Value at 4%:	231,708	252,359

NOTES:
(2), (3) From Section 8, Exhibit 2, Page 1, Columns 8, 9
(4) From Section 8, Exhibit 2, Page 9, Column 7
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

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Medical

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
	Undiscounted		Discount	Discounted	
Accident	Outstanding Losses		Factor at	Outstanding Losses	
Year	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	264,935	288,547		217,619	237,015
6/30/82-83	0	16,865	0.971	0	16,381
6/30/83-84	0	22,279	0.932	0	20,755
6/30/84-85	26,179	26,179	0.899	23,531	23,531
6/30/85-86	33,702	53,012	0.870	29,316	46,113
6/30/86-87	54,692	55,692	0.843	46,117	46,960
6/30/87-88	121,148	125,148	0.818	99,137	102,411
6/30/88-89	155,291	158,291	0.795	123,425	125,810
6/30/89-90	186,542	192,542	0.772	144,094	148,728
6/30/90-91	148,822	187,162	0.751	111,783	140,581
6/30/91-92	162,548	164,548	0.731	118,774	120,235
6/30/92-93	158,466	161,466	0.715	113,312	115,457
6/30/93-94	209,362	213,362	0.707	147,918	150,745
6/30/94-95	198,633	202,633	0.696	138,339	141,124
6/30/95-96	187,727	189,727	0.686	128,755	130,127
6/30/96-97	278,282	281,282	0.691	192,164	194,235
6/30/97-98	259,067	261,067	0.702	181,964	183,369
6/30/98-99	366,014	367,014	0.693	253,584	254,277
6/30/99-00	461,187	465,187	0.681	314,170	316,895
6/30/00-01	520,932	520,932	0.681	354,818	354,818
6/30/01-02	541,296	548,296	0.669	362,364	367,050
6/30/02-03	687,737	690,737	0.665	457,471	459,467
6/30/03-04	813,242	817,242	0.664	540,236	542,894
6/30/04-05	473,981	1,314,981	0.658	311,780	864,981
6/30/05-06	785,578	1,235,578	0.652	512,059	805,380
6/30/06-07	812,518	1,915,518	0.646	525,180	1,238,116
6/30/07-08	1,266,755	1,811,755	0.643	814,611	1,165,084
6/30/08-09	1,444,777	2,368,777	0.637	920,344	1,508,945
6/30/09-10	1,770,242	2,759,242	0.635	1,123,328	1,750,910
6/30/10-11	2,337,229	3,338,229	0.639	1,493,470	2,133,101
6/30/11-12	3,330,392	4,523,392	0.685	2,280,067	3,096,823
6/30/12-13	5,896,845	7,581,845	0.757	4,463,703	5,739,188
Total	23,954,119	32,858,526		16,543,433	22,541,504
			(7) Total Discount Factor:	0.691	0.686

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	264,935	288,547
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	37,848	41,221
(11) Discounted Value at 6%:	217,619	237,015

NOTES:
(2), (3) From Section 8, Exhibit 2, Page 1, Columns 8, 9
(4) From Section 8, Exhibit 2, Page 9, Column 8
(5) = (2) x (4)
(6) = (3) x (4)
(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)
(10) = (8) / (9)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012

