Aon Risk Solutions
Global Risk Consulting
Actuarial and Analytics

Commonwealth of Massachusetts

Actuarial Estimate of Outstanding Liability

As of June 30, 2014

FINAL REPORT

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Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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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, 2014, separately for seven clusters of agencies:

a) The Department of Developmental Services ("DDS")[1]
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.

[1] Formerly known as The Department of Mental Retardation ("DMR")

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,

Aon Global Risk Consulting

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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 2013, 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, 2014, 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: **$314.7M to $397.5M.**

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%: **$234.9 to $300.0M** | Discounted at 6%: **$209.1M to $268.0M**

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%
DDS	1	2	$27.2 - 34.4M	$22.1 - 28.1M	$20.3 - 26.0M
DMH	2	3	$23.6 - 28.8M	$18.0 - 22.2M	$16.2 - 20.1M
DOC	3	4	$52.3 - 74.4M	$38.9 - 56.0M	$34.6 - 49.9M
UMass - Amherst	4	5	$7.0 - 10.2M	$5.4 - 8.0M	$4.9 - 7.3M
UMass - Medical	4	6	$3.3 - 5.2M	$2.7 - 4.3M	$2.5 - 4.0M
Other Colleges & Universities	4	7	$17.5 - 21.3M	$14.1 - 17.3M	$12.9 - 15.8M
All Other Dept's (incl. MassDOT, excl. MTA)	5	8	$183.8 - 223.1M	$133.7 - 164.0M	$117.8 - 145.0M
Total			$314.7 - 397.5M	$234.9 - 300.0M	$209.1 - 268.0M

Total Net Reserves

Based on our review, which utilized loss and exposure data valued as of June 30, 2014, 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: **$301.2M to $380.9M.**

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 **net** reserves to be as follows:

Discounted at 4%: **$225.1M to $287.8M** | Discounted at 6%: **$200.4M to $257.2M**

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

Cluster	Cluster	Report Section	Undiscounted	Discounted at 4%	Discounted at 6%
DDS	1	2	$27.2 - 34.4M	$22.1 - 28.1M	$20.3 - 26.0M
DMH	2	3	$23.6 - 28.8M	$18.0 - 22.2M	$16.2 - 20.1M
DOC	3	4	$52.3 - 74.4M	$38.9 - 56.0M	$34.6 - 49.9M
UMass - Amherst	4	5	$7.0 - 10.2M	$5.4 - 8.0M	$4.9 - 7.3M
UMass - Medical	4	6	$3.3 - 5.2M	$2.7 - 4.3M	$2.5 - 4.0M
Other Colleges & Universities	4	7	$17.5 - 21.3M	$14.1 - 17.3M	$12.9 - 15.8M
All Other Dept's (excl. MassDOT & MTA)	5	8	$170.3 - 206.5M	$123.9 - 151.8M	$109.1 - 134.2M
Total			$301.2 - 380.9M	$225.1 - 287.8M	$200.4 - 257.2M

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 7.4% 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	7.4%	$13.5 - 16.6M	$9.8 - 12.2M	$8.7 - 10.8M
Non-MassDOT Agencies	5	92.6%	$170.3 - 206.5M	$123.9 - 151.8M	$109.1 - 134.2M
Total			$183.8 - 223.1M	$133.7 - 164.0M	$117.8 - 145.0M

Fiscal Year 2014 Loss Rates

The cost of the workers compensation program as measured by the estimated FY2014 loss rates (losses per $100 payroll) varied significantly by cluster.

As shown in the table below, overall rates decreased by 4.4% when compared to the prior year

Cluster	Payroll (000)	Average Ult Loss	Average FY 14 Loss Rate	Prior Loss Rate	% Change
DDS	309,910	4,997,500	1.613	1.733	-7.0%
DMH	199,876	4,378,500	2.191	2.150	1.9%
DOC	390,528	10,630,825	2.722	2.955	-7.9%
UMass - Amherst	518,391	1,703,000	0.329	0.459	-28.4%
UMass - Medical	364,582	928,425	0.255	0.352	-27.7%
Other Colleges & Univs	1,346,902	5,330,000	0.396	0.367	7.9%
All Other Dept's (excl. MTA)	3,311,947	36,522,502	1.103	1.147	-3.9%
Total	6,442,136	64,490,752	1.001	1.047	-4.4%

All Other Departments – Fiscal Year 2014 Loss Rates

In the table below, we have estimated, the composition of the All Other Departments FY2014 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 14 Loss Rate	Prior Loss Rate	% Change
MassDOT (excl. MTA)	232,120	2,646,963	1.140	1.205	-5.4%
Non-MassDOT	3,079,827	33,875,539	1.100	1.143	-3.8%
Total	3,311,947	36,522,502	1.103	1.147	-3.9%

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 **$15.7M to $22.1M**.

Discounted at 4%: **$12.5M to $17.8M** | Discounted at 6%: **$11.4M to $16.2M**

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	$7.0 - 10.2M	$5.4 - 8.0M	$4.9 - 7.3M
UMass - Medical	$3.3 - 5.2M	$2.7 - 4.3M	$2.5 - 4.0M
UMass - Dartmouth	$2.1 - 2.5M	$1.7 - 2.1M	$1.5 - 1.9M
University of Lowell	$1.8 - 2.2M	$1.4 - 1.8M	$1.3 - 1.6M
UMass - Boston	$1.6 - 2.0M	$1.3 - 1.6M	$1.2 - 1.5M
Total UMass	$15.7 - 22.1M	$12.5 - 17.8M	$11.4 - 16.2M

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, 2014 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, 2013) to derive cumulative paid figures as of June 30, 2014 found in this report.

Exposure

Exposure information for FY2014, 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 2014 implies an "open" claim and will remain open during fiscal year 2014. 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 most recent 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 FY2014 were provided by the Commonwealth. For the FY2014 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 FY2014 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	DDS - Indemnity
2	2	DDS - 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 2015 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 - FY2013	MassDOT (excl. MTA) Reserve Allocation as of 06/30/13
MassDOT - FY2014	MassDOT (excl. MTA) Reserve Allocation as of 06/30/14

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 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 previous actuarial analysis performed in 2013 and based on loss data valued as of 6/30/13.

Page MassDOT FY2014 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 6/30/14.

IX. Exhibits

Commonwealth of Massachusetts
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- Exhibit 2 - Medical

Section 3 *Department of Mental Health - Cluster 2*
- Exhibit 1 - Indemnity
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Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

Summary of Reserve Estimates - Undiscounted

Cluster	Cluster #	Report Section	Loss Reserve Estimate Low End	Loss Reserve Estimate High End
Department of Developmental Services	1	Section 2		
Indemnity			24,647,761	29,851,848
Medical			2,559,566	4,517,640
Total			27,207,327	34,369,488
Department of Mental Health	2	Section 3		
Indemnity			20,394,244	24,981,492
Medical			3,227,139	3,826,319
Total			23,621,384	28,807,811
Department of Corrections	3	Section 4		
Indemnity			40,700,791	57,298,162
Medical			11,553,589	17,144,580
Total			52,254,381	74,442,742
UMass - Amherst	4	Section 5		
Indemnity			5,660,455	8,568,551
Medical			1,292,653	1,602,516
Total			6,953,108	10,171,067
UMass - Medical School	4	Section 6		
Indemnity			2,494,282	3,931,485
Medical			768,568	1,276,902
Total			3,262,850	5,208,387
Other Colleges & Universities	4	Section 7		
Indemnity			14,459,417	17,969,114
Medical			3,074,633	3,373,286
Total			17,534,049	21,342,401
All Others	5-17 & 95	Section 8		
Indemnity			158,373,563	190,225,212
Medical			25,469,562	32,895,458
Total			183,843,125	223,120,670
Grand Total		Section 1		
Indemnity			266,730,514	332,825,864
Medical			47,945,709	64,636,701
Total			314,676,223	397,462,564

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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 Developmental Services	1	Section 2		
Indemnity			19,924,291	24,406,048
Medical			2,146,047	3,743,734
Total			22,070,338	28,149,781
Department of Mental Health	2	Section 3		
Indemnity			15,474,239	19,213,219
Medical			2,541,837	3,021,169
Total			18,016,076	22,234,388
Department of Corrections	3	Section 4		
Indemnity			30,169,746	42,851,456
Medical			8,764,679	13,104,081
Total			38,934,426	55,955,537
UMass - Amherst	4	Section 5		
Indemnity			4,327,980	6,715,307
Medical			1,063,587	1,321,761
Total			5,391,567	8,037,068
UMass - Medical School	4	Section 6		
Indemnity			2,021,969	3,229,576
Medical			658,148	1,080,738
Total			2,680,117	4,310,314
Other Colleges & Universities	4	Section 7		
Indemnity			11,616,869	14,508,517
Medical			2,524,367	2,766,100
Total			14,141,236	17,274,617
All Others	5-17 & 95	Section 8		
Indemnity			114,293,117	139,045,519
Medical			19,420,772	24,960,740
Total			133,713,889	164,006,258
Grand Total		Section 1		
Indemnity			197,828,210	249,969,640
Medical			37,119,438	49,998,323
Total			234,947,648	299,967,963

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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 Developmental Services	1	Section 2		
Indemnity			18,303,465	22,506,825
Medical			2,000,566	3,476,674
Total			20,304,030	25,983,500
Department of Mental Health	2	Section 3		
Indemnity			13,876,433	17,321,559
Medical			2,308,533	2,747,210
Total			16,184,967	20,068,769
Department of Corrections	3	Section 4		
Indemnity			26,755,680	38,149,173
Medical			7,836,836	11,771,481
Total			34,592,516	49,920,654
UMass - Amherst	4	Section 5		
Indemnity			3,877,402	6,066,548
Medical			982,532	1,222,341
Total			4,859,934	7,288,889
UMass - Medical School	4	Section 6		
Indemnity			1,855,066	2,975,109
Medical			615,422	1,005,252
Total			2,470,488	3,980,361
Other Colleges & Universities	4	Section 7		
Indemnity			10,579,691	13,236,529
Medical			2,325,214	2,546,387
Total			12,904,906	15,782,915
All Others	5-17 & 95	Section 8		
Indemnity			100,336,796	122,662,552
Medical			17,422,940	22,343,664
Total			117,759,736	145,006,216
Grand Total		Section 1		
Indemnity			175,584,533	222,918,295
Medical			33,492,043	45,113,010
Total			209,076,577	268,031,305

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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 Developmental Services	1	Section 2		
Indemnity			(2,116,069)	(2,915,212)
Medical			207,942	21,196
Total			(1,908,127)	(2,894,016)
Department of Mental Health	2	Section 3		
Indemnity			(1,375,539)	(2,311,307)
Medical			(310,977)	(463,250)
Total			(1,686,516)	(2,774,557)
Department of Corrections	3	Section 4		
Indemnity			(8,621,119)	(14,178,887)
Medical			(262,663)	(1,286,529)
Total			(8,883,781)	(15,465,416)
UMass - Amherst	4	Section 5		
Indemnity			135,092	(382,146)
Medical			(212,553)	(245,401)
Total			(77,461)	(627,547)
UMass - Medical School	4	Section 6		
Indemnity			(500,000)	(568,271)
Medical			(9,000)	(127,500)
Total			(509,000)	(695,771)
Other Colleges & Universities	4	Section 7		
Indemnity			466,793	577,638
Medical			177,208	40,115
Total			644,001	617,753
All Others	5-17 & 95	Section 8		
Indemnity			(9,009,185)	(8,982,581)
Medical			(827,348)	(2,965,859)
Total			(9,836,533)	(11,948,440)
Grand Total		Section 1		
Indemnity			(21,020,027)	(28,760,766)
Medical			(1,237,390)	(5,027,228)
Total			(22,257,417)	(33,787,994)

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Summary of Estimates for 2013-14 Fiscal Year

Cluster	Cluster #	Report Section	Ultimate Loss Estimate Low End	Ultimate Loss Estimate High End	Average	Payroll (000)	Loss Rate
Department of Developmental Services	1	Section 2					
Indemnity			3,596,000	3,742,000			
Medical			1,170,000	1,487,000			
Total			4,766,000	5,229,000	4,997,500	309,910	1.613
Department of Mental Health	2	Section 3					
Indemnity			3,318,000	3,588,000			
Medical			833,000	1,018,000			
Total			4,151,000	4,606,000	4,378,500	199,876	2.191
Department of Corrections	3	Section 4					
Indemnity			6,879,000	9,470,000			
Medical			1,875,000	3,037,650			
Total			8,754,000	12,507,650	10,630,825	390,528	2.722
UMass - Amherst	4	Section 5					
Indemnity			1,077,000	1,272,000			
Medical			462,000	595,000			
Total			1,539,000	1,867,000	1,703,000	518,391	0.329
UMass - Medical School	4	Section 6					
Indemnity			475,000	742,000			
Medical			286,000	353,850			
Total			761,000	1,095,850	928,425	364,582	0.255
Other Colleges & Universities	4	Section 7					
Indemnity			3,861,000	4,064,000			
Medical			1,356,000	1,379,000			
Total			5,217,000	5,443,000	5,330,000	1,346,902	0.396
All Others	5-17 & 95	Section 8					
Indemnity			27,574,700	29,210,304			
Medical			7,800,000	8,460,000			
Total			35,374,700	37,670,304	36,522,502	3,311,947	1.103
Grand Total		Section 1					
Indemnity			46,780,700	52,088,304			
Medical			13,782,000	16,330,500			
Total			60,562,700	68,418,804	64,490,752	6,442,136	1.001

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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
DDS	1 / 2	27,207,327	34,369,488	22,070,338	28,149,781	20,304,030	25,983,500
DMH	2 / 3	23,621,384	28,807,811	18,016,076	22,234,388	16,184,967	20,068,769
DOC	3 / 4	52,254,381	74,442,742	38,934,426	55,955,537	34,592,516	49,920,654
UMass - Amherst	4 / 5	6,953,108	10,171,067	5,391,567	8,037,068	4,859,934	7,288,889
UMass - Medical	4 / 6	3,262,850	5,208,387	2,680,117	4,310,314	2,470,488	3,980,361
Other Colleges & Universities	4 / 7	17,534,049	21,342,401	14,141,236	17,274,617	12,904,906	15,782,915
All Other Dept's (incl. MassDOT, excl. MTA)	5 / 8	183,843,125	223,120,670	133,713,889	164,006,258	117,759,736	145,006,216
Total		314,676,223	397,462,564	234,947,648	299,967,963	209,076,577	268,031,305

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	13,494,324	16,623,608	9,821,094	12,223,345	8,651,536	10,808,704
Non-MassDOT Agencies	5 / 8	170,348,801	206,497,062	123,892,795	151,782,914	109,108,200	134,197,513

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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	190,535	231,919	153,667	187,716	140,232	171,506
Bridgewater State College	1,222,059	1,487,487	985,592	1,203,978	899,425	1,100,011
Bristol Community College	387,192	471,289	312,271	381,463	284,970	348,523
Bunker Hill Community College	426,451	519,075	343,933	420,141	313,864	383,861
Cape Cod Community College	290,552	353,659	234,331	286,253	213,844	261,534
Fitchburg State College	697,874	849,451	562,837	687,549	513,629	628,177
Framingham State College	572,494	696,838	461,717	564,023	421,350	515,318
Greenfield Community College	173,496	211,179	139,925	170,929	127,691	156,169
Holyoke Community College	303,770	369,748	244,991	299,276	223,572	273,432
Mass Bay Community College	174,556	212,470	140,780	171,974	128,472	157,123
Mass College of Art	405,450	493,513	326,996	399,451	298,408	364,957
Mass Maritime Academy	330,956	402,838	266,916	326,059	243,580	297,903
Massachusetts College of Liberal Arts	262,941	320,051	212,062	259,050	193,522	236,681
Massasoit Community College	637,901	776,451	514,468	628,463	469,489	574,193
Middlesex Community College	432,985	527,028	349,203	426,579	318,673	389,743
Mt Wachusett Community College	433,917	528,163	349,955	427,497	319,359	390,582
North Essex Community College	215,948	262,852	174,163	212,753	158,936	194,381
North Shore Community College	355,533	432,754	286,738	350,273	261,669	320,026
Quinsigamond Community College	589,420	717,441	475,368	580,699	433,808	530,555
Roxbury Community College	286,627	348,882	231,165	282,387	210,955	258,002
Salem State College	1,018,694	1,239,952	821,578	1,003,622	749,750	916,957
Springfield Tech Community College	892,670	1,086,556	719,940	879,462	656,997	803,519
UMass (Boston)	1,650,000	2,008,376	1,330,727	1,625,587	1,214,385	1,485,214
UMass (Dartmouth)	2,084,313	2,537,020	1,681,001	2,053,474	1,534,036	1,876,152
University of Lowell	1,795,938	2,186,011	1,448,426	1,769,365	1,321,794	1,616,577
Westfield State College	891,315	1,084,907	718,847	878,128	656,000	802,299
Worcester State College	810,461	986,491	653,638	798,470	596,492	729,520
Total	17,534,049	21,342,401	14,141,236	17,274,617	12,904,906	15,782,915

Commonwealth of Massachusetts
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Reserve Analysis at June 30, 2014

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		100,901,826			117,571,863	127,315,678	16,670,036	26,413,852		
6/30/82-83		18,107,361	19,172,134		18,840,742	19,734,919	733,381	1,627,558		
6/30/83-84		25,975,665	28,585,480		28,080,158	29,447,498	2,104,493	3,471,833		
6/30/84-85	1,823,085	39,010,236	42,157,210	40,003,277	39,976,500	42,064,210	966,263	3,053,974	2.193	2.307
6/30/85-86	1,952,445	51,908,876	54,858,567	53,491,878	53,251,755	54,723,514	1,342,879	2,814,639	2.727	2.803
6/30/86-87	2,220,820	57,852,189	62,455,845	59,999,661	59,546,246	62,170,262	1,694,058	4,318,074	2.681	2.799
6/30/87-88	2,885,583	83,646,810	90,473,191	87,556,668	87,635,876	89,419,184	3,989,066	5,772,375	3.037	3.099
6/30/88-89	3,098,180	82,538,704	87,738,079	86,660,367	86,734,178	88,652,024	4,195,474	6,113,320	2.800	2.861
6/30/89-90	3,079,763	79,716,346	84,558,271	84,560,072	84,009,028	85,239,916	4,292,683	5,523,571	2.728	2.768
6/30/90-91	2,914,364	65,924,861	73,365,418	70,689,175	69,747,975	73,159,428	3,823,114	7,234,567	2.393	2.510
6/30/91-92	2,880,434	44,662,572	48,616,457	47,906,187	47,601,523	48,958,621	2,938,952	4,296,050	1.653	1.700
6/30/92-93	2,887,238	30,496,199	34,121,430	33,247,423	33,038,144	34,664,630	2,541,945	4,168,431	1.144	1.201
6/30/93-94	3,056,850	33,043,763	36,823,854	36,262,801	36,080,970	37,210,000	3,037,207	4,166,237	1.180	1.217
6/30/94-95	3,158,808	30,149,433	33,623,908	33,551,931	33,483,873	34,156,476	3,334,440	4,007,044	1.060	1.081
6/30/95-96	3,301,791	28,692,189	32,447,517	32,369,018	32,088,029	33,127,516	3,395,840	4,435,327	0.972	1.003
6/30/96-97	3,902,868	29,205,986	33,376,355	33,312,853	33,240,684	33,971,912	4,034,698	4,765,926	0.852	0.870
6/30/97-98	3,776,138	31,744,415	36,373,191	36,284,092	36,206,642	36,918,256	4,462,227	5,173,841	0.959	0.978
6/30/98-99	4,017,530	29,758,983	34,743,472	34,678,756	34,667,000	35,400,000	4,908,017	5,641,017	0.863	0.881
6/30/99-00	4,221,786	33,523,243	39,943,924	39,803,999	39,339,877	40,634,000	5,816,633	7,110,757	0.932	0.962
6/30/00-01	4,310,725	39,339,522	47,303,582	47,085,119	46,482,212	47,932,000	7,142,690	8,592,478	1.078	1.112
6/30/01-02	4,438,755	34,639,916	42,569,801	42,445,288	42,424,000	43,301,000	7,784,084	8,661,084	0.956	0.976
6/30/02-03	4,423,888	34,181,928	42,645,275	42,535,931	41,874,045	43,374,000	7,692,117	9,192,072	0.947	0.980
6/30/03-04	4,482,207	34,018,330	42,903,881	42,833,270	42,215,954	43,689,650	8,197,625	9,671,320	0.942	0.975
6/30/04-05	4,639,517	35,598,717	46,064,754	44,848,734	44,015,000	46,322,050	8,416,283	10,723,333	0.949	0.998
6/30/05-06	4,938,165	31,084,574	40,958,701	41,800,474	40,243,000	42,092,300	9,158,426	11,007,726	0.815	0.852
6/30/06-07	5,183,126	29,274,222	39,926,662	41,716,875	39,046,000	42,064,750	9,771,778	12,790,528	0.753	0.812
6/30/07-08	5,508,425	32,243,433	46,332,765	47,825,557	44,838,800	47,847,050	12,595,367	15,603,617	0.814	0.869
6/30/08-09	5,447,676	31,625,671	48,115,109	49,013,750	46,950,600	49,944,698	15,324,929	18,319,027	0.862	0.917
6/30/09-10	5,525,579	29,223,338	47,727,493	49,679,978	46,207,250	50,688,225	16,983,912	21,464,887	0.836	0.917
6/30/10-11	5,712,303	30,093,380	54,735,897	55,126,568	52,921,010	57,074,439	22,827,630	26,981,059	0.926	0.999
6/30/11-12	5,880,714	25,182,339	54,785,229	56,176,411	53,534,170	58,641,419	28,351,831	33,459,080	0.910	0.997
6/30/12-13	6,162,621	18,136,407	53,165,125	59,048,968	53,082,350	59,966,062	34,945,943	41,829,655	0.861	0.973
6/30/13-14	6,442,136	9,360,495	60,942,223	66,756,669	60,562,700	68,418,804	51,202,205	59,058,309	0.940	1.062
Total	122,273,519	1,310,861,930	1,541,610,801	1,497,271,747	1,625,538,153	1,708,324,494	314,676,223	397,462,564		
Tot 6/30/84-14	122,273,519	1,165,877,077	1,493,853,187	1,497,271,747	1,461,045,390	1,531,826,399	295,168,314	365,949,322	1.195	1.253