All Other - Clusters 5-17 & 95
Medical

Allocation of Outstanding Reserve to MassDOT Agencies

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
							MassDOT Allocation - Method 1					**MassDOT Allocation - Method 2**					**MassDOT Allocation - Method 3**				MassDOT	MassDOT	All Other	All Other
Accident		Aon	Aon	Outstanding	Outstanding	Paid Counts	MassDOT	MassDOT /	MassDOT OS	MassDOT OS	Total Paid	MassDOT	MassDOT /	MassDOT OS	MassDOT OS	Total Payroll	MassDOT	MassDOT /	MassDOT OS	MassDOT OS	Outstanding	Outstanding	Outstanding	Outstanding
Year	Paid Loss	Selected Ult (Low)	Selected Ult (High)	Losses (Low)	Losses (High)	7/1/11-12	7/1/11-12	Paid Counts	(Low)	(High)	7/1/11-12	7/1/11-12	Total Paid	(Low)	(High)	($000)	($000)	Total Payroll	(Low)	(High)	(Low)	(High)	(Low)	(High)
All Prior Yrs	2,920,917	3,137,404	3,162,817	216,487	241,900	3					24,383								14,009	15,654	14,009	15,654	202,478	226,246
6/30/82-83	504,586	504,586	521,834	0	17,248	1					3,113								0	1,116	0	1,116	0	16,132
6/30/83-84	790,813	790,813	813,876	0	23,063	0					0								0	1,492	0	497	0	22,566
6/30/84-85	1,123,581	1,151,000	1,151,000	27,419	27,419	0					0								1,774	1,774	591	591	26,827	26,827
6/30/85-86	1,872,692	1,907,730	1,927,000	35,038	54,308	2					5,653								2,267	3,514	756	1,171	34,282	53,137
6/30/86-87	1,628,722	1,685,000	1,686,000	56,278	57,278	2					20,063								3,642	3,707	1,214	1,236	55,064	56,042
6/30/87-88	3,123,843	3,247,000	3,252,000	123,157	128,157	5					12,734								7,970	8,293	2,657	2,764	120,501	125,393
6/30/88-89	3,535,629	3,694,000	3,698,000	158,371	162,371	8	1	12.5%	19,796	20,296	8,708	450	5.2%	8,184	8,391				10,248	10,507	12,743	13,065	145,628	149,306
6/30/89-90	3,792,543	3,982,000	3,989,000	189,457	196,457	6	1	16.7%	31,576	32,743	8,613	110	1.3%	2,427	2,517				12,260	12,713	15,421	15,991	174,035	180,466
6/30/90-91	3,425,312	3,576,870	3,614,000	151,558	188,688	7					20,043								9,808	12,210	3,269	4,070	148,289	184,618
6/30/91-92	2,703,064	2,868,000	2,869,000	164,936	165,936	4					9,519								10,673	10,738	3,558	3,579	161,378	162,357
6/30/92-93	2,428,953	2,597,000	2,599,000	168,047	170,047	6	1	16.7%	28,008	28,341	14,262	554	3.9%	6,530	6,607				10,875	11,004	15,137	15,318	152,910	154,730
6/30/93-94	2,860,084	3,080,000	3,085,000	219,916	224,916	7	3	42.9%	94,250	96,393	18,465	3,142	17.0%	37,422	38,273				14,231	14,555	14,231	14,555	205,685	210,362
6/30/94-95	2,411,441	2,617,000	2,621,000	205,559	209,559	11	2	18.2%	37,374	38,102	98,306	1,217	1.2%	2,545	2,595				13,302	13,561	17,741	18,086	187,818	191,473
6/30/95-96	2,054,604	2,266,000	2,268,000	211,396	213,396	6					13,454								13,680	13,809	4,560	4,603	206,837	208,793
6/30/96-97	2,457,338	2,738,000	2,740,000	280,662	282,662	9	1	11.1%	31,185	31,407	90,168	1,800	2.0%	5,603	5,643				18,162	18,291	24,673	24,849	255,988	257,812
6/30/97-98	1,958,225	2,222,000	2,224,000	263,775	265,775	8	2	25.0%	65,944	66,444	41,994	457	1.1%	2,867	2,889	1,917,994	137,500	7.2%	18,910	19,053	18,910	19,053	244,865	246,722