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, 2014

Department of Developmental Services - 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		21,895,606			26,835,650	29,070,202	4,940,044	7,174,596		
6/30/82-83		4,960,536	5,449,078		5,320,154	5,586,887	359,618	626,351		
6/30/83-84		9,557,835	11,242,411		11,048,537	11,481,787	1,490,702	1,923,952		
6/30/84-85	181,560	7,574,872	7,705,796	7,711,021	7,650,803	7,726,444	75,931	151,572	4.214	4.256
6/30/85-86	195,247	11,874,262	12,142,792	12,143,058	12,199,000	12,303,000	324,739	428,739	6.248	6.301
6/30/86-87	224,370	15,376,859	15,807,309	15,822,616	15,670,000	15,807,000	293,141	430,141	6.984	7.045
6/30/87-88	262,864	21,854,281	24,348,902	22,586,273	22,583,000	23,260,500	728,719	1,406,219	8.591	8.849
6/30/88-89	283,884	23,852,188	24,725,701	24,740,737	24,726,000	24,741,000	873,812	888,812	8.710	8.715
6/30/89-90	285,078	18,673,691	19,381,481	19,486,415	18,860,328	19,047,183	186,637	373,492	6.616	6.681
6/30/90-91	267,732	13,767,147	14,327,640	14,323,749	13,905,390	14,043,000	138,243	275,853	5.194	5.245
6/30/91-92	261,442	10,124,720	10,561,146	10,555,784	10,529,540	10,562,000	404,820	437,280	4.027	4.040
6/30/92-93	259,992	5,945,369	6,217,915	6,214,378	6,011,020	6,072,000	65,651	126,631	2.312	2.335
6/30/93-94	257,062	4,766,406	4,995,264	4,992,754	4,855,970	4,905,000	89,564	138,594	1.889	1.908
6/30/94-95	255,854	3,009,689	3,161,617	3,162,761	3,152,450	3,163,000	142,761	153,311	1.232	1.236
6/30/95-96	255,539	4,038,313	4,267,765	4,265,390	4,265,000	4,268,000	226,687	229,687	1.669	1.670
6/30/96-97	270,071	3,349,690	3,544,204	3,545,557	3,544,000	3,545,000	194,310	195,310	1.312	1.313
6/30/97-98	245,367	3,363,682	3,592,911	3,591,420	3,591,000	3,609,000	227,318	245,318	1.464	1.471
6/30/98-99	251,453	3,044,791	3,259,027	3,261,091	3,259,000	3,274,000	214,209	229,209	1.296	1.302
6/30/99-00	255,641	3,118,618	3,383,284	3,383,369	3,383,000	3,400,000	264,382	281,382	1.323	1.330
6/30/00-01	263,918	4,575,526	5,017,868	5,005,546	5,005,000	5,046,000	429,474	470,474	1.896	1.912
6/30/01-02	267,598	3,090,695	3,418,339	3,421,236	3,418,000	3,440,000	327,305	349,305	1.277	1.286
6/30/02-03	274,465	3,803,810	4,274,631	4,268,984	4,268,000	4,294,000	464,190	490,190	1.555	1.564
6/30/03-04	272,384	3,918,932	4,464,377	4,455,244	4,454,000	4,484,000	535,068	565,068	1.635	1.646
6/30/04-05	273,647	3,705,474	4,235,136	4,207,441	4,151,000	4,237,000	445,526	531,526	1.517	1.548
6/30/05-06	285,139	3,743,568	4,349,757	4,330,620	4,271,000	4,350,000	527,432	606,432	1.498	1.526
6/30/06-07	298,516	3,773,504	4,601,353	4,598,969	4,535,000	4,604,000	761,496	830,496	1.519	1.542
6/30/07-08	314,231	2,395,979	3,167,670	3,484,216	3,115,000	3,484,000	719,021	1,088,021	0.991	1.109
6/30/08-09	302,998	3,189,661	4,170,273	4,317,387	4,040,000	4,383,000	850,339	1,193,339	1.333	1.447
6/30/09-10	297,252	4,061,977	5,532,947	5,374,918	5,244,000	5,603,000	1,182,024	1,541,024	1.764	1.885
6/30/10-11	292,432	3,058,209	4,580,674	4,616,752	4,462,000	4,678,000	1,403,791	1,619,791	1.526	1.600
6/30/11-12	295,908	3,013,600	5,216,389	5,112,894	4,980,000	5,286,000	1,966,400	2,272,400	1.683	1.786
6/30/12-13	301,541	2,200,732	4,965,785	5,034,305	4,826,000	5,104,000	2,625,268	2,903,268	1.600	1.693
6/30/13-14	309,910	1,037,296	4,895,553	5,157,505	4,766,000	5,229,000	3,728,704	4,191,704	1.538	1.687
Total	8,063,095	235,717,516	241,004,998	223,172,391	262,924,843	270,087,004	27,207,327	34,369,488		
Tot 6/30/84-14	8,063,095	199,303,539	224,313,508	223,172,391	219,720,501	223,948,127	20,416,962	24,644,588	2.725	2.777

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, 2014

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		20,547,062			24,143,900	25,480,696	3,596,838	4,933,634		
6/30/82-83		2,760,526	2,817,468		2,790,689	2,885,811	30,163	125,285		
6/30/83-84		2,864,047	3,055,464		2,984,373	3,128,674	120,326	264,628		
6/30/84-85	142,561	4,671,795	5,211,863	4,799,838	4,800,000	5,212,000	128,205	540,205	3.367	3.656
6/30/85-86	153,298	4,891,866	5,110,682	5,102,602	4,942,000	5,111,000	50,134	219,134	3.224	3.334
6/30/86-87	176,136	6,911,248	7,265,490	7,277,006	6,985,000	7,277,000	73,752	365,752	3.966	4.131
6/30/87-88	206,319	13,284,893	14,062,774	13,990,638	14,031,069	14,063,000	746,176	778,107	6.801	6.816
6/30/88-89	222,806	14,210,383	15,137,176	15,072,870	15,111,315	15,137,000	900,931	926,617	6.782	6.794
6/30/89-90	223,751	13,518,110	14,497,941	14,444,634	14,431,000	14,505,000	912,890	986,890	6.450	6.483
6/30/90-91	210,162	9,551,159	10,269,664	10,258,498	9,758,000	9,836,472	206,841	285,313	4.643	4.680
6/30/91-92	205,241	5,520,691	5,946,039	5,941,699	5,589,000	5,710,000	68,309	189,309	2.723	2.782
6/30/92-93	176,705	4,651,088	5,054,164	5,044,574	5,045,000	5,055,000	393,912	403,912	2.855	2.861
6/30/93-94	173,075	3,074,901	3,394,714	3,387,412	3,388,000	3,395,000	313,099	320,099	1.958	1.962
6/30/94-95	178,317	3,662,386	4,060,372	4,048,951	4,049,000	4,061,000	386,614	398,614	2.271	2.277
6/30/95-96	175,996	2,725,742	3,004,255	3,001,536	2,804,000	3,091,000	78,258	365,258	1.593	1.756
6/30/96-97	190,083	2,105,462	2,323,041	2,327,098	2,323,000	2,327,000	217,538	221,538	1.222	1.224
6/30/97-98	177,278	3,418,425	3,841,639	3,830,592	3,830,000	3,843,000	411,575	424,575	2.160	2.168
6/30/98-99	189,080	2,357,864	2,641,535	2,644,257	2,641,000	2,644,000	283,136	286,136	1.397	1.398
6/30/99-00	194,494	2,915,507	3,278,390	3,276,927	3,276,000	3,279,000	360,493	363,493	1.684	1.686
6/30/00-01	201,568	4,053,774	4,609,053	4,592,799	4,576,580	4,609,000	522,806	555,226	2.270	2.287
6/30/01-02	203,105	3,222,835	3,708,591	3,702,550	3,701,000	3,710,000	478,165	487,165	1.822	1.827
6/30/02-03	202,515	2,500,679	2,857,126	2,866,658	2,857,000	2,867,000	356,321	366,321	1.411	1.416
6/30/03-04	189,588	4,518,833	5,312,845	5,283,055	5,283,000	5,313,000	764,167	794,167	2.787	2.802
6/30/04-05	186,990	3,620,598	4,339,018	4,193,634	4,193,000	4,340,000	572,402	719,402	2.242	2.321
6/30/05-06	193,254	2,652,565	3,209,986	3,296,093	3,207,000	3,299,000	554,435	646,435	1.659	1.707
6/30/06-07	203,359	2,891,120	3,627,890	3,652,849	3,626,000	3,655,000	734,880	763,880	1.783	1.797
6/30/07-08	212,083	2,239,529	2,895,538	3,138,765	2,790,800	3,024,500	551,271	784,971	1.316	1.426
6/30/08-09	204,679	2,467,337	3,336,558	3,472,773	3,337,000	3,472,000	869,663	1,004,663	1.630	1.696
6/30/09-10	184,688	1,717,459	2,415,612	2,725,311	2,535,000	2,725,000	817,541	1,007,541	1.373	1.475
6/30/10-11	169,689	2,440,446	3,750,628	3,628,564	3,628,000	3,890,000	1,187,554	1,449,554	2.138	2.292
6/30/11-12	177,399	1,985,216	3,516,032	3,562,556	3,508,000	3,706,000	1,522,784	1,720,784	1.977	2.089
6/30/12-13	189,252	1,820,243	4,060,982	4,093,681	4,035,000	4,279,000	2,214,757	2,458,757	2.132	2.261
6/30/13-14	199,876	955,554	4,250,173	4,335,837	4,151,000	4,606,000	3,195,446	3,650,446	2.077	2.304
Total	5,713,348	160,729,343	162,862,703	156,994,256	184,350,726	189,537,154	23,621,384	28,807,811		
Tot 6/30/84-14	5,713,348	134,557,708	156,989,770	156,994,256	154,431,764	158,041,972	19,874,056	23,484,264	2.703	2.766

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, 2014

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		4,622,912			5,911,287	7,225,339	1,288,375	2,602,427		
6/30/82-83		2,912,565	2,984,910		2,953,088	2,988,774	40,523	76,209		
6/30/83-84		2,135,674	2,191,168		2,138,114	2,206,321	2,440	70,647		
6/30/84-85	115,258	4,405,599	4,916,173	4,497,831	4,493,081	4,709,000	87,482	303,401	3.898	4.086
6/30/85-86	123,937	6,962,840	7,179,203	7,142,040	7,027,654	7,162,000	64,814	199,160	5.670	5.779
6/30/86-87	142,396	4,532,327	4,685,381	4,694,031	4,685,000	4,694,000	152,673	161,673	3.290	3.296
6/30/87-88	166,792	7,243,775	7,508,642	7,532,696	7,509,000	7,532,000	265,225	288,225	4.502	4.516
6/30/88-89	180,117	8,490,135	9,532,728	8,800,976	8,801,000	9,532,000	310,865	1,041,865	4.886	5.292
6/30/89-90	180,883	11,078,111	11,608,149	11,601,086	11,601,000	11,608,000	522,889	529,889	6.414	6.417
6/30/90-91	169,902	12,195,908	15,665,590	13,024,456	13,025,000	15,535,260	829,092	3,339,352	7.666	9.144
6/30/91-92	165,926	6,257,059	6,663,527	6,662,036	6,662,000	6,663,000	404,941	405,941	4.015	4.016
6/30/92-93	174,198	4,515,302	4,841,907	4,843,230	4,841,000	4,844,000	325,698	328,698	2.779	2.781
6/30/93-94	185,946	6,454,640	7,052,847	7,048,259	7,048,000	7,053,000	593,360	598,360	3.790	3.793
6/30/94-95	194,051	7,479,014	8,332,608	8,319,312	8,319,000	8,333,000	839,986	853,986	4.287	4.294
6/30/95-96	205,262	6,726,632	7,577,418	7,566,987	7,567,000	7,577,000	840,368	850,368	3.687	3.691
6/30/96-97	234,073	7,769,066	8,803,931	8,790,032	8,790,000	8,804,000	1,020,934	1,034,934	3.755	3.761
6/30/97-98	221,865	10,112,088	11,604,591	11,551,942	11,552,000	11,605,000	1,439,912	1,492,912	5.207	5.231
6/30/98-99	256,071	9,431,959	11,006,195	10,959,777	10,959,000	11,007,000	1,527,041	1,575,041	4.280	4.298
6/30/99-00	268,486	10,220,201	12,074,895	12,011,387	11,556,877	12,075,000	1,336,676	1,854,799	4.304	4.497
6/30/00-01	279,182	13,444,894	16,090,432	15,966,533	15,387,632	16,042,000	1,942,738	2,597,106	5.512	5.746
6/30/01-02	283,070	10,814,489	13,125,239	13,048,871	13,049,000	13,126,000	2,234,511	2,311,511	4.610	4.637
6/30/02-03	289,846	10,943,129	13,432,606	13,352,879	12,717,045	13,433,000	1,773,916	2,489,871	4.388	4.635
6/30/03-04	293,771	9,893,537	12,277,636	12,220,210	11,631,954	12,277,000	1,738,418	2,383,463	3.960	4.179
6/30/04-05	291,382	10,792,367	13,597,307	12,703,682	12,704,000	13,597,000	1,911,633	2,804,633	4.360	4.666
6/30/05-06	294,709	7,916,054	10,123,999	9,970,216	9,970,000	10,124,000	2,053,946	2,207,946	3.383	3.435
6/30/06-07	289,603	6,373,069	8,339,883	8,575,856	8,454,000	8,576,000	2,080,931	2,202,931	2.919	2.961
6/30/07-08	354,668	6,163,435	8,313,634	9,133,864	8,642,000	9,134,000	2,478,565	2,970,565	2.437	2.575
6/30/08-09	332,413	5,250,017	7,398,475	8,398,469	7,728,000	8,708,000	2,477,983	3,457,983	2.325	2.620
6/30/09-10	336,338	3,157,565	4,689,081	6,747,577	5,556,000	6,997,000	2,398,435	3,839,435	1.652	2.080
6/30/10-11	333,783	4,174,829	6,735,871	8,355,871	7,281,000	8,773,950	3,106,171	4,599,121	2.181	2.629
6/30/11-12	348,187	2,539,995	4,816,144	7,909,667	6,107,000	8,305,550	3,567,005	5,765,555	1.754	2.385
6/30/12-13	368,022	2,093,806	5,293,121	9,442,110	7,060,000	9,914,250	4,966,194	7,820,444	1.918	2.694
6/30/13-14	390,528	1,123,358	6,524,793	11,912,478	8,754,000	12,507,650	7,630,642	11,384,292	2.242	3.203
Total	7,470,666	228,226,351	274,988,084	282,784,364	280,480,732	302,669,093	52,254,381	74,442,742		
Tot 6/30/84-14	7,470,666	218,555,201	269,812,007	282,784,364	269,478,244	290,248,660	50,923,043	71,693,459	3.607	3.885

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, 2014

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		2,276,026			2,686,222	2,811,919	410,197	535,894		
6/30/82-83		225,530	228,211		229,124	232,467	3,594	6,937		
6/30/83-84		220,938	223,816		224,907	230,087	3,969	9,149		
6/30/84-85	176,924	1,964,862	2,371,834	1,991,245	1,990,943	2,373,192	26,081	408,330	1.125	1.341
6/30/85-86	188,662	1,676,445	2,275,724	1,696,419	1,696,741	1,986,662	20,296	310,217	0.899	1.053
6/30/86-87	212,277	2,548,695	3,437,395	2,579,376	2,580,000	3,438,000	31,305	889,305	1.215	1.620
6/30/87-88	243,118	2,357,500	2,393,945	2,391,757	2,392,000	2,394,000	34,500	36,500	0.984	0.985
6/30/88-89	248,990	2,165,965	2,199,344	2,199,148	2,199,000	2,200,000	33,035	34,035	0.883	0.884
6/30/89-90	250,404	679,355	689,105	693,397	688,890	694,463	9,535	15,108	0.275	0.277
6/30/90-91	235,170	2,814,782	2,867,107	2,866,662	2,867,000	2,867,000	52,218	52,218	1.219	1.219
6/30/91-92	235,607	2,983,021	3,285,987	3,066,133	3,066,000	3,286,000	82,979	302,979	1.301	1.395
6/30/92-93	241,161	712,440	733,077	732,919	719,696	740,317	7,256	27,877	0.298	0.307
6/30/93-94	254,321	1,208,735	1,389,720	1,271,919	1,226,000	1,255,000	17,265	46,265	0.482	0.493
6/30/94-95	256,665	1,067,175	1,137,979	1,135,949	1,078,423	1,111,476	11,248	44,301	0.420	0.433
6/30/95-96	265,739	835,707	901,381	899,752	844,425	870,865	8,718	35,158	0.318	0.328
6/30/96-97	296,336	700,495	775,521	773,883	707,847	730,726	7,352	30,232	0.239	0.247
6/30/97-98	296,982	651,847	713,780	713,754	665,000	683,000	13,153	31,153	0.224	0.230
6/30/98-99	299,530	893,726	997,042	994,284	994,000	997,000	100,274	103,274	0.332	0.333
6/30/99-00	323,627	1,577,004	1,827,431	1,811,631	1,812,000	1,827,000	234,996	249,996	0.560	0.565
6/30/00-01	338,348	1,727,912	2,045,720	2,025,288	2,025,000	2,045,000	297,088	317,088	0.598	0.604
6/30/01-02	329,555	1,233,690	1,434,161	1,427,024	1,427,000	1,434,000	193,310	200,310	0.433	0.435
6/30/02-03	329,179	1,167,797	1,387,406	1,379,946	1,379,000	1,388,000	211,203	220,203	0.419	0.422
6/30/03-04	344,547	414,340	501,741	509,435	502,000	510,000	87,660	95,660	0.146	0.148
6/30/04-05	325,530	912,330	1,118,428	1,091,209	1,091,000	1,118,000	178,670	205,670	0.335	0.343
6/30/05-06	403,750	640,143	790,494	879,552	790,000	880,000	149,857	239,857	0.196	0.218
6/30/06-07	420,219	651,110	822,620	923,792	822,000	924,000	170,890	272,890	0.196	0.220
6/30/07-08	425,998	792,586	1,005,993	1,087,995	1,000,000	1,094,000	207,414	301,414	0.235	0.257
6/30/08-09	420,566	1,391,829	1,850,438	1,751,310	1,751,000	1,851,000	359,171	459,171	0.416	0.440
6/30/09-10	433,206	809,961	1,147,567	1,251,525	1,148,000	1,252,000	338,039	442,039	0.265	0.289
6/30/10-11	444,673	934,668	1,501,616	1,479,681	1,470,000	1,511,000	535,332	576,332	0.331	0.340
6/30/11-12	467,753	1,009,160	1,895,279	1,806,627	1,807,000	1,895,000	797,840	885,840	0.386	0.405
6/30/12-13	495,398	734,132	1,902,725	1,845,435	1,805,000	1,944,000	1,070,868	1,209,868	0.364	0.392
6/30/13-14	518,391	291,204	1,538,835	1,866,253	1,539,000	1,867,000	1,247,796	1,575,796	0.297	0.360
Total	9,722,626	40,271,109	47,391,422	45,143,299	47,224,217	50,442,176	6,953,108	10,171,067		
Tot 6/30/84-14	9,722,626	37,548,615	46,939,395	45,143,299	44,083,964	47,167,702	6,535,348	9,619,086	0.453	0.485

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, 2014

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	328,769		327,672	335,649	106	8,083		
6/30/83-84		1,494,800	1,500,110		1,523,932	1,553,573	29,132	58,773		
6/30/84-85	116,303	1,015,470	1,019,397	1,020,862	1,033,339	1,052,834	17,869	37,364	0.888	0.905
6/30/85-86	123,981	2,733,296	2,744,086	2,746,543	2,744,432	2,750,662	11,136	17,367	2.214	2.219
6/30/86-87	139,388	3,777,375	4,412,078	3,794,329	3,794,000	4,103,826	16,625	326,451	2.722	2.944
6/30/87-88	159,499	3,373,806	3,654,791	3,390,462	3,391,000	3,522,824	17,194	149,018	2.126	2.209
6/30/88-89	180,644	3,112,432	3,127,585	3,133,288	3,167,349	3,268,054	54,917	155,622	1.753	1.809
6/30/89-90	142,494	3,797,545	3,816,509	3,823,878	3,865,186	3,987,422	67,641	189,877	2.713	2.798
6/30/90-91	143,694	1,403,520	1,414,215	1,414,142	1,427,065	1,473,696	23,545	70,176	0.993	1.026
6/30/91-92	155,170	2,187,492	2,210,349	2,209,999	2,221,204	2,296,867	33,712	109,375	1.431	1.480
6/30/92-93	163,283	1,033,363	1,047,756	1,047,534	1,048,102	1,085,031	14,739	51,668	0.642	0.665
6/30/93-94	177,184	2,529,907	2,582,298	2,580,601	2,581,000	2,583,000	51,093	53,093	1.457	1.458
6/30/94-95	188,391	938,827	953,318	953,279	953,000	953,000	14,173	14,173	0.506	0.506
6/30/95-96	201,751	874,675	891,145	891,240	886,424	913,492	11,749	38,817	0.439	0.453
6/30/96-97	231,872	618,782	627,757	628,867	628,838	647,186	10,056	28,404	0.271	0.279
6/30/97-98	232,237	1,016,412	1,051,156	1,050,484	1,030,642	1,065,256	14,230	48,844	0.444	0.459
6/30/98-99	232,075	940,822	965,814	966,145	966,000	966,000	25,178	25,178	0.416	0.416
6/30/99-00	211,819	872,750	913,235	912,017	912,000	913,000	39,250	40,250	0.431	0.431
6/30/00-01	215,099	943,388	982,828	982,062	982,000	983,000	38,612	39,612	0.457	0.457
6/30/01-02	227,797	556,861	581,957	582,975	582,000	583,000	25,139	26,139	0.255	0.256
6/30/02-03	242,008	1,128,784	1,209,658	1,206,057	1,206,000	1,209,000	77,216	80,216	0.498	0.500
6/30/03-04	276,758	1,259,376	1,345,450	1,343,284	1,343,000	1,360,650	83,624	101,274	0.485	0.492
6/30/04-05	260,378	366,732	395,114	433,574	395,000	443,050	28,268	76,318	0.152	0.170
6/30/05-06	317,741	1,132,774	1,245,990	1,239,544	1,240,000	1,265,300	107,226	132,526	0.390	0.398
6/30/06-07	325,922	605,124	686,833	740,351	687,000	754,750	81,876	149,626	0.211	0.232
6/30/07-08	354,130	1,677,582	1,905,694	1,858,188	1,858,000	1,935,550	180,418	257,968	0.525	0.547
6/30/08-09	362,309	809,621	959,777	999,418	954,000	1,024,550	144,379	214,929	0.263	0.283
6/30/09-10	383,298	780,310	963,534	1,020,729	964,000	1,038,350	183,690	258,040	0.252	0.271
6/30/10-11	394,924	913,520	1,250,381	1,258,001	1,248,000	1,280,300	334,480	366,780	0.316	0.324
6/30/11-12	381,943	763,082	1,191,419	1,229,120	1,192,000	1,246,150	428,918	483,068	0.312	0.326
6/30/12-13	384,763	500,697	1,021,996	1,172,339	1,022,000	1,189,850	521,303	689,153	0.266	0.309
6/30/13-14	364,582	185,643	761,074	1,078,878	761,000	1,095,850	575,357	910,207	0.209	0.301
Total	7,291,438	45,128,146	47,762,071	45,708,190	48,390,996	50,336,533	3,262,850	5,208,387		
Tot 6/30/84-14	7,291,438	41,849,968	45,933,192	45,708,190	45,083,580	46,991,499	3,233,612	5,141,531	0.618	0.644

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, 2014

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		3,358,281			3,564,096	3,709,659	205,815	351,378		
6/30/82-83		796,317	797,695		811,448	826,578	15,131	30,261		
6/30/83-84		945,504	947,040		963,997	982,491	18,493	36,987		
6/30/84-85	357,749	1,604,929	1,607,630	1,608,998	1,635,334	1,665,739	30,405	60,810	0.457	0.466
6/30/85-86	380,112	2,253,254	2,257,328	2,258,715	2,258,269	2,261,190	5,015	7,936	0.594	0.595
6/30/86-87	423,770	2,897,119	3,159,109	2,905,387	2,906,246	3,161,437	9,128	264,318	0.686	0.746
6/30/87-88	480,405	4,910,399	5,724,483	4,927,402	4,996,807	5,125,860	86,408	215,461	1.040	1.067
6/30/88-89	495,261	1,941,224	1,948,737	1,952,848	1,972,514	2,018,971	31,290	77,746	0.398	0.408
6/30/89-90	502,691	4,354,931	4,375,525	4,375,072	4,432,624	4,547,848	77,693	192,917	0.882	0.905
6/30/90-91	482,143	1,866,079	1,882,718	1,882,694	1,883,000	1,883,000	16,921	16,921	0.391	0.391
6/30/91-92	492,539	2,171,684	2,649,837	2,195,001	2,258,779	2,422,755	87,095	251,070	0.459	0.492
6/30/92-93	524,541	1,653,844	1,671,378	1,671,298	1,679,326	1,716,282	25,482	62,438	0.320	0.327
6/30/93-94	584,853	1,714,574	2,121,152	1,740,053	1,740,000	2,121,000	25,426	406,426	0.298	0.363
6/30/94-95	587,701	2,145,256	2,188,224	2,187,837	2,188,000	2,188,000	42,744	42,744	0.372	0.372
6/30/95-96	614,868	1,850,889	1,901,517	1,901,412	1,879,180	1,920,160	28,290	69,271	0.306	0.312
6/30/96-97	700,686	1,895,003	1,969,176	1,969,372	1,969,000	1,969,000	73,997	73,997	0.281	0.281
6/30/97-98	684,415	2,480,941	2,632,904	2,628,963	2,628,000	2,634,000	147,059	153,059	0.384	0.385
6/30/98-99	707,796	1,707,097	1,853,414	1,853,742	1,853,000	1,928,000	145,903	220,903	0.262	0.272
6/30/99-00	760,477	1,668,934	1,826,775	1,831,541	1,827,000	1,832,000	158,066	163,066	0.240	0.241
6/30/00-01	811,600	2,146,484	2,424,396	2,423,585	2,423,000	2,425,000	276,516	278,516	0.299	0.299
6/30/01-02	835,038	2,832,878	3,273,348	3,262,544	3,261,000	3,274,000	428,122	441,122	0.391	0.392
6/30/02-03	825,340	1,813,009	2,139,010	2,143,870	2,139,000	2,144,000	325,991	330,991	0.259	0.260
6/30/03-04	849,216	2,177,552	2,586,356	2,588,511	2,586,000	2,679,000	408,448	501,448	0.305	0.315
6/30/04-05	992,508	1,681,625	2,028,486	2,234,713	2,029,000	2,235,000	347,375	553,375	0.204	0.225
6/30/05-06	962,878	2,085,100	2,606,280	2,697,002	2,606,000	2,787,000	520,900	701,900	0.271	0.289
6/30/06-07	1,032,930	1,617,149	2,054,967	2,350,173	2,055,000	2,350,000	437,851	732,851	0.199	0.228
6/30/07-08	1,063,597	3,023,214	3,991,356	3,939,031	3,940,000	3,991,000	916,786	967,786	0.370	0.375
6/30/08-09	1,073,805	2,353,089	3,311,364	3,390,866	3,308,000	3,394,000	954,911	1,040,911	0.308	0.316
6/30/09-10	1,084,749	3,280,210	4,962,525	4,612,081	4,612,000	4,963,000	1,331,790	1,682,790	0.425	0.458
6/30/10-11	1,134,164	2,929,033	4,744,942	4,576,410	4,576,000	4,745,000	1,646,967	1,815,967	0.403	0.418
6/30/11-12	1,202,674	2,117,635	4,254,181	4,135,305	4,110,000	4,280,000	1,992,365	2,162,365	0.342	0.356
6/30/12-13	1,284,741	1,340,531	3,772,829	4,315,064	3,773,000	4,266,000	2,432,469	2,925,469	0.294	0.332
6/30/13-14	1,346,902	933,801	5,443,362	5,216,590	5,217,000	5,443,000	4,283,199	4,509,199	0.387	0.404
Total	23,280,147	72,547,570	89,108,040	85,776,080	90,081,619	93,889,970	17,534,049	21,342,401		
Tot 6/30/84-14	23,280,147	67,447,468	87,363,305	85,776,080	84,742,078	88,371,242	17,294,611	20,923,774	0.364	0.380

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, 2014

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		46,746,128			52,974,896	57,562,051	6,228,768	10,815,923		
6/30/82-83		6,124,321	6,566,003		6,408,566	6,878,751	284,245	754,430		
6/30/83-84		8,756,867	9,425,470		9,196,298	9,864,565	439,430	1,107,698		
6/30/84-85	732,729	17,772,709	19,324,517	18,373,482	18,373,000	19,325,000	600,291	1,552,291	2.507	2.637
6/30/85-86	787,208	21,516,914	23,148,752	22,402,500	22,383,660	23,149,000	866,746	1,632,086	2.843	2.941
6/30/86-87	902,483	21,808,566	23,689,083	22,926,916	22,926,000	23,689,000	1,117,434	1,880,434	2.540	2.625
6/30/87-88	1,366,586	30,622,156	32,779,655	32,737,441	32,733,000	33,521,000	2,110,844	2,898,844	2.395	2.453
6/30/88-89	1,486,478	28,766,376	31,066,808	30,760,499	30,757,000	31,755,000	1,990,624	2,988,624	2.069	2.136
6/30/89-90	1,494,463	27,614,603	30,189,560	30,135,589	30,130,000	30,850,000	2,515,397	3,235,397	2.016	2.064
6/30/90-91	1,405,560	24,326,265	26,938,485	26,918,973	26,882,520	27,521,000	2,556,255	3,194,735	1.913	1.958
6/30/91-92	1,364,510	15,417,905	17,299,573	17,275,534	17,275,000	18,018,000	1,857,095	2,600,095	1.266	1.320
6/30/92-93	1,347,359	11,984,792	14,555,233	13,693,492	13,694,000	15,152,000	1,709,208	3,167,208	1.016	1.125
6/30/93-94	1,424,410	13,294,601	15,287,858	15,241,802	15,242,000	15,898,000	1,947,399	2,603,399	1.070	1.116
6/30/94-95	1,497,829	11,847,085	13,789,791	13,743,842	13,744,000	14,347,000	1,896,915	2,499,915	0.918	0.958
6/30/95-96	1,582,635	11,640,231	13,904,035	13,842,703	13,842,000	14,487,000	2,201,769	2,846,769	0.875	0.915
6/30/96-97	1,979,748	12,767,490	15,332,725	15,278,045	15,278,000	15,949,000	2,510,510	3,181,510	0.772	0.806
6/30/97-98	1,917,994	10,701,018	12,936,209	12,916,936	12,910,000	13,479,000	2,208,982	2,777,982	0.673	0.703
6/30/98-99	2,081,524	11,382,724	14,020,446	13,999,459	13,995,000	14,584,000	2,612,276	3,201,276	0.672	0.701
6/30/99-00	2,207,243	13,150,230	16,639,914	16,577,127	16,573,000	17,308,000	3,422,770	4,157,770	0.751	0.784
6/30/00-01	2,201,008	12,447,545	16,133,285	16,089,306	16,083,000	16,782,000	3,635,455	4,334,455	0.731	0.762
6/30/01-02	2,292,592	12,888,467	17,028,166	17,000,088	16,986,000	17,734,000	4,097,533	4,845,533	0.741	0.774
6/30/02-03	2,260,534	12,824,721	17,344,838	17,317,538	17,308,000	18,039,000	4,483,279	5,214,279	0.766	0.798
6/30/03-04	2,255,942	11,835,761	16,415,478	16,433,531	16,416,000	17,066,000	4,580,239	5,230,239	0.728	0.756
6/30/04-05	2,309,083	14,519,592	20,351,266	19,984,482	19,452,000	20,352,000	4,932,408	5,832,408	0.842	0.881
6/30/05-06	2,480,693	12,914,370	18,632,194	19,387,447	18,159,000	19,387,000	5,244,630	6,472,630	0.732	0.782
6/30/06-07	2,612,577	13,363,145	19,793,116	20,874,885	18,867,000	21,201,000	5,503,855	7,837,855	0.722	0.811
6/30/07-08	2,783,717	15,951,107	25,052,880	25,183,497	23,493,000	25,184,000	7,541,893	9,232,893	0.844	0.905
6/30/08-09	2,750,907	16,164,118	27,088,225	26,683,528	25,832,600	27,112,148	9,668,482	10,948,030	0.939	0.986
6/30/09-10	2,806,048	15,415,856	28,016,228	27,947,837	26,148,250	28,109,875	10,732,394	12,694,019	0.932	1.002
6/30/10-11	2,942,638	15,642,675	32,171,785	31,211,289	30,256,010	32,196,189	14,613,335	16,553,514	1.028	1.094
6/30/11-12	3,006,849	13,753,651	33,895,785	32,420,241	31,830,170	33,922,719	18,076,519	20,169,068	1.059	1.128
6/30/12-13	3,138,905	9,446,267	32,147,688	33,146,034	30,561,350	33,268,962	21,115,083	23,822,695	0.974	1.060
6/30/13-14	3,311,947	4,833,640	37,528,433	37,189,128	35,374,700	37,670,304	30,541,060	32,836,664	1.068	1.137
Total	60,732,197	528,241,895	678,493,483	657,693,168	712,085,020	751,362,565	183,843,125	223,120,670		
Tot 6/30/84-14	60,732,197	466,614,578	662,502,010	657,693,168	643,505,260	677,057,197	176,890,682	210,442,619	1.060	1.115

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, 2014

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	100,901,826	1.213	122,443,770
6/30/82-83	18,107,361	1.065	19,287,830
6/30/83-84	25,975,665	1.107	28,763,828
6/30/84-85	39,010,236	1.052	41,020,355
6/30/85-86	51,908,876	1.040	53,987,635
6/30/86-87	57,852,189	1.052	60,858,254
6/30/87-88	83,646,810	1.058	88,527,530
6/30/88-89	82,538,704	1.062	87,693,101
6/30/89-90	79,716,346	1.062	84,624,472
6/30/90-91	65,924,861	1.084	71,453,701
6/30/91-92	44,662,572	1.081	48,280,072
6/30/92-93	30,496,199	1.110	33,851,387
6/30/93-94	33,043,763	1.109	36,645,485
6/30/94-95	30,149,433	1.122	33,820,175
6/30/95-96	28,692,189	1.136	32,607,773
6/30/96-97	29,205,986	1.151	33,606,298
6/30/97-98	31,744,415	1.152	36,562,449
6/30/98-99	29,758,983	1.177	35,033,500
6/30/99-00	33,523,243	1.193	39,986,938
6/30/00-01	39,339,522	1.200	47,207,106
6/30/01-02	34,639,916	1.237	42,862,500
6/30/02-03	34,181,928	1.247	42,624,023
6/30/03-04	34,018,330	1.263	42,952,802
6/30/04-05	35,598,717	1.269	45,168,525
6/30/05-06	31,084,574	1.324	41,167,650
6/30/06-07	29,274,222	1.385	40,555,375
6/30/07-08	32,243,433	1.437	46,342,925
6/30/08-09	31,625,671	1.532	48,447,649
6/30/09-10	29,223,338	1.658	48,447,738
6/30/10-11	30,093,380	1.828	54,997,725
6/30/11-12	25,182,339	2.227	56,087,795
6/30/12-13	18,136,407	3.117	56,524,206
6/30/13-14	9,360,495	6.890	64,490,752
Total	1,310,861,930		1,666,931,323

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, 2014

Massachusetts Colleges & Universities - Cluster 4

Allocation Methodology

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	5 Year Average	Initial Loss Costs		Expected Losses				5 Year Average	Credibility Weighted	Distribution of Total	CURRENT Reserve Estimate		PRIOR Reserve Estimate	
Cluster	Payroll	Indemnity	Medical	Indemnity	Medical	Total	Credibility	Ult Loss	Ult Loss	Losses	Low End	High End	Low End	High End
Berkshire Community College	13,187,402	0.22	0.10	29,012	13,187	42,200	20.9%	55,150	44,903	1.1%	190,535	231,919	172,293	211,793
Bridgewater State College	78,050,144	0.22	0.10	171,710	78,050	249,760	79.6%	297,795	287,997	7.0%	1,222,059	1,487,487	1,092,009	1,342,365
Bristol Community College	35,626,499	0.22	0.10	78,378	35,626	114,005	41.6%	59,309	91,248	2.2%	387,192	471,289	363,825	447,236
Bunker Hill Community College	41,967,258	0.22	0.10	92,328	41,967	134,295	67.7%	84,394	100,500	2.4%	426,451	519,075	433,480	532,860
Cape Cod Community College	17,781,330	0.22	0.10	39,119	17,781	56,900	26.2%	101,015	68,473	1.7%	290,552	353,659	253,297	311,368
Fitchburg State College	36,465,940	0.22	0.10	80,225	36,466	116,691	64.6%	190,667	164,465	4.0%	697,874	849,451	744,531	915,224
Framingham State College	37,392,459	0.22	0.10	82,263	37,392	119,656	65.2%	143,080	134,917	3.3%	572,494	696,838	507,423	623,756
Greenfield Community College	14,019,017	0.22	0.10	30,842	14,019	44,861	21.9%	26,714	40,887	1.0%	173,496	211,179	121,600	149,478
Holyoke Community College	31,627,728	0.22	0.10	69,581	31,628	101,209	61.3%	52,857	71,588	1.7%	303,770	369,748	321,498	395,205
Mass Bay Community College	22,389,409	0.22	0.10	49,257	22,389	71,646	52.8%	13,884	41,137	1.0%	174,556	212,470	157,332	193,402
Mass College of Art	28,130,695	0.22	0.10	61,888	28,131	90,018	36.0%	105,384	95,550	2.3%	405,450	493,513	471,055	579,050
Mass Maritime Academy	18,718,730	0.22	0.10	41,181	18,719	59,900	27.2%	126,328	77,995	1.9%	330,956	402,838	682,698	839,214
Massachusetts College of Liberal Arts	19,990,922	0.22	0.10	43,980	19,991	63,971	28.6%	56,951	61,966	1.5%	262,941	320,051	264,188	324,756
Massasoit Community College	31,901,366	0.22	0.10	70,183	31,901	102,084	61.5%	180,579	150,331	3.6%	637,901	776,451	657,030	807,661
Middlesex Community College	41,342,433	0.22	0.10	90,953	41,342	132,296	67.4%	87,403	102,040	2.5%	432,985	527,028	363,249	446,528
Mt Wachusett Community College	25,722,505	0.22	0.10	56,590	25,723	82,312	34.0%	141,033	102,259	2.5%	433,917	528,163	398,434	489,780
North Essex Community College	29,412,914	0.22	0.10	64,708	29,413	94,121	59.5%	21,496	50,891	1.2%	215,948	262,852	235,220	289,147
North Shore Community College	33,546,531	0.22	0.10	73,802	33,547	107,349	62.6%	69,739	83,787	2.0%	355,533	432,754	341,936	420,329
Quinsigamond Community College	36,619,370	0.22	0.10	80,563	36,619	117,182	42.3%	168,568	138,906	3.4%	589,420	717,441	438,519	539,055
Roxbury Community College	15,880,608	0.22	0.10	34,937	15,881	50,818	24.1%	120,223	67,548	1.6%	286,627	348,882	241,248	296,556
Salem State College	73,562,259	0.22	0.10	161,837	73,562	235,399	78.6%	241,341	240,071	5.8%	1,018,694	1,239,952	975,859	1,199,585
Springfield Tech Community College	31,200,411	0.22	0.10	68,641	31,200	99,841	60.9%	281,223	210,371	5.1%	892,670	1,086,556	1,028,998	1,264,907
UMass (Boston)	164,823,335	0.22	0.10	362,611	164,823	527,435	89.2%	372,031	388,848	9.4%	1,650,000	2,008,376	1,253,490	1,540,867
UMass (Dartmouth)	101,903,855	0.22	0.10	224,188	101,904	326,092	83.6%	523,605	491,200	11.9%	2,084,313	2,537,020	1,312,865	1,613,854
University of Lowell	144,947,081	0.22	0.10	318,884	144,947	463,831	87.9%	417,640	423,240	10.2%	1,795,938	2,186,011	1,539,688	1,892,679
Westfield State College	45,487,273	0.22	0.10	100,072	45,487	145,559	69.5%	238,409	210,052	5.1%	891,315	1,084,907	856,052	1,052,312
Worcester State College	38,948,591	0.22	0.10	85,687	38,949	124,635	66.1%	225,074	190,998	4.6%	810,461	986,491	512,290	629,739
Total	1,210,646,066			2,663,421	1,210,646			4,401,891	4,132,168		17,534,049	21,342,401	15,740,109	19,348,708

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	2014	2013	2012	2011	2010	Coefficient of Variation
Berkshire Community College	0.027	0.025	1.312	0.640	0.134	1.300
Bridgewater State College	0.409	0.181	0.318	0.565	0.461	0.376
Bristol Community College	0.187	0.045	0.032	0.123	0.484	1.057
Bunker Hill Community College	0.075	0.069	0.152	0.410	0.375	0.762
Cape Cod Community College	0.719	0.277	0.209	1.556	0.080	1.060
Fitchburg State College	0.334	0.446	0.150	0.870	0.879	0.610
Framingham State College	0.028	0.595	0.172	0.509	0.693	0.715
Greenfield Community College	0.641	0.021	0.074	0.016	0.174	1.418
Holyoke Community College	0.265	0.034	0.008	0.345	0.188	0.866
Mass Bay Community College	0.089	0.013	0.111	0.027	0.069	0.665
Mass College of Art	0.181	0.318	0.214	1.095	0.094	1.072
Mass Maritime Academy	0.083	1.214	0.175	0.136	1.923	1.171
Massachusetts College of Liberal Arts	0.226	0.017	0.026	0.005	1.213	1.749
Massasoit Community College	0.110	0.254	0.974	0.721	0.877	0.654
Middlesex Community College	0.222	0.164	0.497	0.155	0.013	0.847
Mt Wachusett Community College	0.068	0.084	0.126	0.893	1.800	1.277
North Essex Community College	0.023	0.123	0.085	0.027	0.110	0.632
North Shore Community College	0.392	0.117	0.109	0.009	0.407	0.875
Quinsigamond Community College	0.603	1.192	0.243	0.071	0.050	1.110
Roxbury Community College	0.162	1.766	0.000	0.018	1.853	1.264
Salem State College	0.076	0.302	0.304	0.889	0.107	0.974
Springfield Tech Community College	0.914	0.198	0.552	1.062	1.853	0.679
UMass (Boston)	0.398	0.074	0.272	0.230	0.132	0.569
UMass (Dartmouth)	0.960	0.310	0.723	0.188	0.349	0.638
University of Lowell	0.377	0.082	0.245	0.435	0.326	0.467
Westfield State College	0.358	0.089	1.167	0.382	0.673	0.768
Worcester State College	1.170	0.763	0.065	0.147	0.616	0.826

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).