6/30/98-99	2,459,300	2,835,000	2,836,000	375,700	376,700	10	1	10.0%	37,570	37,670	68,819	48,801	70.9%	266,418	267,127	2,081,524	136,688	6.6%	24,671	24,737	31,121	31,203	344,579	345,497
6/30/99-00	2,756,324	3,236,000	3,239,000	479,676	482,676	13	2	15.4%	73,796	74,258	77,203	65,874	85.3%	409,290	411,850	2,207,243	137,892	6.2%	29,967	30,154	29,967	30,154	449,710	452,522
6/30/00-01	2,693,375	3,218,000	3,218,000	524,625	524,625	17	3	17.6%	92,581	92,581	52,565	2,475	4.7%	24,701	24,701	2,201,008	145,149	6.6%	34,597	34,597	50,626	50,626	473,999	473,999
6/30/01-02	2,491,961	3,032,000	3,041,000	540,039	549,039	29	4	13.8%	74,488	75,730	154,854	1,875	1.2%	6,540	6,649	2,292,592	140,223	6.1%	33,031	33,581	38,020	38,653	502,019	510,386
6/30/02-03	2,844,031	3,564,000	3,567,000	719,969	722,969	28	2	7.1%	51,426	51,641	91,829	11,629	12.7%	91,176	91,556	2,260,534	140,250	6.2%	44,669	44,855	62,424	62,684	657,545	660,285
6/30/03-04	2,905,967	3,757,000	3,761,000	851,033	855,033	29	4	13.8%	117,384	117,936	65,940	17,898	27.1%	230,991	232,076	2,255,942	137,408	6.1%	51,836	52,079	84,610	85,008	766,424	770,026
6/30/04-05	4,101,306	4,600,000	5,467,000	498,694	1,365,694	31	2	6.5%	32,174	88,109	107,426	3,060	2.8%	14,206	38,905	2,309,083	145,033	6.3%	31,323	85,779	25,901	70,931	472,793	1,294,763
6/30/05-06	3,240,647	4,100,000	4,551,000	859,353	1,310,353	36	2	5.6%	47,742	72,797	86,866	10,680	12.3%	105,656	161,105	2,480,693	156,390	6.3%	54,176	82,609	69,191	105,504	790,162	1,204,850
6/30/06-07	4,612,091	5,600,000	6,622,000	987,909	2,009,909	52	8	15.4%	151,986	309,217	146,962	20,003	13.6%	134,463	273,565	2,612,577	157,146	6.0%	59,422	120,895	59,422	120,895	928,486	1,889,013
6/30/07-08	3,665,019	5,000,000	5,582,000	1,334,981	1,916,981	69	5	7.2%	96,738	138,912	124,969	4,127	3.3%	44,086	63,307	2,783,717	168,663	6.1%	80,885	116,148	73,903	106,122	1,261,077	1,810,859
6/30/08-09	3,757,225	5,300,000	6,238,000	1,542,775	2,480,775	117	12	10.3%	158,233	254,438	317,033	48,582	15.3%	236,416	380,156	2,750,907	180,456	6.6%	101,204	162,735	129,719	208,587	1,413,056	2,272,188
6/30/09-10	3,532,579	5,600,000	6,554,000	2,067,421	3,021,421	180	9	5.0%	103,371	151,071	463,685	16,906	3.6%	75,380	110,164	2,806,048	203,138	7.2%	149,666	218,729	109,473	159,988	1,957,948	2,861,433
6/30/10-11	3,339,318	6,500,000	7,655,000	3,160,682	4,315,682	700	55	7.9%	248,339	339,089	1,747,851	143,352	8.2%	259,227	353,955	2,942,638	197,766	6.7%	212,421	290,045	239,995	327,696	2,920,686	3,987,985
6/30/11-12	1,578,463	7,000,000	9,548,000	5,421,537	7,969,537	990	95	9.6%	520,248	764,754	1,578,463	219,356	13.9%	753,419	1,107,509	3,006,849	207,447	6.9%	374,040	549,831	422,776	621,472	4,998,760	7,348,065
Total	83,569,954	105,406,403	114,100,527	21,836,450	30,530,573	2,386	215	9.0%	2,114,210	2,881,927	5,473,942	622,349	11.4%	2,717,547	3,589,539						1,576,618	2,175,722	20,259,832	28,354,851