Massachusetts Colleges & Universities - Cluster 4

Payroll

Cluster	2014	2013	2012	2011	2010	2009	2008	2007
Berkshire Community College	14,035,091	13,566,121	12,961,874	12,765,728	12,608,194	12,477,038	12,992,058	11,898,851
Bridgewater State College	88,447,650	81,947,985	76,987,472	73,247,587	69,620,026	68,323,197	67,652,873	64,261,538
Bristol Community College	40,293,728	37,759,083	35,468,250	33,155,586	31,455,847	30,708,796	29,632,813	28,018,495
Bunker Hill Community College	49,127,405	45,382,743	41,205,115	38,164,922	35,956,105	34,871,020	34,997,441	33,161,774
Cape Cod Community College	19,227,444	17,989,520	17,381,338	17,148,486	17,159,865	18,672,490	16,912,998	15,950,229
Fitchburg State College	40,308,199	37,998,115	35,976,187	34,204,248	33,842,950	33,451,439	33,452,473	32,301,042
Framingham State College	42,758,657	40,576,899	37,321,481	33,532,654	32,772,606	33,174,219	33,380,388	30,833,277
Greenfield Community College	14,819,125	14,413,590	14,351,088	13,421,721	13,089,560	13,957,686	14,137,583	13,176,176
Holyoke Community College	33,322,195	32,555,311	31,361,111	30,596,223	30,303,801	30,190,866	29,693,264	27,429,195
Mass Bay Community College	24,272,772	23,421,254	22,339,575	21,205,789	20,707,657	20,503,198	19,674,504	19,109,225
Mass College of Art	30,582,891	29,531,509	28,328,979	26,762,645	25,447,450	24,847,648	24,308,780	22,974,607
Mass Maritime Academy	21,228,253	20,061,575	18,578,003	17,378,246	16,347,571	16,574,691	17,178,285	15,082,818
Massachusetts College of Liberal Arts	21,509,329	21,001,880	20,035,251	18,732,309	18,675,839	18,685,437	18,454,686	18,630,165
Massasoit Community College	35,408,559	33,406,357	31,525,419	30,340,130	28,826,366	31,145,834	29,299,579	27,145,154
Middlesex Community College	45,414,002	43,177,441	40,195,957	39,162,007	38,762,758	44,276,269	46,721,418	40,306,485
Mt Wachusett Community College	28,439,714	26,759,891	25,995,624	24,563,097	22,854,199	22,358,426	22,613,805	21,506,104
North Essex Community College	32,472,002	31,238,577	28,927,197	27,447,993	26,978,801	27,092,760	26,683,224	25,763,800
North Shore Community College	36,047,728	34,642,152	33,319,965	32,328,218	31,394,592	31,025,948	30,519,208	29,162,993
Quinsigamond Community College	41,344,370	39,013,977	36,409,993	34,059,973	32,268,537	30,912,984	29,278,660	27,416,465
Roxbury Community College	16,430,288	16,551,154	15,935,833	15,402,953	15,082,812	14,798,159	14,611,682	13,898,017
Salem State College	81,595,315	77,905,236	72,888,033	69,431,901	65,990,811	66,268,106	65,262,785	61,444,512
Springfield Tech Community College	33,888,963	31,913,074	30,853,455	29,918,442	29,428,123	30,327,286	30,213,259	28,750,170
UMass (Boston)	186,646,267	178,091,389	163,491,368	152,917,036	142,970,614	134,516,405	132,813,241	128,623,720
UMass (Dartmouth)	107,144,202	108,031,901	102,971,786	98,435,825	92,935,564	90,902,061	91,166,561	88,363,987
University of Lowell	167,623,882	158,366,477	144,359,303	131,389,765	122,995,978	119,667,601	121,369,367	119,277,790
Westfield State College	50,355,432	47,718,557	45,096,498	42,505,518	41,760,360	39,918,536	36,827,031	35,142,912
Worcester State College	44,158,114	41,719,450	38,408,159	35,944,721	34,512,511	34,156,985	33,749,525	31,849,376
UMass (Amherst)	518,390,972	495,397,824	467,753,393	444,672,991	433,205,775	420,565,863	425,998,100	420,218,656
UMass (Medical Center)	364,582,039	384,762,790	381,942,827	394,924,203	383,297,750	362,308,924	354,130,286	325,921,625
Total	2,229,874,589	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

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

Massachusetts Colleges & Universities - Cluster 4

Estimated Ultimate Losses

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
			Indemnity					Medical		
Cluster	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
Berkshire Community College	12,862	54,988	140,807	0	0	3,985	26,739	29,214	3,385	3,773
Bridgewater State College	204,365	355,293	192,755	89,351	185,979	116,245	58,374	52,020	59,220	175,373
Bristol Community College	130,992	55	409	4,662	28,515	21,116	40,733	10,776	12,502	46,786
Bunker Hill Community College	101,219	97,477	39,862	15,673	20,923	33,437	59,151	22,728	15,676	15,824
Cape Cod Community College	-3,723	230,339	21,526	30,156	77,763	17,365	36,509	14,870	19,751	60,516
Fitchburg State College	228,316	217,986	23,127	131,985	91,577	69,200	79,562	30,929	37,443	43,207
Framingham State College	163,398	138,534	29,411	205,948	5,127	63,803	32,245	34,629	35,489	6,814
Greenfield Community College	10,489	0	6,293	0	34,026	12,324	2,094	4,373	3,009	60,959
Holyoke Community College	24,694	67,249	1,653	0	46,569	32,296	38,185	907	10,976	41,759
Mass Bay Community College	8,441	0	20,621	1,533	20,153	5,899	5,776	4,154	1,505	1,336
Mass College of Art	12,923	249,487	31,181	46,344	36,357	10,914	43,695	29,375	47,594	19,049
Mass Maritime Academy	290,887	15,110	14,930	231,063	0	23,395	8,567	17,604	12,520	17,564
Massachusetts College of Liberal Arts	194,173	0	0	0	26,908	32,412	856	5,272	3,486	21,650
Massasoit Community College	209,299	149,387	218,030	58,269	24,332	43,639	69,514	89,181	26,584	14,659
Middlesex Community College	0	50,849	109,455	26,639	89,139	5,088	9,694	90,497	44,001	11,650
Mt Wachusett Community College	372,849	199,112	10,543	10,402	0	38,630	20,258	22,105	12,014	19,253
North Essex Community College	14,658	2,199	4,979	26,086	0	15,060	5,173	19,643	12,240	7,443
North Shore Community College	77,526	0	5,363	28,723	123,898	50,180	2,991	30,802	11,950	17,265
Quinsigamond Community College	9,544	13,381	60,449	389,265	192,060	6,598	10,849	27,862	75,654	57,177
Roxbury Community College	262,399	7	0	275,743	25,563	17,023	2,708	0	16,540	1,132
Salem State College	21,136	367,107	170,539	150,494	1,146	49,567	250,024	50,763	84,726	61,203
Springfield Tech Community College	486,720	270,346	125,993	40,990	249,760	58,522	47,346	44,288	22,269	59,879
UMass (Boston)	133,401	254,244	395,412	38,650	622,601	55,569	97,897	48,880	93,344	120,160
UMass (Dartmouth)	240,855	96,600	594,706	227,449	873,983	83,650	88,830	150,261	107,525	154,165
University of Lowell	233,767	503,682	275,009	81,911	435,109	166,980	67,942	79,115	48,070	196,612
Westfield State College	202,638	80,431	341,333	15,769	130,981	78,272	81,769	184,876	26,851	49,123
Worcester State College	137,809	11,576	8,879	259,726	421,924	74,725	41,228	16,215	58,636	94,654
Total	3,781,639	3,425,441	2,843,267	2,386,832	3,764,393	1,185,895	1,228,709	1,111,338	902,960	1,378,985
Age to Ultimate LDF's	1.637	1.812	2.165	3.049	6.804	1.223	1.284	1.382	1.619	3.624

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.

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

Massachusetts Colleges & Universities - Cluster 4

Cumulative Paid Losses as of 6/30/14

	Indemnity					Medical				
Cluster	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
Berkshire Community College	7,858	30,352	65,040	0	0	3,259	20,823	21,143	2,090	1,041
Bridgewater State College	124,856	196,114	89,035	29,307	27,334	95,065	45,459	37,648	36,574	48,394
Bristol Community College	80,030	31	189	1,529	4,191	17,269	31,721	7,799	7,721	12,911
Bunker Hill Community College	61,839	53,805	18,412	5,141	3,075	27,345	46,064	16,449	9,682	4,367
Cape Cod Community College	-2,274	127,143	9,943	9,891	11,429	14,201	28,432	10,762	12,198	16,699
Fitchburg State College	139,490	120,324	10,683	43,290	13,460	56,592	61,960	22,384	23,125	11,923
Framingham State College	99,828	76,468	13,585	67,550	753	52,178	25,111	25,062	21,918	1,880
Greenfield Community College	6,409	0	2,907	0	5,001	10,079	1,631	3,165	1,859	16,821
Holyoke Community College	15,087	37,120	764	0	6,845	26,411	29,737	656	6,779	11,523
Mass Bay Community College	5,157	0	9,525	503	2,962	4,825	4,498	3,007	930	369
Mass College of Art	7,895	137,712	14,403	15,200	5,344	8,925	34,028	21,260	29,394	5,257
Mass Maritime Academy	177,717	8,340	6,896	75,787	0	19,133	6,671	12,741	7,732	4,847
Massachusetts College of Liberal Arts	118,630	0	0	0	3,955	26,507	667	3,815	2,153	5,974
Massasoit Community College	127,871	82,458	100,710	19,112	3,576	35,687	54,135	64,543	16,418	4,045
Middlesex Community College	0	28,068	50,558	8,737	13,101	4,161	7,549	65,496	27,175	3,215
Mt Wachusett Community College	227,792	109,906	4,870	3,412	0	31,592	15,776	15,998	7,420	5,313
North Essex Community College	8,955	1,214	2,300	8,556	0	12,316	4,029	14,216	7,560	2,054
North Shore Community College	47,364	0	2,477	9,421	18,210	41,037	2,329	22,292	7,381	4,764
Quinsigamond Community College	5,831	7,386	27,922	127,676	28,228	5,396	8,449	20,165	46,724	15,778
Roxbury Community College	160,312	4	0	90,442	3,757	13,922	2,109	0	10,215	312
Salem State College	12,913	202,636	78,773	49,361	168	40,536	194,708	36,739	52,327	16,889
Springfield Tech Community College	297,361	149,226	58,197	13,445	36,709	47,859	36,871	32,053	13,754	16,523
UMass (Boston)	81,501	140,338	182,644	12,677	91,507	45,444	76,238	35,376	57,649	33,158
UMass (Dartmouth)	147,150	53,321	274,699	74,602	128,454	68,409	69,177	108,749	66,407	42,541
University of Lowell	142,820	278,022	127,029	26,866	63,950	136,556	52,911	57,258	29,688	54,255
Westfield State College	123,801	44,396	157,664	5,172	19,251	64,011	63,679	133,801	16,583	13,555
Worcester State College	84,194	6,390	4,101	85,188	62,013	61,110	32,107	11,735	36,213	26,120
Total	2,310,389	1,890,774	1,313,326	782,865	553,274	969,822	956,869	804,310	557,666	380,527

Massachusetts Colleges & Universities - Cluster 4

Fiscal Year 2014 Paid Losses

	Indemnity					Medical				
Cluster	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
Berkshire Community College	0	37	37,809	0	0	0	0	3,440	1,094	1,041
Bridgewater State College	32,604	24,141	11,835	0	27,334	2,240	2,757	1,611	10,099	48,394
Bristol Community College	0	0	0	1,529	4,191	0	0	168	1,024	12,911
Bunker Hill Community College	0	0	0	0	3,075	912	124	127	3,274	4,367
Cape Cod Community College	0	32,333	7,269	0	11,429	0	4,140	66	413	16,699
Fitchburg State College	19,343	8,113	0	14,640	13,460	1,401	918	0	14,032	11,923
Framingham State College	29,043	31,393	0	37,069	753	1,174	4,555	324	8,831	1,880
Greenfield Community College	6,409	0	0	0	5,001	6,114	140	0	69	16,821
Holyoke Community College	0	0	0	0	6,845	0	-39	0	962	11,523
Mass Bay Community College	0	0	3,095	0	2,962	0	0	1,054	420	369
Mass College of Art	0	30,816	0	0	5,344	0	12,879	0	18,482	5,257
Mass Maritime Academy	0	0	0	1,028	0	0	0	66	3,163	4,847
Massachusetts College of Liberal Arts	26,065	0	0	0	3,955	3,310	0	0	165	5,974
Massasoit Community College	0	26,630	37,046	10,637	3,576	0	552	44,680	4,544	4,045
Middlesex Community College	0	7,293	30,031	0	13,101	0	2,135	7,123	17,585	3,215
Mt Wachusett Community College	40,000	23,544	0	0	0	1,281	0	0	1,890	5,313
North Essex Community College	0	0	0	0	0	0	0	693	0	2,054
North Shore Community College	0	0	0	0	18,210	0	0	2,144	3,934	4,764
Quinsigamond Community College	0	0	0	86,240	28,228	9	0	0	30,649	15,778
Roxbury Community College	26,372	0	0	63,341	3,757	2,342	0	0	7,774	312
Salem State College	0	61,820	24,095	29,278	168	15,700	4,909	2,301	26,811	16,889
Springfield Tech Community College	38,456	0	20,698	25	36,709	2,888	925	3,102	2,612	16,523
UMass (Boston)	0	0	71,074	179	91,507	0	3,771	8,805	16,331	33,158
UMass (Dartmouth)	0	0	96,765	40,403	128,454	19	1,483	32,161	49,174	42,541
University of Lowell	18,853	-7,225	41,263	11,320	63,950	17,930	4,078	3,767	13,442	54,255
Westfield State College	0	7,503	61,920	249	19,251	292	3,389	13,333	4,071	13,555
Worcester State College	29,587	0	0	54,462	62,013	4,833	167	2,372	25,786	26,120
Total	266,733	246,398	442,900	350,400	553,274	60,444	46,884	127,336	266,630	380,527

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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		94,581,743			110,285,182	118,957,098	15,703,439	24,375,356		
6/30/82-83		16,866,210	17,916,928		17,594,928	18,454,721	728,718	1,588,512		
6/30/83-84		22,723,296	25,287,812		24,810,530	26,079,635	2,087,233	3,356,339		
6/30/84-85	1,823,085	35,809,992	38,904,832	36,754,956	36,727,760	38,798,574	917,768	2,988,582	2.015	2.128
6/30/85-86	1,952,445	46,951,577	49,811,029	48,446,398	48,223,654	49,666,399	1,272,077	2,714,822	2.470	2.544
6/30/86-87	2,220,820	52,106,478	56,595,650	54,136,219	53,686,000	56,303,826	1,579,522	4,197,348	2.417	2.535
6/30/87-88	2,885,583	73,900,009	80,488,989	77,567,105	77,656,876	79,424,184	3,756,866	5,524,175	2.691	2.752
6/30/88-89	3,098,180	70,562,726	75,439,832	74,358,117	74,436,948	76,324,799	3,874,222	5,762,073	2.403	2.464
6/30/89-90	3,079,763	67,152,378	71,601,281	71,589,786	71,095,078	72,235,610	3,942,701	5,083,232	2.308	2.345
6/30/90-91	2,914,364	54,064,278	61,076,051	58,402,289	57,525,859	60,855,646	3,461,582	6,791,368	1.974	2.088
6/30/91-92	2,880,434	34,059,658	37,629,044	36,922,536	36,657,449	37,941,974	2,597,791	3,882,316	1.273	1.317
6/30/92-93	2,887,238	22,669,655	25,955,903	25,085,425	24,896,376	26,477,946	2,226,721	3,808,291	0.862	0.917
6/30/93-94	3,056,850	24,941,945	28,309,088	27,753,550	27,585,000	28,694,000	2,643,055	3,752,055	0.902	0.939
6/30/94-95	3,158,808	23,312,065	26,354,717	26,287,068	26,233,000	26,888,000	2,920,935	3,575,935	0.830	0.851
6/30/95-96	3,301,791	22,143,601	25,433,604	25,358,385	25,092,985	26,105,891	2,949,384	3,962,290	0.760	0.791
6/30/96-97	3,902,868	22,143,649	25,715,062	25,655,525	25,588,838	26,303,286	3,445,189	4,159,636	0.656	0.674
6/30/97-98	3,776,138	25,383,549	29,396,040	29,308,447	29,238,642	29,892,556	3,855,092	4,509,007	0.774	0.792
6/30/98-99	4,017,530	23,191,856	27,429,984	27,364,505	27,360,000	28,066,000	4,168,144	4,874,144	0.681	0.699
6/30/99-00	4,221,786	26,150,570	31,624,420	31,489,907	31,030,877	32,292,000	4,880,306	6,141,430	0.735	0.765
6/30/00-01	4,310,725	30,336,466	37,048,787	36,852,149	36,272,632	37,641,000	5,936,166	7,304,534	0.841	0.873
6/30/01-02	4,438,755	27,430,532	34,233,785	34,099,854	34,097,000	34,930,000	6,666,468	7,499,468	0.768	0.787
6/30/02-03	4,423,888	26,359,561	33,411,780	33,304,172	32,792,045	34,110,000	6,432,484	7,750,439	0.741	0.771
6/30/03-04	4,482,207	25,732,474	32,987,145	32,918,494	32,441,954	33,726,000	6,709,481	7,993,526	0.724	0.752
6/30/04-05	4,639,517	25,680,761	33,855,458	33,109,272	32,894,000	34,072,000	7,213,240	8,391,240	0.709	0.734
6/30/05-06	4,938,165	22,256,024	29,988,595	30,828,776	29,951,000	30,957,000	7,694,976	8,700,976	0.607	0.627
6/30/06-07	5,183,126	19,921,993	27,883,405	29,904,120	27,990,000	29,911,000	8,068,007	9,989,007	0.540	0.577
6/30/07-08	5,508,425	23,444,168	34,834,541	36,029,392	34,017,800	35,977,500	10,573,632	12,533,332	0.618	0.653
6/30/08-09	5,447,676	22,535,003	35,854,294	36,625,178	35,608,600	37,426,148	13,073,597	14,891,145	0.654	0.687
6/30/09-10	5,525,579	21,098,589	36,344,225	37,702,827	35,559,250	38,594,875	14,460,661	17,496,286	0.644	0.698
6/30/10-11	5,712,303	21,384,250	41,758,445	41,879,045	40,990,010	43,513,189	19,605,760	22,128,939	0.718	0.762
6/30/11-12	5,880,714	17,398,656	42,063,024	42,780,186	41,278,170	44,994,719	23,879,514	27,596,063	0.702	0.765
6/30/12-13	6,162,621	12,078,945	40,842,540	45,235,473	41,133,350	45,923,962	29,054,406	33,845,018	0.667	0.745
6/30/13-14	6,442,136	6,429,324	46,520,275	50,979,353	46,780,700	52,088,304	40,351,376	45,658,980	0.726	0.809
Total	122,273,519	1,060,801,979	1,242,596,566	1,198,728,506	1,327,532,493	1,393,627,843	266,730,514	332,825,864		
Tot 6/30/84-14	122,273,519	926,630,731	1,199,391,825	1,198,728,506	1,174,841,854	1,230,136,388	248,211,123	303,505,657	0.961	1.006

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, 2014

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 7/1/12-13	Paid Counts 7/1/13-14	Average Outstanding Claim	Average Age
All Prior Yrs		90,640,061							40	37		80
6/30/82-83		16,094,979	1.065	N/A	17,144,916	772,013	17,916,928		4	4	262,484	81
6/30/83-84		20,930,657	1.122	N/A	23,488,104	1,799,708	25,287,812		4	4	639,362	68
6/30/84-85	1,823,085	33,018,728	1.093	N/A	36,102,859	2,801,973	38,904,832	2.134	8	7	440,590	77
6/30/85-86	1,952,445	43,647,976	1.065	N/A	46,492,132	3,318,897	49,811,029	2.551	4	3	948,052	78
6/30/86-87	2,220,820	46,658,728	1.096	N/A	51,121,652	5,473,999	56,595,650	2.548	10	9	495,880	75
6/30/87-88	2,885,583	65,842,992	1.099	N/A	72,392,411	8,096,578	80,488,989	2.789	17	15	436,628	72
6/30/88-89	3,098,180	60,736,487	1.079	N/A	65,555,324	9,884,508	75,439,832	2.435	19	18	267,713	75
6/30/89-90	3,079,763	57,103,580	1.077	N/A	61,490,968	10,110,313	71,601,281	2.325	15	14	313,385	69
6/30/90-91	2,914,364	45,737,838	1.152	N/A	52,683,446	8,392,605	61,076,051	2.096	14	14	496,115	71
6/30/91-92	2,880,434	28,639,184	1.123	N/A	32,153,747	5,475,297	37,629,044	1.306	15	10	351,456	67
6/30/92-93	2,887,238	18,582,538	1.174	N/A	21,817,277	4,138,625	25,955,903	0.899	10	7	462,106	70
6/30/93-94	3,056,850	20,764,911	1.159	N/A	24,073,033	4,236,055	28,309,088	0.926	15	15	220,541	64
6/30/94-95	3,158,808	19,261,206	1.154	N/A	22,228,362	4,126,356	26,354,717	0.834	7	9	329,684	71
6/30/95-96	3,301,791	18,448,007	1.174	N/A	21,649,352	3,784,252	25,433,604	0.770	10	8	400,168	61
6/30/96-97	3,902,868	17,699,497	1.195	N/A	21,144,028	4,571,035	25,715,062	0.659	6	6	574,088	68
6/30/97-98	3,776,138	20,696,672	1.186	N/A	24,540,503	4,855,537	29,396,040	0.778	7	8	480,479	64
6/30/98-99	4,017,530	19,104,918	1.213	N/A	23,181,101	4,248,883	27,429,984	0.683	10	7	582,312	62
6/30/99-00	4,221,786	22,243,202	1.237	N/A	27,515,005	4,109,415	31,624,420	0.749	8	7	753,115	60
6/30/00-01	4,310,725	26,521,603	1.244	N/A	32,991,796	4,056,991	37,048,787	0.859	20	18	359,455	59
6/30/01-02	4,438,755	23,602,864	1.276	N/A	30,110,357	4,123,427	34,233,785	0.771	17	11	591,590	55
6/30/02-03	4,423,888	22,839,648	1.294	N/A	29,556,999	3,854,781	33,411,780	0.755	14	16	419,834	56
6/30/03-04	4,482,207	22,174,954	1.308	N/A	29,010,516	3,976,629	32,987,145	0.736	9	12	569,630	52
6/30/04-05	4,639,517	21,670,607	1.352	N/A	29,290,822	4,564,635	33,855,458	0.730	16	7	1,088,602	58
6/30/05-06	4,938,165	18,407,895	1.389	N/A	25,563,262	4,425,333	29,988,595	0.607	25	16	447,210	55
6/30/06-07	5,183,126	16,782,459	1.428	N/A	23,968,700	3,914,705	27,883,405	0.538	39	28	256,651	53
6/30/07-08	5,508,425	19,096,705	1.523	N/A	29,088,273	5,746,268	34,834,541	0.632	56	39	256,194	54
6/30/08-09	5,447,676	19,248,559	1.605	N/A	30,899,388	4,954,906	35,854,294	0.658	90	68	171,336	53
6/30/09-10	5,525,579	17,830,710	1.728	N/A	30,803,876	5,540,348	36,344,225	0.658	135	84	154,442	53
6/30/10-11	5,712,303	18,781,010	1.908	N/A	35,826,392	5,932,053	41,758,445	0.731	208	140	121,753	53
6/30/11-12	5,880,714	16,214,542	2.275	N/A	36,894,151	5,168,873	42,063,024	0.715	490	209	98,945	51
6/30/12-13	6,162,621	11,594,933	3.041	N/A	35,259,117	5,583,423	40,842,540	0.663	1,209	461	51,332	48
6/30/13-14	6,442,136	6,327,324	6.389	N/A	40,422,260	6,098,015	46,520,275	0.722		1,235	27,607	48
Total	122,273,519	926,945,975			1,084,460,129	158,136,437	1,242,596,566		2,551	2,546		