Sel. FY97 & Prior	6.5%

NOTES:

(2), (7), (8), (12), (13), (17). (18) Provided by Commonwealth of Massachusetts
(3) From Prior Analysis - Section 8, Exhibit 2, Page 1, Column 6
(4) From Prior Analysis - Section 8, Exhibit 2, Page 1, Column 7
(5) = (3) - (2)
(6) = (4) - (2)
(9) = (8) / (7)
(10) = (9) * (5)
(11) = (9) * (6)

(14) = (13) / (12)
(15) = (14) * (5)
(16) = (14) * (6)
(19) = (18) / (17)
(20) = (19) * (5)
(21) = (19) * (6)

(22) Selected judgementally based on (10), (15), (20)
(23) Selected judgementally based on (11), (16). (21)
(24) = (5) - (22)
(25) = (6) - (23)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2013

All Other - Clusters 5-17 & 95
Medical

Allocation of Outstanding Reserve to MassDOT Agencies

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
		Aon	Aon	Outstanding	Outstanding	**MassDOT Allocation - Method 1**					**MassDOT Allocation - Method 2**					**MassDOT Allocation - Method 3**					MassDOT	MassDOT	All Other	All Other
Accident		Selected Ult	Selected Ult	Losses	Losses	Paid Counts	MassDOT	MassDOT /	MassDOT OS	MassDOT OS	Total Paid	MassDOT	MassDOT /	MassDOT OS	MassDOT OS	Total Payroll	MassDOT	MassDOT /	MassDOT OS	MassDOT OS	Outstanding	Outstanding	Outstanding	Outstanding
Year	Paid Loss	(Low)	(High)	(Low)	(High)	7/1/12-13	7/1/12-13	Paid Counts	(Low)	(High)	7/1/12-13	7/1/12-13	Total Paid	(Low)	(High)	($000)	($000)	Total Payroll	(Low)	(High)	(Low)	(High)	(Low)	(High)
All Prior Yrs	2,953,025	3,217,959	3,241,572	264,935	288,547	2					32,108								17,220	18,754	17,220	18,754	247,715	269,793
6/30/82-83	508,182	508,182	525,047	0	16,865	1					3,596								0	1,096	0	1,096	0	15,769
6/30/83-84	790,813	790,813	813,092	0	22,279	0					0								0	1,448	0	483	0	21,797
6/30/84-85	1,123,821	1,150,000	1,150,000	26,179	26,179	1	1	100.0%	26,179	26,179	240	240	100.0%	26,179	26,179				1,702	1,702	18,020	18,020	8,159	8,159
6/30/85-86	1,877,988	1,911,690	1,931,000	33,702	53,012	3	1	33.3%	11,234	17,671	5,296	240	4.5%	1,527	2,402				2,190	3,446	4,984	7,839	28,718	45,172
6/30/86-87	1,648,308	1,703,000	1,704,000	54,692	55,692	3	1	33.3%	18,231	18,564	19,586	360	1.8%	1,005	1,024				3,555	3,620	7,597	7,736	47,095	47,956
6/30/87-88	3,135,852	3,257,000	3,261,000	121,148	125,148	8	1	12.5%	15,144	15,644	12,009	360	3.0%	3,632	3,752				7,874	8,134	8,883	9,176	112,265	115,972
6/30/88-89	3,542,709	3,698,000	3,701,000	155,291	158,291	7					7,079								10,093	10,288	3,364	3,429	151,927	154,862
6/30/89-90	3,806,458	3,993,000	3,999,000	186,542	192,542	7	1	14.3%	26,649	27,506	13,915	66	0.5%	884	912				12,125	12,514	13,219	13,644	173,323	178,898
6/30/90-91	3,448,838	3,597,660	3,636,000	148,822	187,162	7					23,526								9,673	12,165	3,224	4,055	145,598	183,107
6/30/91-92	2,761,452	2,924,000	2,926,000	162,548	164,548	4					58,388								10,565	10,695	3,522	3,565	159,026	160,983
6/30/92-93	2,450,534	2,609,000	2,612,000	158,466	161,466	6	1	16.7%	26,411	26,911	21,581	445	2.1%	3,271	3,333				10,300	10,495	13,327	13,580	145,139	147,887
6/30/93-94	2,875,638	3,085,000	3,089,000	209,362	213,362	6	2	33.3%	69,787	71,121	15,554	1,865	12.0%	25,108	25,588				13,608	13,868	13,608	13,868	195,755	199,495
6/30/94-95	2,435,367	2,634,000	2,638,000	198,633	202,633	14	4	28.6%	56,752	57,895	23,926	2,050	8.6%	17,017	17,360				12,910	13,170	28,893	29,475	169,740	173,158
6/30/95-96	2,061,273	2,249,000	2,251,000	187,727	189,727	4					6,670								12,201	12,331	4,067	4,110	183,659	185,616
6/30/96-97	2,600,718	2,879,000	2,882,000	278,282	281,282	8					143,379								18,087	18,282	9,044	9,141	269,239	272,141
6/30/97-98	1,973,933	2,233,000	2,235,000	259,067	261,067	7	2	28.6%	74,019	74,590	15,709	316	2.0%	5,210	5,250	1,917,994	137,500	7.2%	18,572	18,716	18,572	18,716	240,494	242,351