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, 2014

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	33,018,728	1.093	33,952,983	2,801,973	36,754,956	2.016	1.862
6/30/85-86	1,952,445	3.712	43,647,976	1.065	45,127,501	3,318,897	48,446,398	2.481	2.311
6/30/86-87	2,220,820	3.485	46,658,728	1.096	48,662,220	5,473,999	54,136,219	2.438	2.191
6/30/87-88	2,885,583	3.526	65,842,992	1.099	69,470,527	8,096,578	77,567,105	2.688	2.408
6/30/88-89	3,098,180	2.963	60,736,487	1.079	64,473,609	9,884,508	74,358,117	2.400	2.081
6/30/89-90	3,079,763	2.802	57,103,580	1.077	61,479,473	10,110,313	71,589,786	2.325	1.996
6/30/90-91	2,914,364	1.797	45,737,838	1.152	50,009,684	8,392,605	58,402,289	2.004	1.716
6/30/91-92	2,880,434	1.107	28,639,184	1.123	31,447,239	5,475,297	36,922,536	1.282	1.092
6/30/92-93	2,887,238	0.750	18,582,538	1.174	20,946,800	4,138,625	25,085,425	0.869	0.725
6/30/93-94	3,056,850	0.779	20,764,911	1.159	23,517,495	4,236,055	27,753,550	0.908	0.769
6/30/94-95	3,158,808	0.697	19,261,206	1.154	22,160,712	4,126,356	26,287,068	0.832	0.702
6/30/95-96	3,301,791	0.651	18,448,007	1.174	21,574,133	3,784,252	25,358,385	0.768	0.653
6/30/96-97	3,902,868	0.544	17,699,497	1.195	21,084,490	4,571,035	25,655,525	0.657	0.540
6/30/97-98	3,776,138	0.645	20,696,672	1.186	24,452,910	4,855,537	29,308,447	0.776	0.648
6/30/98-99	4,017,530	0.578	19,104,918	1.213	23,115,621	4,248,883	27,364,505	0.681	0.575
6/30/99-00	4,221,786	0.647	22,243,202	1.237	27,380,492	4,109,415	31,489,907	0.746	0.649
6/30/00-01	4,310,725	0.751	26,521,603	1.244	32,795,158	4,056,991	36,852,149	0.855	0.761
6/30/01-02	4,438,755	0.674	23,602,864	1.276	29,976,426	4,123,427	34,099,854	0.768	0.675
6/30/02-03	4,423,888	0.665	22,839,648	1.294	29,449,390	3,854,781	33,304,172	0.753	0.666
6/30/03-04	4,482,207	0.646	22,174,954	1.308	28,941,865	3,976,629	32,918,494	0.734	0.646
6/30/04-05	4,639,517	0.637	21,670,607	1.352	28,544,636	4,564,635	33,109,272	0.714	0.615
6/30/05-06	4,938,165	0.644	18,407,895	1.389	26,403,443	4,425,333	30,828,776	0.624	0.535
6/30/06-07	5,183,126	0.651	16,782,459	1.428	25,989,415	3,914,705	29,904,120	0.577	0.501
6/30/07-08	5,508,425	0.658	19,096,705	1.523	30,283,124	5,746,268	36,029,392	0.654	0.550
6/30/08-09	5,447,676	0.666	19,248,559	1.605	31,670,272	4,954,906	36,625,178	0.672	0.581
6/30/09-10	5,525,579	0.668	17,830,710	1.728	32,162,479	5,540,348	37,702,827	0.682	0.582
6/30/10-11	5,712,303	0.667	18,781,010	1.908	35,946,992	5,932,053	41,879,045	0.733	0.629
6/30/11-12	5,880,714	0.672	16,214,542	2.275	37,611,312	5,168,873	42,780,186	0.727	0.640
6/30/12-13	6,162,621	0.677	11,594,933	3.041	39,652,051	5,583,423	45,235,473	0.734	0.643
6/30/13-14	6,442,136	0.680	6,327,324	6.389	44,881,338	6,098,015	50,979,353	0.791	0.697
Total	122,273,519		799,280,278		1,043,163,790	155,564,716	1,198,728,506		

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, 2014

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	52,683,446	1.808	0.957	1.731	1.000	1.731	0.710	1.851	1.797
6/30/91-92	2,880,434	32,153,747	1.116	1.050	1.173	1.000	1.173	0.647	1.115	1.107
6/30/92-93	2,887,238	21,817,277	0.756	1.225	0.926	1.000	0.926	0.555	0.753	0.750
6/30/93-94	3,056,850	24,073,033	0.788	1.209	0.952	1.000	0.952	0.562	0.777	0.779
6/30/94-95	3,158,808	22,228,362	0.704	1.198	0.843	1.000	0.843	0.568	0.700	0.697
6/30/95-96	3,301,791	21,649,352	0.656	1.188	0.779	1.000	0.779	0.572	0.650	0.651
6/30/96-97	3,902,868	21,144,028	0.542	1.177	0.637	1.000	0.637	0.578	0.544	0.544
6/30/97-98	3,776,138	24,540,503	0.650	1.162	0.755	1.000	0.755	0.585	0.644	0.645
6/30/98-99	4,017,530	23,181,101	0.577	1.146	0.661	1.000	0.661	0.593	0.579	0.578
6/30/99-00	4,221,786	27,515,005	0.652	1.128	0.735	1.000	0.735	0.603	0.650	0.647
6/30/00-01	4,310,725	32,991,796	0.765	1.099	0.841	1.000	0.841	0.619	0.754	0.751
6/30/01-02	4,438,755	30,110,357	0.678	1.078	0.731	1.000	0.731	0.631	0.680	0.674
6/30/02-03	4,423,888	29,556,999	0.668	1.074	0.717	1.000	0.717	0.633	0.672	0.665
6/30/03-04	4,482,207	29,010,516	0.647	1.074	0.695	1.000	0.695	0.633	0.654	0.646
6/30/04-05	4,639,517	29,290,822	0.631	1.067	0.674	1.000	0.674	0.637	0.603	0.637
6/30/05-06	4,938,165	25,563,262	0.518	1.056	0.547	1.000	0.547	0.644	0.615	0.644
6/30/06-07	5,183,126	23,968,700	0.462	1.045	0.483	1.000	0.483	0.651	0.628	0.651
6/30/07-08	5,508,425	29,088,273	0.528	1.033	0.546	1.000	0.546	0.658	0.641	0.658
6/30/08-09	5,447,676	30,899,388	0.567	1.021	0.579	1.000	0.579	0.666	0.655	0.666
6/30/09-10	5,525,579	30,803,876	0.557	1.017	0.567	1.000	0.567	0.668	0.664	0.668
6/30/10-11	5,712,303	35,826,392	0.627	1.019	0.639	1.000	0.639	0.667	0.670	0.667
6/30/11-12	5,880,714	36,894,151	0.627	1.012	0.635	1.000	0.635	0.672	0.681	0.672
6/30/12-13	6,162,621	35,259,117	0.572	1.005	0.575	1.000	0.575	0.677	0.693	0.677
6/30/13-14	6,442,136	40,422,260	0.627	1.000	0.627	1.000	0.627	0.680		0.680
Total	107,213,643	710,671,764								

Trend Last 4 (ex 13-14):	0.3%	Avg 3 (x13-14):	0.616
Trend Last 8 (ex 13-14):	2.6%	Avg 5 (x13-14):	0.599
Trend Last 12 (ex 13-14):	-1.7%	Avg 10 (x13-14):	0.594
Prior Selected Trend:	1.0%	Prior Sel Avg:	0.700
Selected Trend:	0.0%	Sel. Loss Cost:	0.680

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, 2013
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

All Clusters Combined
Indemnity

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend		0.960	
(2)	Credibility		91%	
(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 2014	1,439,828		1,439,828
(7)	Estimated Reserve	22,557,302		46,554,432
(8)	Paid to Date (82 & Prior)	90,640,061		90,640,061
(9)	Est Ult Paid for 1982 & Prior	113,197,363		137,194,493

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	1,511,011	1,583,092
(11)	Projected Number of Years	2	2
(12)	Estimated Reserve	3,022,021	3,166,183
(13)	Paid to Date (82 & Prior)	90,640,061	89,200,233
(14)	Est Ult Paid for 1982 & Prior	93,662,082	92,366,416
(14a)	Paid Counts During Fiscal Year	37	40
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	103,429,722	114,780,454
(16)	Lump Sum Ultimates	3,964,099	3,964,099
(17)	Ult Loss Including Lump Sums	**107,393,821**	**118,744,553**
(18)	Implied Tail	1.141	1.266
(19)	Ult Loss Inc Lump Sums @ 6/13	106,718,871	118,777,985

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, 2013

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 =	23
2001	10	2,865,446	14.868	0.985	S(x) =	46,069
2002	11	2,547,239	14.751	0.889	S(x-sq) =	92,277,219
2003	12	2,422,167	14.700	0.951	S(xy) =	676,430
2004	13	2,289,077	14.644	0.945	S(y) =	338
2005	14	2,336,964	14.664	1.021	D =	23,276
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		
2014	23	1,439,828	14.180	0.943		
					Selected Trend:	**0.960**

NOTES:

(3) 2014 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2013

(4) LN [(3)]

(5) Eg. 2014: 0.943 = 1439828 / 1527315

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	384
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	16,094,979
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	20,930,657	
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	33,018,728		
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	28,134,645	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	43,312,366	43,486,990	43,647,976			
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	46,658,728				
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	65,842,992					
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	60,736,487						
June-90	8,325,393	19,198,638	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	57,103,580							
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	45,737,838								
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	27,587,350	27,962,307	28,341,430	28,639,184									
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	15,652,055	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	18,582,538										
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	20,764,911											
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	19,261,206												
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	15,617,065	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	18,448,007													
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	17,699,497													
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	20,696,672														
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	19,104,918															
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	22,243,202																
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	24,859,226	25,164,944	25,501,251	25,878,042	26,218,857	26,521,603																	
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	22,695,836	22,992,294	23,221,272	23,431,357	23,602,864																		
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	22,839,648																			
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	22,174,954																				
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	21,670,607																					
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	18,407,895																						
June-07	4,763,872	9,431,881	11,584,810	13,586,119	15,001,635	15,786,760	16,403,895	16,782,459																							
June-08	4,973,425	10,276,897	13,437,601	15,869,686	17,473,101	18,454,471	19,096,705																								
June-09	4,815,871	10,151,475	13,666,751	16,148,288	17,821,067	19,248,559																									
June-10	5,243,901	10,948,444	14,508,772	16,517,571	17,830,710																										
June-11	6,252,011	12,542,403	16,418,085	18,781,010																											
June-12	5,840,358	12,172,326	16,214,542																												
June-13	5,964,573	11,594,933																													
June-14	6,327,324																														

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
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	1.010
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	1.008	
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	1.007		
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	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	1.009				
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	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	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	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	1.009								
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	1.011	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	1.010										
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	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	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	1.013													
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	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	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	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	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	1.012																		
June-02	2.130	1.323	1.162	1.077	1.052	1.026	1.018	1.017	1.013	1.010	1.009	1.007																			
June-03	2.013	1.296	1.118	1.073	1.034	1.024	1.015	1.013	1.011	1.010	1.008																				
June-04	2.084	1.313	1.159	1.076	1.043	1.028	1.018	1.010	1.009	1.010																					
June-05	2.056	1.323	1.148	1.061	1.045	1.037	1.023	1.012	1.010																						
June-06	2.145	1.319	1.129	1.072	1.062	1.036	1.017	1.010																							
June-07	1.980	1.228	1.173	1.104	1.052	1.039	1.023																								
June-08	2.066	1.308	1.181	1.101	1.056	1.035																									
June-09	2.108	1.346	1.182	1.104	1.080																										
June-10	2.088	1.325	1.138	1.079																											
June-11	2.006	1.309	1.144																												
June-12	2.084	1.332																													
June-13	1.944																														

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	2.165	1.357	1.189	1.120	1.082	1.058	1.046	1.035	1.031	1.026	1.025	1.023	1.021	1.020	1.019	1.018	1.016	1.017	1.015	1.015	1.014	1.014	1.013	1.012	1.012	1.011	1.010	1.009	1.009	1.009	1.010	
Latest 5	2.046	1.324	1.164	1.092	1.059	1.035	1.019	1.012	1.011	1.010	1.011	1.012	1.011	1.012	1.012	1.012	1.012	1.014	1.013	1.012	1.011	1.011	1.012	1.011	1.010	1.009	1.010					
Latest 3	2.011	1.322	1.155	1.095	1.063	1.036	1.021	1.011	1.010	1.010	1.011	1.010	1.010	1.011	1.010	1.011	1.010	1.013	1.013	1.014	1.011	1.010	1.011	1.011	1.010	1.009	1.008	1.007	1.009			
Volume Wtd																																
All Yrs	2.156	1.359	1.189	1.118	1.078	1.055	1.043	1.033	1.030	1.026	1.025	1.023	1.021	1.020	1.020	1.018	1.016	1.016	1.015	1.015	1.013	1.013	1.013	1.011	1.011	1.010	1.008	1.008	1.008	1.009	1.010	
Latest 5	2.042	1.324	1.162	1.092	1.059	1.035	1.019	1.013	1.011	1.010	1.011	1.011	1.011	1.012	1.011	1.012	1.012	1.014	1.012	1.011	1.011	1.011	1.012	1.011	1.010	1.009	1.008					
Latest 3	2.011	1.322	1.154	1.095	1.064	1.036	1.021	1.011	1.010	1.010	1.011	1.010	1.010	1.011	1.010	1.011	1.010	1.013	1.013	1.014	1.011	1.010	1.011	1.011	1.010	1.009	1.008	1.007	1.008			

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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 6/13		As of 6/14		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	109,649,052	118,880,601	110,285,182	118,957,098	636,130	0.6%	76,497	0.1%
6/30/82-83	17,643,183	18,583,267	17,594,928	18,454,721	(48,255)	-0.3%	(128,546)	-0.7%
6/30/83-84	24,757,952	26,025,597	24,810,530	26,079,635	52,578	0.2%	54,038	0.2%
6/30/84-85	37,003,769	39,110,574	36,727,760	38,798,574	(276,009)	-0.7%	(312,000)	-0.8%
6/30/85-86	49,468,066	51,052,086	48,223,654	49,666,399	(1,244,412)	-2.5%	(1,385,687)	-2.7%
6/30/86-87	53,563,000	56,013,312	53,686,000	56,303,826	123,000	0.2%	290,514	0.5%
6/30/87-88	78,033,866	80,483,994	77,656,876	79,424,184	(376,990)	-0.5%	(1,059,810)	-1.3%
6/30/88-89	74,939,574	77,070,799	74,436,948	76,324,799	(502,626)	-0.7%	(746,000)	-1.0%
6/30/89-90	70,757,031	72,405,797	71,095,078	72,235,610	338,047	0.5%	(170,187)	-0.2%
6/30/90-91	57,676,859	62,051,914	57,525,859	60,855,646	(151,000)	-0.3%	(1,196,268)	-1.9%
6/30/91-92	37,020,289	38,282,685	36,657,449	37,941,974	(362,840)	-1.0%	(340,711)	-0.9%
6/30/92-93	24,935,376	26,500,946	24,896,376	26,477,946	(39,000)	-0.2%	(23,000)	-0.1%
6/30/93-94	27,523,000	28,616,000	27,585,000	28,694,000	62,000	0.2%	78,000	0.3%
6/30/94-95	26,365,000	27,127,000	26,233,000	26,888,000	(132,000)	-0.5%	(239,000)	-0.9%
6/30/95-96	25,172,985	25,935,891	25,092,985	26,105,891	(80,000)	-0.3%	170,000	0.7%
6/30/96-97	25,846,838	26,551,286	25,588,838	26,303,286	(258,000)	-1.0%	(248,000)	-0.9%
6/30/97-98	29,487,642	30,127,556	29,238,642	29,892,556	(249,000)	-0.8%	(235,000)	-0.8%
6/30/98-99	27,612,000	28,294,000	27,360,000	28,066,000	(252,000)	-0.9%	(228,000)	-0.8%
6/30/99-00	31,999,000	32,783,000	31,030,877	32,292,000	(968,123)	-3.0%	(491,000)	-1.5%
6/30/00-01	36,776,863	38,191,000	36,272,632	37,641,000	(504,231)	-1.4%	(550,000)	-1.4%
6/30/01-02	34,763,000	35,571,000	34,097,000	34,930,000	(666,000)	-1.9%	(641,000)	-1.8%
6/30/02-03	33,454,782	34,767,000	32,792,045	34,110,000	(662,737)	-2.0%	(657,000)	-1.9%
6/30/03-04	33,170,694	34,502,000	32,441,954	33,726,000	(728,739)	-2.2%	(776,000)	-2.2%
6/30/04-05	34,024,000	34,938,000	32,894,000	34,072,000	(1,130,000)	-3.3%	(866,000)	-2.5%
6/30/05-06	31,079,000	32,551,000	29,951,000	30,957,000	(1,128,000)	-3.6%	(1,594,000)	-4.9%
6/30/06-07	28,725,000	31,105,000	27,990,000	29,911,000	(735,000)	-2.6%	(1,194,000)	-3.8%
6/30/07-08	34,650,000	37,219,000	34,017,800	35,977,500	(632,200)	-1.8%	(1,241,500)	-3.3%
6/30/08-09	36,215,000	37,985,000	35,608,600	37,426,148	(606,400)	-1.7%	(558,852)	-1.5%
6/30/09-10	37,562,000	40,455,000	35,559,250	38,594,875	(2,002,750)	-5.3%	(1,860,125)	-4.6%
6/30/10-11	43,172,000	46,777,000	40,990,010	43,513,189	(2,181,990)	-5.1%	(3,263,811)	-7.0%
6/30/11-12	42,535,000	47,705,000	41,278,170	44,994,719	(1,256,830)	-3.0%	(2,710,281)	-5.7%
6/30/12-13	46,190,000	52,638,000	41,133,350	45,923,962	(5,056,650)	-10.9%	(6,714,038)	-12.8%
6/30/13-14								
Total	1,301,771,820	1,370,300,305	1,280,751,793	1,341,539,539	(21,020,027)	-1.6%	(28,760,766)	-2.1%

NOTES:

(2), (3) From Aon analysis as of June 30, 2013

(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, 2014

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	90,640,061	1.204	109,105,088	0.0%	0.0%	0	3,941,682	3,941,682	3.6%	1.011	3,986,516	3,964,099	3,971,578
6/30/82-83	16,094,979	1.065	17,144,916	0.0%	0.0%	0	771,231	771,231	4.5%	1.002	772,795	772,013	772,592
6/30/83-84	20,930,657	1.122	23,488,104	0.0%	0.0%	0	1,792,639	1,792,639	7.6%	1.008	1,806,778	1,799,708	1,802,967
6/30/84-85	33,018,728	1.093	36,102,859	0.0%	0.0%	0	2,791,264	2,791,264	7.7%	1.008	2,812,682	2,801,973	2,806,595
6/30/85-86	43,647,976	1.065	46,492,132	0.0%	0.0%	0	3,303,601	3,303,601	7.1%	1.009	3,334,194	3,318,897	3,324,593
6/30/86-87	46,658,728	1.096	51,121,652	0.0%	0.0%	0	5,447,750	5,447,750	10.7%	1.010	5,500,247	5,473,999	5,476,791
6/30/87-88	65,842,992	1.099	72,392,411	0.0%	0.0%	0	8,057,017	8,057,017	11.1%	1.010	8,136,139	8,096,578	8,102,124
6/30/88-89	60,736,487	1.079	65,555,324	0.0%	0.0%	0	9,826,239	9,826,239	15.0%	1.012	9,942,777	9,884,508	9,897,947
6/30/89-90	57,103,580	1.077	61,490,968	0.0%	0.0%	0	10,048,798	10,048,798	16.3%	1.012	10,171,829	10,110,313	9,942,730
6/30/90-91	45,737,838	1.152	52,683,446	0.0%	0.0%	1,168	8,326,440	8,327,608	15.8%	1.016	8,457,601	8,392,605	8,423,622
6/30/91-92	28,639,184	1.123	32,153,747	0.1%	0.1%	20,686	5,420,474	5,441,160	16.9%	1.016	5,509,434	5,475,297	5,495,187
6/30/92-93	18,582,538	1.174	21,817,277	0.1%	0.1%	25,782	4,087,117	4,112,899	18.9%	1.019	4,164,351	4,138,625	4,156,798
6/30/93-94	20,764,911	1.159	24,073,033	0.0%	0.1%	33,424	4,177,034	4,210,458	17.5%	1.020	4,261,653	4,236,055	4,258,765
6/30/94-95	19,261,206	1.154	22,228,362	0.0%	0.2%	39,943	4,050,859	4,090,802	18.4%	1.027	4,161,909	4,126,356	4,151,156
6/30/95-96	18,448,007	1.174	21,649,352	0.1%	0.3%	58,060	3,695,595	3,753,655	17.3%	1.032	3,814,850	3,784,252	3,739,440
6/30/96-97	17,699,497	1.195	21,144,028	0.0%	0.3%	67,239	4,444,152	4,511,391	21.3%	1.042	4,630,678	4,571,035	4,606,367
6/30/97-98	20,696,672	1.186	24,540,503	0.0%	0.3%	83,017	4,686,877	4,769,894	19.4%	1.054	4,941,179	4,855,537	4,897,302
6/30/98-99	19,104,918	1.213	23,181,101	0.1%	0.5%	105,330	4,086,938	4,192,268	18.1%	1.053	4,305,499	4,248,883	4,177,326
6/30/99-00	22,243,202	1.237	27,515,005	0.1%	0.6%	162,794	3,907,368	4,070,162	14.8%	1.062	4,148,668	4,109,415	4,144,022
6/30/00-01	26,521,603	1.244	32,991,796	0.1%	0.7%	243,351	3,814,863	4,058,214	12.3%	1.063	4,055,769	4,056,991	4,105,561
6/30/01-02	23,602,864	1.276	30,110,357	0.1%	0.9%	264,320	3,827,668	4,091,987	13.6%	1.085	4,154,867	4,123,427	4,195,340
6/30/02-03	22,839,648	1.294	29,556,999	0.2%	1.1%	315,385	3,519,912	3,835,297	13.0%	1.101	3,874,265	3,854,781	3,923,390
6/30/03-04	22,174,954	1.308	29,010,516	0.2%	1.3%	377,865	3,557,520	3,935,385	13.6%	1.129	4,017,872	3,976,629	4,087,925
6/30/04-05	21,670,607	1.352	29,290,822	0.2%	1.5%	453,190	4,010,153	4,463,343	15.2%	1.164	4,665,928	4,564,635	4,730,552
6/30/05-06	18,407,895	1.389	25,563,262	0.3%	1.8%	459,752	3,848,129	4,307,880	16.9%	1.181	4,542,786	4,425,333	4,804,852
6/30/06-07	16,782,459	1.428	23,968,700	0.5%	2.3%	554,782	3,139,534	3,694,317	15.4%	1.228	3,856,324	3,914,705	3,890,358
6/30/07-08	19,096,705	1.523	29,088,273	0.8%	3.2%	916,550	4,347,463	5,264,013	18.1%	1.294	5,627,244	5,746,268	5,376,940
6/30/08-09	19,248,559	1.605	30,899,388	1.5%	4.7%	1,437,769	3,286,444	4,724,213	15.3%	1.481	4,866,125	4,954,906	4,899,120
6/30/09-10	17,830,710	1.728	30,803,876	1.8%	6.5%	1,996,599	3,267,878	5,264,477	17.1%	1.743	5,696,738	5,540,348	5,310,630
6/30/10-11	18,781,010	1.908	35,826,392	2.0%	8.5%	3,052,366	2,603,240	5,655,607	15.8%	2.359	6,139,887	5,932,053	6,755,087
6/30/11-12	16,214,542	2.275	36,894,151	3.5%	12.1%	4,448,925	1,184,114	5,633,039	15.3%	3.879	4,593,509	5,168,873	5,510,872
6/30/12-13	11,594,933	3.041	35,259,117	2.6%	14.7%	5,167,588	484,012	5,651,600	16.0%	10.101	4,888,841	5,583,423	6,949,213
6/30/13-14	6,327,324	6.389	40,422,260	1.6%	16.2%	6,564,671	102,000	6,666,671	16.5%	27.390	2,793,793	6,098,015	
Total	926,945,975		1,193,565,218			26,850,555	133,856,005	160,706,560	13.5%		158,633,726	162,100,536	158,687,743

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, 2013

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*	*384-396*
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	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	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	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	25,000	0	0			
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	0				
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	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	0					
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	1							
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	184,500								
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	0									
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	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	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	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	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	71,725														
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	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	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	110,000																	
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	0																		
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	0																			
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	0																				
Jun-03	20,000	243,617	973,654	830,735	554,982	452,423	125,001	80,000	6,000	96,000	77,500	60,000																					
Jun-04	47,500	153,200	552,463	917,102	829,753	553,000	162,000	241,501	100,000	0	1,001																						
Jun-05	6,157	171,103	840,367	1,359,602	649,723	301,000	271,000	217,001	194,200	0																							
Jun-06	0	307,301	772,454	1,353,001	484,173	445,500	363,000	103,000	19,700																								
Jun-07	36,000	451,583	914,752	703,751	416,002	193,002	149,442	275,002																									
Jun-08	17,730	728,501	774,649	979,000	795,250	372,462	679,872																										
Jun-09	285,000	362,500	783,767	808,001	522,676	524,500																											
Jun-10	0	601,092	797,379	946,609	922,799																												
Jun-11	315,691	461,993	1,026,227	799,329																													
Jun-12	0	441,786	742,328																														
Jun-13	113,000	371,012																															
Jun-14	102,000																																

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*	*396*
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	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	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	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	5,312,750	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	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	9,826,239								
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	10,048,798									
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	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	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	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	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	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	3,695,595															
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	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	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	4,086,938																		
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	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	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	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	3,519,912																					
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	3,557,520																						
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	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	3,848,129																								
Jun-07	36,000	487,583	1,402,335	2,106,086	2,522,088	2,715,090	2,864,532	3,139,534																									
Jun-08	17,730	746,231	1,520,880	2,499,880	3,295,130	3,667,592	4,347,463																										
Jun-09	285,000	647,500	1,431,267	2,239,268	2,761,944	3,286,444																											
Jun-10	0	601,092	1,398,471	2,345,079	3,267,878																												
Jun-11	315,691	777,684	1,803,911	2,603,240																													
Jun-12	0	441,786	1,184,114																														
Jun-13	113,000	484,012																															
Jun-14	102,000																																

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	384-396
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	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	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	0.010	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	0.000		
Jun-85	0.000	0.000	0.000	0.003	0.001	0.004	0.004	0.006	0.011	0.016	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	0.000			
Jun-86	0.000	0.000	0.001	0.003	0.005	0.003	0.007	0.018	0.013	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	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	0.000					
Jun-88	0.000	0.001	0.003	0.006	0.012	0.022	0.016	0.010	0.012	0.005	0.004	0.003	0.005	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	0.000						
Jun-89	0.000	0.004	0.006	0.015	0.027	0.025	0.016	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	0.000							
Jun-90	0.000	0.004	0.020	0.029	0.021	0.017	0.016	0.016	0.007	0.007	0.006	0.007	0.001	0.001	0.001	0.000	0.002	0.002	0.002	0.000	0.001	0.001	0.001	0.000	0.003								
Jun-91	0.000	0.008	0.038	0.027	0.017	0.023	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	0.000									
Jun-92	0.002	0.026	0.018	0.023	0.026	0.017	0.009	0.007	0.006	0.006	0.006	0.001	0.000	0.004	0.001	0.001	0.010	0.003	0.002	0.000	0.000	0.000	0.000										
Jun-93	0.003	0.030	0.030	0.045	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	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	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	0.000													
Jun-96	0.004	0.033	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	0.003														
Jun-97	0.006	0.056	0.051	0.039	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	0.000															
Jun-98	0.017	0.036	0.047	0.027	0.018	0.011	0.004	0.007	0.001	0.000	0.000	0.009	0.005	0.005	0.003	0.000	0.000																
Jun-99	0.011	0.019	0.045	0.033	0.016	0.009	0.012	0.008	0.003	0.008	0.002	0.003	0.000	0.000	0.003	0.005																	
Jun-00	0.005	0.036	0.026	0.019	0.014	0.010	0.013	0.007	0.004	0.003	0.001	0.001	0.001	0.000	0.000																		
Jun-01	0.003	0.016	0.025	0.016	0.015	0.016	0.007	0.011	0.004	0.001	0.000	0.000	0.002	0.000																			
Jun-02	0.002	0.008	0.021	0.023	0.026	0.018	0.012	0.011	0.001	0.002	0.002	0.001	0.000																				
Jun-03	0.001	0.008	0.033	0.028	0.019	0.015	0.004	0.003	0.000	0.003	0.003	0.002																					
Jun-04	0.002	0.005	0.019	0.032	0.029	0.019	0.006	0.008	0.003	0.000	0.000																						
Jun-05	0.000	0.006	0.029	0.046	0.022	0.010	0.009	0.007	0.007	0.000																							
Jun-06	0.000	0.012	0.030	0.053	0.019	0.017	0.014	0.004	0.001																								
Jun-07	0.002	0.019	0.038	0.029	0.017	0.008	0.006	0.011																									
Jun-08	0.001	0.025	0.027	0.034	0.027	0.013	0.023																										
Jun-09	0.009	0.012	0.025	0.026	0.017	0.017																											
Jun-10	0.000	0.020	0.026	0.031	0.030																												
Jun-11	0.009	0.013	0.029	0.022																													
Jun-12	0.000	0.012	0.020																														
Jun-13	0.003	0.011																															
Jun-14	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	384-396
Simple Avg																																	
All Yrs (ex P)	0.003	0.016	0.025	0.024	0.017	0.013	0.010	0.008	0.005	0.004	0.004	0.004	0.002	0.002	0.002	0.002	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	0.000	
Latest 5	0.003	0.013	0.025	0.028	0.022	0.013	0.012	0.007	0.003	0.001	0.001	0.002	0.002	0.001	0.002	0.001	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.000					
Latest 3	0.002	0.012	0.025	0.026	0.025	0.013	0.015	0.008	0.004	0.001	0.001	0.001	0.001	0.000	0.002	0.002	0.000	0.000	0.001	0.001	0.000	0.000	0.001	0.000	0.001	0.000	0.000	0.000	0.000	0.000			
Olympic Avg																																	
All Yrs (ex P)	0.003	0.015	0.025	0.024	0.017	0.013	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	0.000			
Latest 10	0.002	0.013	0.027	0.031	0.022	0.015	0.010	0.008	0.003	0.003	0.002	0.003	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.001	0.000	0.000	0.000										
Latest 5	0.002	0.012	0.026	0.029	0.021	0.013	0.010	0.007	0.002	0.001	0.001	0.002	0.001	0.000	0.002	0.001	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	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	396
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	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	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	2,791,264	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	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	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	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	9,826,239							
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	10,048,798								
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	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	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	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	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	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	3,695,595														
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	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	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	4,086,938																	
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	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	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	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	3,519,912																					
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	3,557,520																						
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	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	3,848,129																								
Jun-07	36,000	487,583	1,402,335	2,106,086	2,522,088	2,715,090	2,864,532	3,139,534																									
Jun-08	17,730	746,231	1,520,880	2,499,880	3,295,130	3,667,592	4,347,463																										
Jun-09	285,000	647,500	1,431,267	2,239,268	2,761,944	3,286,444																											
Jun-10	0	601,092	1,398,471	2,345,079	3,267,878																												
Jun-11	315,691	777,684	1,803,911	2,603,240																													
Jun-12	0	441,786	1,184,114																														
Jun-13	113,000	484,012																															
Jun-14	102,000																																

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	384-396	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	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	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	1.091	1.000	1.000	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	1.000				
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	1.000					
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	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	1.000							
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	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	1.019									
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	1.000										
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	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	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	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	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	1.020															
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	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	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	1.028																		
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	1.000																			
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	1.000																				
Jun-02	6.242	3.067	1.754	1.477	1.234	1.121	1.099	1.012	1.019	1.014	1.011	1.000																					
Jun-03	13.181	4.693	1.671	1.268	1.172	1.041	1.025	1.002	1.029	1.023	1.017																						
Jun-04	4.225	3.753	2.218	1.497	1.221	1.053	1.075	1.029	1.000	1.000																							
Jun-05	28.790	5.741	2.336	1.273	1.099	1.081	1.060	1.051	1.000																								
Jun-06		3.514	2.253	1.199	1.153	1.108	1.028	1.005																									
Jun-07	13.544	2.876	1.502	1.198	1.077	1.055	1.096																										
Jun-08	42.089	2.038	1.644	1.318	1.113	1.185																											
Jun-09	2.272	2.210	1.565	1.233	1.190																												
Jun-10		2.327	1.677	1.394																													
Jun-11	2.463	2.320	1.443																														
Jun-12		2.680																															
Jun-13	4.283																																

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	384-396	To Ult
Simple Avg																																	
All Yrs (ex P)	11.446	2.893	1.765	1.373	1.295	1.230	1.229	1.121	1.109	1.087	1.049	1.032	1.029	1.025	1.013	1.015	1.015	1.013	1.006	1.002	1.008	1.003	1.014	1.003	1.010	1.015	1.001	1.002	1.000	1.000	1.000		
Latest 5	6.601	2.315	1.566	1.268	1.126	1.097	1.057	1.020	1.011	1.009	1.011	1.011	1.006	1.009	1.008	1.000	1.003	1.009	1.002	1.001	1.001	1.002	1.007	1.005	1.014	1.018	1.001						
Latest 3	5.007	2.442	1.562	1.315	1.126	1.116	1.061	1.028	1.010	1.012	1.009	1.008	1.001	1.011	1.012	1.000	1.000	1.007	1.003	1.000	1.000	1.004	1.000	1.009	1.002	1.000	1.001	1.003	1.000				
Volume Wtd																																	
All Yrs (ex P)	6.469	2.414	1.602	1.289	1.190	1.125	1.092	1.057	1.039	1.036	1.028	1.021	1.015	1.011	1.012	1.014	1.015	1.013	1.006	1.003	1.005	1.003	1.009	1.006	1.008	1.007	1.001	1.003	1.000	1.000	1.000		
Latest 5		2.283	1.561	1.270	1.126	1.101	1.055	1.020	1.010	1.009	1.011	1.011	1.006	1.009	1.008	1.000	1.003	1.009	1.001	1.001	1.001	1.002	1.005	1.007	1.009	1.007	1.001						
Latest 3		2.409	1.551	1.316	1.127	1.122	1.058	1.028	1.009	1.012	1.009	1.008	1.001	1.011	1.011	1.000	1.000	1.006	1.003	1.000	1.000	1.004	1.000	1.009	1.002	1.000	1.001	1.003	1.000				

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%
396	100.0%	6.1%	0.0%	1.7%	0.9%	1.000	1.000
384	93.9%	4.8%	6.1%	1.4%	0.8%	0.981	0.971
372	89.1%	-2.3%	10.9%	-0.7%	-0.4%	0.959	0.940
360	91.5%	-2.4%	8.5%	-0.8%	-0.4%	0.907	0.864
348	93.9%	2.6%	6.1%	0.9%	0.5%	0.828	0.753
336	91.3%	0.3%	8.7%	0.1%	0.1%	0.852	0.789
324	91.0%	-1.7%	9.0%	-0.6%	-0.4%	0.825	0.752
312	92.6%	-0.2%	7.4%	-0.1%	0.0%	0.750	0.649
300	92.9%	6.0%	7.1%	2.3%	1.5%	0.713	0.601
288	86.8%	-2.3%	13.2%	-0.9%	-0.6%	0.821	0.753
276	89.1%	3.9%	10.9%	1.6%	1.1%	0.750	0.656
264	85.2%	-1.1%	14.8%	-0.5%	-0.3%	0.789	0.712
252	86.3%	-0.4%	13.7%	-0.2%	-0.1%	0.741	0.648
240	86.7%	1.4%	13.3%	0.7%	0.5%	0.705	0.600
228	85.2%	1.5%	14.8%	0.7%	0.5%	0.707	0.606
216	83.7%	-0.6%	16.3%	-0.3%	-0.2%	0.708	0.608
204	84.3%	1.9%	15.7%	1.0%	0.7%	0.669	0.558
192	82.4%	1.6%	17.6%	0.9%	0.6%	0.680	0.575
180	80.8%	0.5%	19.2%	0.3%	0.2%	0.681	0.578
168	80.4%	2.0%	19.6%	1.2%	0.9%	0.662	0.555
156	78.4%	1.1%	21.6%	0.7%	0.5%	0.668	0.565
144	77.3%	0.8%	22.7%	0.5%	0.4%	0.659	0.554
132	76.4%	2.5%	23.6%	1.6%	1.3%	0.646	0.539
120	74.0%	2.0%	26.0%	1.4%	1.1%	0.655	0.552
108	72.0%	2.0%	28.0%	1.4%	1.2%	0.655	0.553
96	70.0%	4.4%	30.0%	3.3%	2.8%	0.653	0.551
84	65.7%	3.4%	34.3%	2.6%	2.3%	0.673	0.577
72	62.3%	4.4%	37.7%	3.6%	3.2%	0.676	0.583
60	57.9%	5.5%	42.1%	4.6%	4.2%	0.685	0.594
48	52.4%	8.5%	47.6%	7.4%	6.9%	0.696	0.607
36	43.9%	11.1%	56.1%	10.0%	9.6%	0.716	0.633
24	32.9%	17.2%	67.1%	16.2%	15.8%	0.737	0.659
12	15.7%	15.7%	84.3%	15.3%	15.2%	0.764	0.693
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, 2014

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	15,703,439	24,375,356		13,785,135	21,407,634
6/30/82-83	728,718	1,588,512	0.981	714,567	1,557,664
6/30/83-84	2,087,233	3,356,339	0.959	1,989,717	3,198,021
6/30/84-85	917,768	2,988,582	0.907	849,200	2,759,856
6/30/85-86	1,272,077	2,714,822	0.828	1,153,317	2,450,399
6/30/86-87	1,579,522	4,197,348	0.852	1,405,239	3,686,330
6/30/87-88	3,756,866	5,524,175	0.825	3,294,048	4,849,029
6/30/88-89	3,874,222	5,762,073	0.750	3,332,225	4,936,186
6/30/89-90	3,942,701	5,083,232	0.713	3,334,062	4,299,873
6/30/90-91	3,461,582	6,791,368	0.821	2,885,378	5,623,474
6/30/91-92	2,597,791	3,882,316	0.750	2,142,138	3,206,796
6/30/92-93	2,226,721	3,808,291	0.789	1,809,147	3,099,419
6/30/93-94	2,643,055	3,752,055	0.741	2,126,823	3,029,944
6/30/94-95	2,920,935	3,575,935	0.705	2,314,761	2,835,260
6/30/95-96	2,949,384	3,962,290	0.707	2,305,049	3,094,280
6/30/96-97	3,445,189	4,159,636	0.708	2,651,549	3,204,475
6/30/97-98	3,855,092	4,509,007	0.669	2,907,570	3,405,114
6/30/98-99	4,168,144	4,874,144	0.680	3,105,235	3,641,329
6/30/99-00	4,880,306	6,141,430	0.681	3,577,562	4,501,683
6/30/00-01	5,936,166	7,304,534	0.662	4,293,862	5,281,333
6/30/01-02	6,666,468	7,499,468	0.668	4,766,854	5,359,271
6/30/02-03	6,432,484	7,750,439	0.659	4,525,924	5,447,709
6/30/03-04	6,709,481	7,993,526	0.646	4,636,320	5,530,361
6/30/04-05	7,213,240	8,391,240	0.655	4,925,287	5,744,865
6/30/05-06	7,694,976	8,700,976	0.655	5,216,194	5,916,673
6/30/06-07	8,068,007	9,989,007	0.653	5,409,929	6,725,398
6/30/07-08	10,573,632	12,533,332	0.673	7,111,191	8,423,264
6/30/08-09	13,073,597	14,891,145	0.676	8,790,510	10,024,792
6/30/09-10	14,460,661	17,496,286	0.685	9,852,363	11,943,265
6/30/10-11	19,605,760	22,128,939	0.696	13,575,787	15,324,893
6/30/11-12	23,879,514	27,596,063	0.716	16,965,461	19,631,038
6/30/12-13	29,054,406	33,845,018	0.737	21,331,489	24,920,159
6/30/13-14	40,351,376	45,658,980	0.764	30,744,321	34,909,853
Total	266,730,514	332,825,864		197,828,210	249,969,640
			(7) Total Discount Factor:	0.742	0.751

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	15,703,439	24,375,356
(9) Projected Number of Years:	N/A	N/A
(10) Projected Paid Loss per Year:	38	38
(11) Discounted Value at 4%:	13,785,135	21,407,634

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, 2014

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	15,703,439	24,375,356		12,970,199	20,146,650
6/30/82-83	728,718	1,588,512	0.981	707,794	1,542,899
6/30/83-84	2,087,233	3,356,339	0.959	1,944,232	3,124,190
6/30/84-85	917,768	2,988,582	0.907	818,046	2,656,016
6/30/85-86	1,272,077	2,714,822	0.828	1,100,555	2,333,166
6/30/86-87	1,579,522	4,197,348	0.852	1,329,541	3,465,898
6/30/87-88	3,756,866	5,524,175	0.825	3,096,743	4,561,204
6/30/88-89	3,874,222	5,762,073	0.750	3,105,614	4,592,013
6/30/89-90	3,942,701	5,083,232	0.713	3,084,755	3,978,928
6/30/90-91	3,461,582	6,791,368	0.821	2,654,057	5,157,798
6/30/91-92	2,597,791	3,882,316	0.750	1,961,821	2,939,874
6/30/92-93	2,226,721	3,808,291	0.789	1,646,434	2,822,776
6/30/93-94	2,643,055	3,752,055	0.741	1,928,851	2,752,344
6/30/94-95	2,920,935	3,575,935	0.705	2,086,127	2,555,687
6/30/95-96	2,949,384	3,962,290	0.707	2,065,353	2,771,593
6/30/96-97	3,445,189	4,159,636	0.708	2,360,994	2,854,569
6/30/97-98	3,855,092	4,509,007	0.669	2,566,428	3,007,379
6/30/98-99	4,168,144	4,874,144	0.680	2,727,909	3,203,203
6/30/99-00	4,880,306	6,141,430	0.681	3,122,380	3,928,653
6/30/00-01	5,936,166	7,304,534	0.662	3,729,670	4,586,227
6/30/01-02	6,666,468	7,499,468	0.668	4,123,528	4,634,536
6/30/02-03	6,432,484	7,750,439	0.659	3,890,654	4,680,628
6/30/03-04	6,709,481	7,993,526	0.646	3,959,306	4,724,780
6/30/04-05	7,213,240	8,391,240	0.655	4,188,577	4,891,143
6/30/05-06	7,694,976	8,700,976	0.655	4,427,999	5,029,285
6/30/06-07	8,068,007	9,989,007	0.653	4,579,596	5,701,458
6/30/07-08	10,573,632	12,533,332	0.673	6,036,184	7,148,885
6/30/08-09	13,073,597	14,891,145	0.676	7,479,682	8,535,260
6/30/09-10	14,460,661	17,496,286	0.685	8,451,155	10,252,625
6/30/10-11	19,605,760	22,128,939	0.696	11,755,905	13,272,617
6/30/11-12	23,879,514	27,596,063	0.716	14,883,233	17,232,750
6/30/12-13	29,054,406	33,845,018	0.737	18,996,576	22,218,072
6/30/13-14	40,351,376	45,658,980	0.764	27,804,636	31,615,187
Total	266,730,514	332,825,864		175,584,533	222,918,295
			(7) Total Discount Factor:	0.658	0.670