6/30/98-99	2,488,986	2,855,000	2,856,000	366,014	367,014	8	1	12.5%	45,752	45,877	29,685	10,721	36.1%	132,184	132,546	2,081,524	136,688	6.6%	24,035	24,101	34,894	34,989	331,121	332,026
6/30/99-00	2,834,813	3,296,000	3,300,000	461,187	465,187	11	2	18.2%	83,852	84,579	78,489	45,102	57.5%	265,013	267,311	2,207,243	137,892	6.2%	28,812	29,061	28,812	29,061	432,376	436,126
6/30/00-01	2,747,068	3,268,000	3,268,000	520,932	520,932	14	4	28.6%	148,838	148,838	53,693	3,054	5.7%	29,628	29,628	2,201,008	145,149	6.6%	34,354	34,354	70,940	70,940	449,992	449,992
6/30/01-02	2,573,704	3,115,000	3,122,000	541,296	548,296	23	3	13.0%	70,604	71,517	81,743	1,519	1.9%	10,058	10,188	2,292,592	140,223	6.1%	33,108	33,536	37,923	38,413	503,373	509,883
6/30/02-03	2,880,263	3,568,000	3,571,000	687,737	690,737	24	1	4.2%	28,656	28,781	36,232	14,487	40.0%	274,976	276,176	2,260,534	140,250	6.2%	42,669	42,855	115,434	115,937	572,303	574,800
6/30/03-04	2,953,758	3,767,000	3,771,000	813,242	817,242	24	4	16.7%	135,540	136,207	47,792	20,358	42.6%	346,418	348,122	2,255,942	137,408	6.1%	49,534	49,778	92,537	92,992	720,705	724,249
6/30/04-05	4,226,019	4,700,000	5,541,000	473,981	1,314,981	24	3	12.5%	59,248	164,373	124,713	5,540	4.4%	21,055	58,415	2,309,083	145,033	6.3%	29,771	82,594	36,691	101,794	437,290	1,213,187
6/30/05-06	3,314,422	4,100,000	4,550,000	785,578	1,235,578	34	2	5.9%	46,210	72,681	73,776	13,289	18.0%	141,508	222,567	2,480,693	156,390	6.3%	49,525	77,895	79,081	124,381	706,496	1,111,197
6/30/06-07	4,787,482	5,600,000	6,703,000	812,518	1,915,518	39	6	15.4%	125,003	294,695	175,391	40,056	22.8%	185,563	437,466	2,612,577	157,146	6.0%	48,873	115,218	48,873	115,218	763,645	1,800,300
6/30/07-08	3,833,245	5,100,000	5,645,000	1,266,755	1,811,755	60	4	6.7%	84,450	120,784	168,226	3,319	2.0%	24,992	35,744	2,783,717	168,663	6.1%	76,751	109,772	62,065	88,767	1,204,690	1,722,988
6/30/08-09	3,955,223	5,400,000	6,324,000	1,444,777	2,368,777	73	7	9.6%	138,540	227,143	197,997	15,424	7.8%	112,551	184,533	2,750,907	180,456	6.6%	94,775	155,388	116,658	191,266	1,328,120	2,177,512
6/30/09-10	3,829,758	5,600,000	6,589,000	1,770,242	2,759,242	87	4	4.6%	81,390	126,862	297,179	23,233	7.8%	138,395	215,713	2,806,048	203,138	7.2%	128,153	199,749	115,979	180,775	1,654,262	2,578,467
6/30/10-11	3,962,771	6,300,000	7,301,000	2,337,229	3,338,229	206	19	9.2%	215,570	307,895	623,453	22,923	3.7%	85,934	122,738	2,942,638	197,766	6.7%	157,079	224,353	152,861	218,329	2,184,368	3,119,900
6/30/11-12	3,469,608	6,800,000	7,993,000	3,330,392	4,523,392	715	76	10.6%	354,000	480,808	1,891,145	181,037	9.6%	318,814	433,019	3,006,849	207,447	6.9%	229,769	312,076	300,861	408,634	3,029,531	4,114,757
6/30/12-13	1,503,155	7,400,000	9,085,000	5,896,845	7,581,845	865	81	9.4%	552,190	709,976	1,503,155	117,522	7.8%	461,034	592,773	3,138,905	217,415	6.9%	408,443	525,154	456,359	586,761	5,440,486	6,995,084
Total	89,355,185	113,309,304	122,213,711	23,954,119	32,858,526	2,295	231	10.1%	2,494,248	3,357,095	5,785,231	523,526	9.0%	2,631,956	3,452,737						1,917,510	2,574,945	22,036,610	30,283,582

Sel. FY97 & Prior	6.5%

NOTES:

(2), (7), (8), (12), (13), (17). (18) Provided by Commonwealth of Massachusetts
(3) From Section 8, Exhibit 2, Page 1, Column 6
(4) From Section 8, Exhibit 2, Page 1, Column 7
(5) = (3) - (2)
(6) = (4) - (2)
(9) = (8) / (7)
(10) = (9) * (5)
(11) = (9) * (6)

(14) = (13) / (12)
(15) = (14) * (5)
(16) = (14) * (6)
(19) = (18) / (17)
(20) = (19) * (5)
(21) = (19) * (6)

(22) Selected judgementally based on (10), (15), (20)
(23) Selected judgementally based on (11), (16). (21)
(24) = (5) - (22)
(25) = (6) - (23)