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	15,703,439	24,375,356
(9) Projected Number of Years:	N/A	N/A
(10) Projected Paid Loss per Year:	38	38
(11) Discounted Value at 6%:	12,970,199	20,146,650

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, 2014

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

Calculation of Fiscal Year 7/1/14 - 15 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Cumulative	Incremental Paid		Estimated Payments from		FY 7/1/14 - 6/30/15	
Accident	Est Ult Losses	Est Ult Losses	Paid Losses	Reserves	Reserves	Percent	as a % of	as a % of	7/1/14 - 6/30/15		as a % of Reserves	
Year	(Low)	(High)	to Date	(Low)	(High)	Paid	Ultimates	Reserves	(Low)	(High)	(Low)	(High)
All Prior Yrs	120,039,339	129,908,852	102,959,586	17,079,753	26,949,266				1,488,625	1,637,487	8.7%	6.1%
6/30/82-83	18,887,618	19,782,451	18,150,643	736,975	1,631,808	93.9%	1.0%	16.3%	118,426	287,935	16.1%	17.6%
6/30/83-84	28,239,251	29,609,411	26,130,789	2,108,462	3,478,621	90.3%	1.0%	10.4%	207,743	411,446	9.9%	11.8%
6/30/84-85	41,817,557	44,285,018	40,826,697	990,860	3,458,321	94.8%	1.0%	19.4%	260,163	720,286	26.3%	20.8%
6/30/85-86	54,843,014	56,603,651	53,480,884	1,362,130	3,122,767	96.0%	1.0%	24.8%	333,478	681,584	24.5%	21.8%
6/30/86-87	61,730,246	65,212,262	60,008,695	1,721,551	5,203,567	94.5%	1.0%	18.3%	377,456	805,411	21.9%	15.5%
6/30/87-88	89,571,876	91,357,184	85,553,290	4,018,586	5,803,894	94.6%	1.0%	18.4%	687,882	1,027,495	17.1%	17.7%
6/30/88-89	88,333,178	90,252,024	84,111,809	4,221,369	6,140,215	94.2%	1.0%	17.2%	727,581	1,000,324	17.2%	16.3%
6/30/89-90	84,380,138	85,613,453	80,081,067	4,299,072	5,532,386	94.2%	1.0%	17.3%	818,487	1,130,807	19.0%	20.4%
6/30/90-91	71,586,975	74,998,428	67,724,846	3,862,129	7,273,582	92.4%	1.0%	13.2%	629,771	1,030,913	16.3%	14.2%
6/30/91-92	49,551,523	51,128,621	46,544,901	3,006,622	4,583,720	92.5%	2.0%	26.5%	445,783	661,716	14.8%	14.4%
6/30/92-93	33,228,448	34,870,313	30,684,489	2,543,959	4,185,825	90.1%	2.0%	20.2%	352,085	547,875	13.8%	13.1%
6/30/93-94	36,292,970	37,449,000	33,256,895	3,036,075	4,192,105	90.2%	2.0%	20.4%	405,767	540,523	13.4%	12.9%
6/30/94-95	33,945,450	34,645,000	30,605,870	3,339,580	4,039,130	89.2%	2.0%	18.6%	408,856	482,903	12.2%	12.0%
6/30/95-96	32,439,604	33,500,652	29,039,926	3,399,678	4,460,726	88.1%	2.0%	16.8%	326,679	492,132	9.6%	11.0%
6/30/96-97	33,568,838	34,319,186	29,530,547	4,038,291	4,788,639	87.0%	2.0%	15.4%	412,831	483,580	10.2%	10.1%
6/30/97-98	36,479,642	37,209,256	32,020,175	4,459,466	5,189,081	86.9%	2.0%	15.3%	497,372	572,896	11.2%	11.0%
6/30/98-99	35,195,000	35,931,000	30,206,596	4,988,404	5,724,404	84.9%	2.0%	13.1%	464,260	534,992	9.3%	9.3%
6/30/99-00	40,391,877	41,701,000	34,378,539	6,013,337	7,322,461	83.8%	1.2%	7.3%	676,801	791,428	11.3%	10.8%
6/30/00-01	47,683,212	49,151,000	40,288,358	7,394,854	8,862,642	83.2%	0.5%	3.2%	771,720	889,094	10.4%	10.0%
6/30/01-02	42,873,000	43,753,000	34,956,475	7,916,525	8,796,525	80.7%	2.5%	13.0%	649,328	706,448	8.2%	8.0%
6/30/02-03	42,653,045	44,160,000	34,793,372	7,859,673	9,366,628	80.2%	0.5%	2.8%	602,147	698,704	7.7%	7.5%
6/30/03-04	42,397,954	43,877,650	34,140,579	8,257,375	9,737,071	79.1%	1.0%	4.9%	634,693	737,439	7.7%	7.6%
6/30/04-05	44,480,000	46,806,050	35,935,797	8,544,203	10,870,253	78.7%	0.4%	1.9%	720,578	920,700	8.4%	8.5%
6/30/05-06	40,387,000	42,318,300	31,150,486	9,236,514	11,167,814	75.3%	3.4%	13.8%	665,777	806,145	7.2%	7.2%
6/30/06-07	39,388,000	42,468,750	29,508,651	9,879,349	12,960,099	72.1%	3.2%	11.6%	1,028,020	1,276,643	10.4%	9.9%
6/30/07-08	44,938,800	48,029,050	32,248,459	12,690,341	15,780,591	69.4%	2.7%	8.9%	1,013,254	1,242,640	8.0%	7.9%
6/30/08-09	47,475,600	50,497,698	31,922,466	15,553,134	18,575,232	65.2%	4.2%	12.1%	1,997,337	2,384,725	12.8%	12.8%
6/30/09-10	46,611,250	51,162,225	29,430,227	17,181,023	21,731,998	60.2%	5.0%	12.5%	1,860,412	2,353,574	10.8%	10.8%
6/30/10-11	53,485,010	57,659,439	30,328,266	23,156,744	27,331,173	54.6%	5.6%	12.4%	3,322,810	3,891,342	14.3%	14.2%
6/30/11-12	54,193,170	59,354,419	25,409,156	28,784,014	33,945,263	44.8%	9.8%	17.8%	4,642,182	5,461,638	16.1%	16.1%
6/30/12-13	53,881,350	60,822,062	18,309,252	35,572,098	42,512,810	31.9%	12.8%	18.8%	6,264,776	7,555,797	17.6%	17.8%
6/30/13-14	61,177,700	69,095,804	9,385,822	51,791,878	59,709,982	14.4%	17.5%	20.5%	11,264,959	13,216,939	21.8%	22.1%
Total	1,652,147,635	1,737,532,209	1,333,103,609	319,044,026	404,428,600				45,078,036	55,983,560	14.1%	13.8%

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), (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, 2014

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		6,320,084			7,286,680	8,358,580	966,597	2,038,497		
6/30/82-83		1,241,152	1,255,205		1,245,814	1,280,197	4,663	39,046		
6/30/83-84		3,252,369	3,297,667		3,269,628	3,367,863	17,259	115,494		
6/30/84-85	1,823,085	3,200,244	3,252,378	3,248,321	3,248,740	3,265,636	48,495	65,392	0.178	0.179
6/30/85-86	1,952,445	4,957,299	5,047,538	5,045,480	5,028,101	5,057,115	70,802	99,816	0.258	0.259
6/30/86-87	2,220,820	5,745,711	5,860,195	5,863,442	5,860,246	5,866,437	114,536	120,726	0.264	0.264
6/30/87-88	2,885,583	9,746,800	9,984,202	9,989,563	9,979,000	9,995,000	232,200	248,200	0.346	0.346
6/30/88-89	3,098,180	11,975,978	12,298,247	12,302,249	12,297,230	12,327,225	321,252	351,247	0.397	0.398
6/30/89-90	3,079,763	12,563,968	12,956,990	12,970,286	12,913,950	13,004,306	349,982	440,339	0.419	0.422
6/30/90-91	2,914,364	11,860,583	12,289,367	12,286,886	12,222,115	12,303,782	361,532	443,199	0.419	0.422
6/30/91-92	2,880,434	10,602,914	10,987,413	10,983,651	10,944,074	11,016,647	341,160	413,734	0.380	0.382
6/30/92-93	2,887,238	7,826,543	8,165,528	8,161,998	8,141,767	8,186,684	315,224	360,141	0.282	0.284
6/30/93-94	3,056,850	8,101,818	8,514,766	8,509,251	8,495,970	8,516,000	394,152	414,182	0.278	0.279
6/30/94-95	3,158,808	6,837,368	7,269,191	7,264,863	7,250,873	7,268,476	413,505	431,109	0.230	0.230
6/30/95-96	3,301,791	6,548,588	7,013,913	7,010,633	6,995,043	7,021,625	446,455	473,037	0.212	0.213
6/30/96-97	3,902,868	7,062,337	7,661,293	7,657,329	7,651,847	7,668,626	589,510	606,289	0.196	0.196
6/30/97-98	3,776,138	6,360,866	6,977,151	6,975,645	6,968,000	7,025,700	607,134	664,834	0.185	0.186
6/30/98-99	4,017,530	6,567,127	7,313,488	7,314,251	7,307,000	7,334,000	739,873	766,873	0.182	0.183
6/30/99-00	4,221,786	7,372,673	8,319,504	8,314,092	8,309,000	8,342,000	936,327	969,327	0.197	0.198
6/30/00-01	4,310,725	9,003,056	10,254,796	10,232,970	10,209,580	10,291,000	1,206,524	1,287,944	0.237	0.239
6/30/01-02	4,438,755	7,209,384	8,336,016	8,345,435	8,327,000	8,371,000	1,117,616	1,161,616	0.188	0.189
6/30/02-03	4,423,888	7,822,367	9,233,495	9,231,760	9,082,000	9,264,000	1,259,633	1,441,633	0.205	0.209
6/30/03-04	4,482,207	8,285,856	9,916,736	9,914,776	9,774,000	9,963,650	1,488,144	1,677,794	0.218	0.222
6/30/04-05	4,639,517	9,917,957	12,209,296	11,739,462	11,121,000	12,250,050	1,203,043	2,332,093	0.240	0.264
6/30/05-06	4,938,165	8,828,551	10,970,106	10,971,698	10,292,000	11,135,300	1,463,449	2,306,749	0.208	0.225
6/30/06-07	5,183,126	9,352,229	12,043,257	11,812,755	11,056,000	12,153,750	1,703,771	2,801,521	0.213	0.234
6/30/07-08	5,508,425	8,799,265	11,498,224	11,796,165	10,821,000	11,869,550	2,021,735	3,070,285	0.196	0.215
6/30/08-09	5,447,676	9,090,669	12,260,815	12,388,572	11,342,000	12,518,550	2,251,331	3,427,881	0.208	0.230
6/30/09-10	5,525,579	8,124,749	11,383,268	11,977,151	10,648,000	12,093,350	2,523,251	3,968,601	0.193	0.219
6/30/10-11	5,712,303	8,709,130	12,977,452	13,247,523	11,931,000	13,561,250	3,221,870	4,852,120	0.209	0.237
6/30/11-12	5,880,714	7,783,683	12,722,205	13,396,225	12,256,000	13,646,700	4,472,317	5,863,017	0.208	0.232
6/30/12-13	6,162,621	6,057,463	12,322,586	13,813,495	11,949,000	14,042,100	5,891,537	7,984,637	0.194	0.228
6/30/13-14	6,442,136	2,931,171	14,421,949	15,777,316	13,782,000	16,330,500	10,850,829	13,399,329	0.214	0.253
Total	122,273,519	250,059,950	299,014,234	298,543,241	298,005,659	314,696,651	47,945,709	64,636,701		
Tot 6/30/84-14	122,273,519	239,246,346	294,461,362	298,543,241	286,203,537	301,690,011	46,957,190	62,443,664	0.234	0.247

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, 2014

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 7/1/12-13	Paid Counts 7/1/12-13	Average Outstanding Claim
All Prior Yrs		6,320,084							7	7	
6/30/82-83		1,241,152	1.011	N/A	1,255,205	N/A	1,255,205		2	2	7,027
6/30/83-84		3,252,369	1.014	N/A	3,297,667	N/A	3,297,667		1	2	22,649
6/30/84-85	1,823,085	3,200,244	1.016	N/A	3,252,378	N/A	3,252,378	0.178	4	4	13,033
6/30/85-86	1,952,445	4,957,299	1.018	N/A	5,047,538	N/A	5,047,538	0.259	4	2	45,120
6/30/86-87	2,220,820	5,745,711	1.020	N/A	5,860,195	N/A	5,860,195	0.264	4	4	28,621
6/30/87-88	2,885,583	9,746,800	1.024	N/A	9,984,202	N/A	9,984,202	0.346	16	13	18,262
6/30/88-89	3,098,180	11,975,978	1.027	N/A	12,298,247	N/A	12,298,247	0.397	18	12	26,856
6/30/89-90	3,079,763	12,563,968	1.031	N/A	12,956,990	N/A	12,956,990	0.421	12	12	32,752
6/30/90-91	2,914,364	11,860,583	1.036	N/A	12,289,367	N/A	12,289,367	0.422	17	18	23,821
6/30/91-92	2,880,434	10,602,914	1.036	N/A	10,987,413	N/A	10,987,413	0.381	14	15	25,633
6/30/92-93	2,887,238	7,826,543	1.043	N/A	8,165,528	N/A	8,165,528	0.283	13	11	30,817
6/30/93-94	3,056,850	8,101,818	1.051	N/A	8,514,766	N/A	8,514,766	0.279	19	16	25,809
6/30/94-95	3,158,808	6,837,368	1.063	N/A	7,269,191	N/A	7,269,191	0.230	21	17	25,401
6/30/95-96	3,301,791	6,548,588	1.071	N/A	7,013,913	N/A	7,013,913	0.212	7	8	58,166
6/30/96-97	3,902,868	7,062,337	1.085	N/A	7,661,293	N/A	7,661,293	0.196	20	15	39,930
6/30/97-98	3,776,138	6,360,866	1.097	N/A	6,977,151	N/A	6,977,151	0.185	17	13	47,407
6/30/98-99	4,017,530	6,567,127	1.114	N/A	7,313,488	N/A	7,313,488	0.182	24	20	37,318
6/30/99-00	4,221,786	7,372,673	1.128	N/A	8,319,504	N/A	8,319,504	0.197	27	21	45,087
6/30/00-01	4,310,725	9,003,056	1.139	N/A	10,254,796	N/A	10,254,796	0.238	36	28	44,705
6/30/01-02	4,438,755	7,209,384	1.156	N/A	8,336,016	N/A	8,336,016	0.188	47	34	33,136
6/30/02-03	4,423,888	7,822,367	1.180	N/A	9,233,495	N/A	9,233,495	0.209	43	40	35,278
6/30/03-04	4,482,207	8,285,856	1.197	N/A	9,916,736	N/A	9,916,736	0.221	48	37	44,078
6/30/04-05	4,639,517	9,917,957	1.231	N/A	12,209,296	N/A	12,209,296	0.263	51	42	54,556
6/30/05-06	4,938,165	8,828,551	1.243	N/A	10,970,106	N/A	10,970,106	0.222	66	54	39,658
6/30/06-07	5,183,126	9,352,229	1.288	N/A	12,043,257	N/A	12,043,257	0.232	77	51	52,765
6/30/07-08	5,508,425	8,799,265	1.307	N/A	11,498,224	N/A	11,498,224	0.209	112	66	40,893
6/30/08-09	5,447,676	9,090,669	1.349	N/A	12,260,815	N/A	12,260,815	0.225	132	95	33,370
6/30/09-10	5,525,579	8,124,749	1.401	N/A	11,383,268	N/A	11,383,268	0.206	183	123	26,492
6/30/10-11	5,712,303	8,709,130	1.490	N/A	12,977,452	N/A	12,977,452	0.227	399	211	20,229
6/30/11-12	5,880,714	7,783,683	1.634	N/A	12,722,205	N/A	12,722,205	0.216	1,526	422	11,703
6/30/12-13	6,162,621	6,057,463	2.034	N/A	12,322,586	N/A	12,322,586	0.200	2,177	1,571	3,988
6/30/13-14	6,442,136	2,931,171	4.920	N/A	14,421,949	N/A	14,421,949	0.224		2,219	5,178
Total	122,273,519	250,059,950			299,014,234		299,014,234		5,144	5,205	

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, 2014

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	3,200,244	1.016	3,248,321	N/A	3,248,321	0.178	0.178
6/30/85-86	1,952,445	0.298	4,957,299	1.018	5,045,480	N/A	5,045,480	0.258	0.258
6/30/86-87	2,220,820	0.308	5,745,711	1.020	5,863,442	N/A	5,863,442	0.264	0.264
6/30/87-88	2,885,583	0.387	9,746,800	1.024	9,989,563	N/A	9,989,563	0.346	0.346
6/30/88-89	3,098,180	0.448	11,975,978	1.027	12,302,249	N/A	12,302,249	0.397	0.397
6/30/89-90	3,079,763	0.489	12,563,968	1.031	12,970,286	N/A	12,970,286	0.421	0.421
6/30/90-91	2,914,364	0.419	11,860,583	1.036	12,286,886	N/A	12,286,886	0.422	0.422
6/30/91-92	2,880,434	0.377	10,602,914	1.036	10,983,651	N/A	10,983,651	0.381	0.381
6/30/92-93	2,887,238	0.279	7,826,543	1.043	8,161,998	N/A	8,161,998	0.283	0.283
6/30/93-94	3,056,850	0.274	8,101,818	1.051	8,509,251	N/A	8,509,251	0.278	0.278
6/30/94-95	3,158,808	0.227	6,837,368	1.063	7,264,863	N/A	7,264,863	0.230	0.230
6/30/95-96	3,301,791	0.210	6,548,588	1.071	7,010,633	N/A	7,010,633	0.212	0.212
6/30/96-97	3,902,868	0.195	7,062,337	1.085	7,657,329	N/A	7,657,329	0.196	0.196
6/30/97-98	3,776,138	0.185	6,360,866	1.097	6,975,645	N/A	6,975,645	0.185	0.185
6/30/98-99	4,017,530	0.182	6,567,127	1.114	7,314,251	N/A	7,314,251	0.182	0.182
6/30/99-00	4,221,786	0.196	7,372,673	1.128	8,314,092	N/A	8,314,092	0.197	0.197
6/30/00-01	4,310,725	0.233	9,003,056	1.139	10,232,970	N/A	10,232,970	0.237	0.237
6/30/01-02	4,438,755	0.189	7,209,384	1.156	8,345,435	N/A	8,345,435	0.188	0.188
6/30/02-03	4,423,888	0.208	7,822,367	1.180	9,231,760	N/A	9,231,760	0.209	0.209
6/30/03-04	4,482,207	0.220	8,285,856	1.197	9,914,776	N/A	9,914,776	0.221	0.221
6/30/04-05	4,639,517	0.214	9,917,957	1.231	11,739,462	N/A	11,739,462	0.253	0.253
6/30/05-06	4,938,165	0.217	8,828,551	1.243	10,971,698	N/A	10,971,698	0.222	0.222
6/30/06-07	5,183,126	0.219	9,352,229	1.288	11,812,755	N/A	11,812,755	0.228	0.228
6/30/07-08	5,508,425	0.221	8,799,265	1.307	11,796,165	N/A	11,796,165	0.214	0.214
6/30/08-09	5,447,676	0.225	9,090,669	1.349	12,388,572	N/A	12,388,572	0.227	0.227
6/30/09-10	5,525,579	0.233	8,124,749	1.401	11,977,151	N/A	11,977,151	0.217	0.217
6/30/10-11	5,712,303	0.235	8,709,130	1.490	13,247,523	N/A	13,247,523	0.232	0.232
6/30/11-12	5,880,714	0.238	7,783,683	1.634	13,396,225	N/A	13,396,225	0.228	0.228
6/30/12-13	6,162,621	0.240	6,057,463	2.034	13,813,495	N/A	13,813,495	0.224	0.224
6/30/13-14	6,442,136	0.243	2,931,171	4.920	15,777,316	N/A	15,777,316	0.245	0.245
Total	122,273,519		239,246,346		298,543,241		298,543,241		

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, 2014

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	12,289,367	0.422	1.194	0.503	1.270	0.639	0.162	0.419	0.419
6/30/91-92	2,880,434	10,987,413	0.381	1.189	0.453	1.257	0.570	0.164	0.370	0.377
6/30/92-93	2,887,238	8,165,528	0.283	1.189	0.336	1.245	0.419	0.166	0.277	0.279
6/30/93-94	3,056,850	8,514,766	0.279	1.178	0.328	1.232	0.405	0.169	0.272	0.274
6/30/94-95	3,158,808	7,269,191	0.230	1.170	0.269	1.220	0.329	0.172	0.225	0.227
6/30/95-96	3,301,791	7,013,913	0.212	1.155	0.245	1.208	0.297	0.176	0.209	0.210
6/30/96-97	3,902,868	7,661,293	0.196	1.137	0.223	1.196	0.267	0.180	0.189	0.195
6/30/97-98	3,776,138	6,977,151	0.185	1.135	0.210	1.184	0.248	0.182	0.181	0.185
6/30/98-99	4,017,530	7,313,488	0.182	1.135	0.207	1.173	0.242	0.184	0.179	0.182
6/30/99-00	4,221,786	8,319,504	0.197	1.135	0.224	1.161	0.260	0.186	0.192	0.196
6/30/00-01	4,310,725	10,254,796	0.238	1.109	0.264	1.149	0.303	0.192	0.229	0.233
6/30/01-02	4,438,755	8,336,016	0.188	1.101	0.207	1.138	0.235	0.196	0.184	0.189
6/30/02-03	4,423,888	9,233,495	0.209	1.073	0.224	1.127	0.252	0.203	0.204	0.208
6/30/03-04	4,482,207	9,916,736	0.221	1.046	0.232	1.116	0.258	0.210	0.217	0.220
6/30/04-05	4,639,517	12,209,296	0.263	1.036	0.273	1.105	0.301	0.214	0.202	0.214
6/30/05-06	4,938,165	10,970,106	0.222	1.032	0.229	1.094	0.251	0.217	0.207	0.217
6/30/06-07	5,183,126	12,043,257	0.232	1.032	0.240	1.083	0.260	0.219	0.211	0.219
6/30/07-08	5,508,425	11,498,224	0.209	1.032	0.215	1.072	0.231	0.221	0.215	0.221
6/30/08-09	5,447,676	12,260,815	0.225	1.027	0.231	1.062	0.245	0.225	0.221	0.225
6/30/09-10	5,525,579	11,383,268	0.206	1.000	0.206	1.051	0.217	0.233	0.231	0.233
6/30/10-11	5,712,303	12,977,452	0.227	1.000	0.227	1.041	0.236	0.235	0.236	0.235
6/30/11-12	5,880,714	12,722,205	0.216	1.000	0.216	1.030	0.223	0.238	0.240	0.238
6/30/12-13	6,162,621	12,322,586	0.200	1.000	0.200	1.020	0.204	0.240	0.245	0.240
6/30/13-14	6,442,136	14,421,949	0.224	1.000	0.224	1.010	0.226	0.243		0.243
Total	107,213,643	245,061,812								

Trend Last 4 (ex 13-14):	-1.4%	Avg 3 (ex 13-14):	0.221
Trend Last 8 (ex 13-14):	-1.7%	Avg 5 (ex 13-14):	0.225
Trend Last 12 (ex 13-14):	-0.8%	Avg 10 (ex 13-14):	0.243
Prior Selected Trend:	2.0%	Prior Sel Avg:	0.250
Selected Trend:	1.0%	Sel. Loss Cost:	0.245

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, 2013
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

All Clusters Combined
Medical

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend	0.950	
(2)	Credibility	89%	
(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 2014	115,903	115,903
(7)	Estimated Reserve	1,332,881	3,747,521
(8)	Paid to Date (82 & Prior)	6,320,084	6,320,084
(9)	Est Ult Paid for 1982 & Prior	7,652,965	10,067,605

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	108,385	116,285
(11)	Projected Number of Years	3	3
(12)	Estimated Reserve	325,155	348,855
(13)	Paid to Date (82 & Prior)	6,320,084	6,204,181
(14)	Est Ult Paid for 1982 & Prior	6,645,239	6,553,036
(14a)	Paid Counts During Fiscal Year	7	7
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	7,149,102	10,067,605
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	**7,149,102**	**10,067,605**
(18)	Implied Tail	1.131	1.593
(19)	Ult Loss Inc Lump Sums @ 6/13	6,991,341	9,649,694

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, 2013

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 =	23
2001	10	83,644	11.334	0.746	S(x) =	46,069
2002	11	54,441	10.905	0.651	S(x-sq) =	92,277,219
2003	12	53,298	10.884	0.979	S(xy) =	538,560
2004	13	73,810	11.209	1.385	S(y) =	269
2005	14	86,676	11.370	1.174	D =	23,276
2006	15	71,904	11.183	0.830	slope =	-0.040
2007	16	66,960	11.112	0.931	Avg Trend =	0.960
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		
2014	23	115,903	11.661	1.088		
					Selected Trend:	**0.950**

NOTES:

(3) 2014 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2013

(4) LN [(3)]

(5) Eg. 2013: 1.088 = 115903 / 106562

Commonwealth of Massachusetts Workers Compensatio
All Clusters Combined
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	384
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	1,241,152
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	3,252,369	
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	3,200,244		
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	4,957,299			
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	5,745,711				
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	9,379,358	9,460,451	9,506,848	9,566,385	9,624,005	9,677,988	9,708,186	9,746,800					
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	11,975,978						
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	12,563,968							
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	11,860,583								
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	10,602,914									
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	7,826,543										
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	8,101,818											
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	6,837,368												
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	6,548,588													
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	7,062,337														
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	6,360,866															
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	6,567,127																
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	7,372,673																	
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	9,003,056																		
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	7,209,384																			
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	7,822,367																				
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	8,285,856																					
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	9,917,957																						
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	8,828,551																							
June-07	2,697,227	6,287,742	7,783,576	8,319,615	8,708,706	8,952,407	9,197,087	9,352,229																								
June-08	3,229,281	6,460,123	7,505,731	8,076,203	8,364,088	8,613,325	8,799,265																									
June-09	3,247,133	6,451,648	7,766,520	8,400,468	8,775,739	9,090,669																										
June-10	3,060,289	6,279,753	7,213,128	7,731,312	8,124,749																											
June-11	3,709,038	7,016,744	8,085,690	8,709,130																												
June-12	3,189,372	6,711,576	7,783,683																													
June-13	2,903,130	6,057,463																														
June-14	2,931,171																															

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
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	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	1.002	
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	1.006		
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	1.001			
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	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	1.004					
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	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	1.002							
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	1.003								
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	1.023									
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	1.009										
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	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	1.006												
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	1.002													
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	1.030														
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	1.014															
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	1.014																
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	1.015																	
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	1.018																		
June-02	2.375	1.303	1.167	1.074	1.039	1.022	1.034	1.036	1.022	1.038	1.022	1.019																			
June-03	3.940	1.434	1.121	1.064	1.038	1.031	1.031	1.024	1.023	1.014	1.022																				
June-04	3.303	1.296	1.116	1.043	1.045	1.029	1.021	1.015	1.011	1.013																					
June-05	2.632	1.231	1.105	1.058	1.035	1.037	1.022	1.020	1.018																						
June-06	2.260	1.220	1.095	1.058	1.039	1.033	1.022	1.016																							
June-07	2.331	1.238	1.069	1.047	1.028	1.027	1.017																								
June-08	2.000	1.162	1.076	1.036	1.030	1.022																									
June-09	1.987	1.204	1.082	1.045	1.036																										
June-10	2.052	1.149	1.072	1.051																											
June-11	1.892	1.152	1.077																												
June-12	2.104	1.160																													
June-13	2.087																														

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	2.453	1.281	1.136	1.090	1.063	1.052	1.043	1.034	1.027	1.021	1.019	1.014	1.016	1.013	1.009	1.009	1.009	1.006	1.006	1.007	1.008	1.007	1.005	1.005	1.005	1.004	1.005	1.005	1.003	1.002	1.003	
Latest 5	2.024	1.165	1.075	1.047	1.034	1.029	1.022	1.022	1.023	1.020	1.022	1.018	1.019	1.014	1.013	1.012	1.013	1.005	1.009	1.008	1.009	1.008	1.004	1.004	1.006	1.004	1.005				
Latest 3	2.028	1.154	1.077	1.044	1.031	1.027	1.020	1.017	1.018	1.022	1.023	1.019	1.019	1.015	1.018	1.016	1.017	1.005	1.006	1.010	1.013	1.010	1.003	1.004	1.004	1.003	1.005	1.005	1.003		
Volume Wtd																															
All Yrs	2.349	1.244	1.115	1.071	1.049	1.037	1.030	1.023	1.020	1.017	1.016	1.013	1.012	1.010	1.009	1.009	1.010	1.007	1.007	1.007	1.008	1.007	1.004	1.004	1.005	1.004	1.005	1.004	1.003	1.002	1.003	
Latest 5	2.019	1.165	1.075	1.047	1.033	1.029	1.022	1.021	1.022	1.020	1.022	1.018	1.019	1.014	1.013	1.012	1.013	1.006	1.009	1.008	1.009	1.008	1.004	1.004	1.005	1.004	1.005				
Latest 3	2.019	1.154	1.077	1.044	1.031	1.027	1.020	1.017	1.017	1.021	1.023	1.018	1.019	1.015	1.018	1.016	1.017	1.005	1.006	1.010	1.013	1.009	1.002	1.004	1.004	1.003	1.004	1.004	1.003		

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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 6/13		As of 6/14		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	7,206,170	8,287,956	7,286,680	8,358,580	80,510	1.1%	70,624	0.9%
6/30/82-83	1,241,891	1,277,556	1,245,814	1,280,197	3,923	0.3%	2,641	0.2%
6/30/83-84	3,264,321	3,370,630	3,269,628	3,367,863	5,307	0.2%	(2,767)	-0.1%
6/30/84-85	3,235,354	3,254,739	3,248,740	3,265,636	13,385	0.4%	10,897	0.3%
6/30/85-86	5,032,131	5,064,115	5,028,101	5,057,115	(4,030)	-0.1%	(7,000)	-0.1%
6/30/86-87	5,851,562	5,873,716	5,860,246	5,866,437	8,684	0.1%	(7,280)	-0.1%
6/30/87-88	9,973,000	9,990,000	9,979,000	9,995,000	6,000	0.1%	5,000	0.1%
6/30/88-89	12,290,230	12,321,225	12,297,230	12,327,225	7,000	0.1%	6,000	0.0%
6/30/89-90	12,911,230	13,001,549	12,913,950	13,004,306	2,720	0.0%	2,757	0.0%
6/30/90-91	12,262,865	12,315,782	12,222,115	12,303,782	(40,750)	-0.3%	(12,000)	-0.1%
6/30/91-92	10,757,534	10,803,647	10,944,074	11,016,647	186,540	1.7%	213,000	2.0%
6/30/92-93	8,109,747	8,138,684	8,141,767	8,186,684	32,020	0.4%	48,000	0.6%
6/30/93-94	8,473,000	8,481,000	8,495,970	8,516,000	22,970	0.3%	35,000	0.4%
6/30/94-95	7,226,423	7,235,476	7,250,873	7,268,476	24,450	0.3%	33,000	0.5%
6/30/95-96	6,994,043	7,021,625	6,995,043	7,021,625	1,000	0.0%	0	0.0%
6/30/96-97	7,442,847	7,463,626	7,651,847	7,668,626	209,000	2.8%	205,000	2.7%
6/30/97-98	6,887,000	6,936,350	6,968,000	7,025,700	81,000	1.2%	89,350	1.3%
6/30/98-99	7,232,000	7,252,000	7,307,000	7,334,000	75,000	1.0%	82,000	1.1%
6/30/99-00	8,202,000	8,233,000	8,309,000	8,342,000	107,000	1.3%	109,000	1.3%
6/30/00-01	10,024,700	10,165,000	10,209,580	10,291,000	184,880	1.8%	126,000	1.2%
6/30/01-02	8,210,000	8,241,000	8,327,000	8,371,000	117,000	1.4%	130,000	1.6%
6/30/02-03	8,946,000	9,119,000	9,082,000	9,264,000	136,000	1.5%	145,000	1.6%
6/30/03-04	9,710,000	9,892,400	9,774,000	9,963,650	64,000	0.7%	71,250	0.7%
6/30/04-05	10,978,000	12,165,200	11,121,000	12,250,050	143,000	1.3%	84,850	0.7%
6/30/05-06	10,386,000	11,064,900	10,292,000	11,135,300	(94,000)	-0.9%	70,400	0.6%
6/30/06-07	10,975,000	12,279,100	11,056,000	12,153,750	81,000	0.7%	(125,350)	-1.0%
6/30/07-08	11,062,000	11,988,200	10,821,000	11,869,550	(241,000)	-2.2%	(118,650)	-1.0%
6/30/08-09	11,434,000	12,950,050	11,342,000	12,518,550	(92,000)	-0.8%	(431,500)	-3.3%
6/30/09-10	10,795,000	12,648,950	10,648,000	12,093,350	(147,000)	-1.4%	(555,600)	-4.4%
6/30/10-11	12,329,000	14,364,750	11,931,000	13,561,250	(398,000)	-3.2%	(803,500)	-5.6%
6/30/11-12	12,764,000	15,238,050	12,256,000	13,646,700	(508,000)	-4.0%	(1,591,350)	-10.4%
6/30/12-13	13,254,000	16,954,100	11,949,000	14,042,100	(1,305,000)	-9.8%	(2,912,000)	-17.2%
6/30/13-14								
Total	285,461,050	303,393,379	284,223,659	298,366,151	(1,237,390)	-0.4%	(5,027,228)	-1.7%

NOTES:

(2), (3) From Aon analysis as of June 30, 2013

(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%
396	100.0%	1.1%	0.0%	0.3%	0.2%	1.000	1.000
384	98.9%	0.3%	1.1%	0.1%	0.0%	0.981	0.971
372	98.6%	0.2%	1.4%	0.1%	0.0%	0.950	0.926
360	98.4%	0.2%	1.6%	0.1%	0.0%	0.923	0.888
348	98.2%	0.2%	1.8%	0.1%	0.0%	0.897	0.851
336	98.0%	0.4%	2.0%	0.1%	0.1%	0.873	0.818
324	97.6%	0.2%	2.4%	0.1%	0.1%	0.864	0.807
312	97.4%	0.4%	2.6%	0.2%	0.1%	0.845	0.781
300	97.0%	0.5%	3.0%	0.2%	0.1%	0.835	0.768
288	96.5%	0.0%	3.5%	0.0%	0.0%	0.826	0.757
276	96.5%	0.7%	3.5%	0.3%	0.2%	0.795	0.715
264	95.8%	0.7%	4.2%	0.3%	0.2%	0.798	0.721
252	95.2%	1.1%	4.8%	0.5%	0.3%	0.798	0.722
240	94.1%	0.7%	5.9%	0.3%	0.2%	0.807	0.735
228	93.4%	1.2%	6.6%	0.6%	0.4%	0.797	0.722
216	92.2%	1.0%	7.8%	0.5%	0.4%	0.799	0.725
204	91.2%	1.4%	8.8%	0.7%	0.5%	0.793	0.717
192	89.8%	1.2%	10.2%	0.6%	0.5%	0.791	0.716
180	88.6%	0.8%	11.4%	0.5%	0.4%	0.784	0.706
168	87.8%	1.3%	12.2%	0.8%	0.6%	0.769	0.687
156	86.5%	1.8%	13.5%	1.1%	0.9%	0.763	0.679
144	84.7%	1.2%	15.3%	0.7%	0.6%	0.762	0.679
132	83.6%	2.3%	16.4%	1.5%	1.3%	0.750	0.664
120	81.2%	0.8%	18.8%	0.5%	0.4%	0.753	0.669
108	80.5%	2.8%	19.5%	2.0%	1.7%	0.734	0.644
96	77.7%	1.1%	22.3%	0.8%	0.7%	0.741	0.654
84	76.5%	2.4%	23.5%	1.8%	1.6%	0.725	0.634
72	74.1%	2.8%	25.9%	2.2%	2.0%	0.723	0.632
60	71.4%	4.3%	28.6%	3.6%	3.3%	0.723	0.633
48	67.1%	5.9%	32.9%	5.2%	4.8%	0.732	0.646
36	61.2%	12.0%	38.8%	10.9%	10.4%	0.746	0.664
24	49.2%	28.8%	50.8%	27.2%	26.4%	0.780	0.708
12	20.3%	20.3%	79.7%	19.9%	19.7%	0.833	0.778
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, 2014

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	966,597	2,038,497		895,083	1,891,337
6/30/82-83	4,663	39,046	0.981	4,580	38,306
6/30/83-84	17,259	115,494	0.950	16,368	109,531
6/30/84-85	48,495	65,392	0.923	44,923	60,670
6/30/85-86	70,802	99,816	0.897	64,097	90,908
6/30/86-87	114,536	120,726	0.873	101,301	107,013
6/30/87-88	232,200	248,200	0.864	200,965	214,697
6/30/88-89	321,252	351,247	0.845	272,746	296,573
6/30/89-90	349,982	440,339	0.835	291,303	364,335
6/30/90-91	361,532	443,199	0.826	294,640	360,319
6/30/91-92	341,160	413,734	0.795	273,202	328,103
6/30/92-93	315,224	360,141	0.798	250,070	285,302
6/30/93-94	394,152	414,182	0.798	312,758	328,434
6/30/94-95	413,505	431,109	0.807	329,370	343,148
6/30/95-96	446,455	473,037	0.797	351,230	372,860
6/30/96-97	589,510	606,289	0.799	457,556	471,027
6/30/97-98	607,134	664,834	0.793	468,731	512,924
6/30/98-99	739,873	766,873	0.791	568,023	587,928
6/30/99-00	936,327	969,327	0.784	713,621	737,687
6/30/00-01	1,206,524	1,287,944	0.769	907,839	967,457
6/30/01-02	1,117,616	1,161,616	0.763	841,673	873,908
6/30/02-03	1,259,633	1,441,633	0.762	942,052	1,073,990
6/30/03-04	1,488,144	1,677,794	0.750	1,110,421	1,249,923
6/30/04-05	1,203,043	2,332,093	0.753	885,292	1,717,042
6/30/05-06	1,463,449	2,306,749	0.734	1,072,622	1,693,065
6/30/06-07	1,703,771	2,801,521	0.741	1,237,484	2,046,727
6/30/07-08	2,021,735	3,070,285	0.725	1,467,177	2,234,579
6/30/08-09	2,251,331	3,427,881	0.723	1,631,899	2,492,543
6/30/09-10	2,523,251	3,968,601	0.723	1,831,062	2,885,804
6/30/10-11	3,221,870	4,852,120	0.732	2,357,933	3,550,611
6/30/11-12	4,472,317	5,863,017	0.746	3,332,271	4,378,597
6/30/12-13	5,891,537	7,984,637	0.780	4,583,202	6,210,427
6/30/13-14	10,850,829	13,399,329	0.833	9,007,942	11,122,547
Total	47,945,709	64,636,701		37,119,438	49,998,323
			(7) Total Discount Factor:	0.774	0.774

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	966,597	2,038,497
(9) Projected Number of Years:	3	3
(10) Projected Paid Loss per Year:	322,199	679,499
(11) Discounted Value at 4%:	912,014	1,923,385

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, 2014

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	966,597	2,038,497		863,290	1,825,778
6/30/82-83	4,663	39,046	0.971	4,540	37,952
6/30/83-84	17,259	115,494	0.926	15,954	106,755
6/30/84-85	48,495	65,392	0.888	43,300	58,527
6/30/85-86	70,802	99,816	0.851	61,126	86,958
6/30/86-87	114,536	120,726	0.818	95,571	101,077
6/30/87-88	232,200	248,200	0.807	187,734	200,510
6/30/88-89	321,252	351,247	0.781	252,630	273,968
6/30/89-90	349,982	440,339	0.768	267,457	333,574
6/30/90-91	361,532	443,199	0.757	268,052	327,422
6/30/91-92	341,160	413,734	0.715	246,701	294,928
6/30/92-93	315,224	360,141	0.721	225,098	256,723
6/30/93-94	394,152	414,182	0.722	282,052	296,089
6/30/94-95	413,505	431,109	0.735	298,041	310,400
6/30/95-96	446,455	473,037	0.722	316,200	336,035
6/30/96-97	589,510	606,289	0.725	409,521	421,795
6/30/97-98	607,134	664,834	0.717	418,865	458,259
6/30/98-99	739,873	766,873	0.716	506,916	524,344
6/30/99-00	936,327	969,327	0.706	635,227	656,219
6/30/00-01	1,206,524	1,287,944	0.687	803,802	855,993
6/30/01-02	1,117,616	1,161,616	0.679	746,481	774,758
6/30/02-03	1,259,633	1,441,633	0.679	833,528	948,514
6/30/03-04	1,488,144	1,677,794	0.664	982,414	1,105,082
6/30/04-05	1,203,043	2,332,093	0.669	778,291	1,510,541
6/30/05-06	1,463,449	2,306,749	0.644	942,150	1,488,640
6/30/06-07	1,703,771	2,801,521	0.654	1,083,504	1,797,101
6/30/07-08	2,021,735	3,070,285	0.634	1,285,034	1,960,322
6/30/08-09	2,251,331	3,427,881	0.632	1,429,677	2,188,100
6/30/09-10	2,523,251	3,968,601	0.633	1,606,514	2,535,725
6/30/10-11	3,221,870	4,852,120	0.646	2,078,938	3,131,926
6/30/11-12	4,472,317	5,863,017	0.664	2,965,321	3,901,858
6/30/12-13	5,891,537	7,984,637	0.708	4,159,811	5,637,339
6/30/13-14	10,850,829	13,399,329	0.778	8,398,304	10,369,796
Total	47,945,709	64,636,701		33,492,043	45,113,010
			(7) Total Discount Factor:	0.699	0.698

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	966,597	2,038,497
(9) Projected Number of Years:	3	3
(10) Projected Paid Loss per Year:	322,199	679,499
(11) Discounted Value at 6%:	887,079	1,870,798

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, 2014

Department of Developmental Services - 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		20,685,094			25,623,960	27,856,420	4,938,866	7,171,327		
6/30/82-83		4,699,567	5,186,231		5,056,576	5,315,887	357,009	616,320		
6/30/83-84		8,147,375	9,820,380		9,623,972	10,016,787	1,476,598	1,869,413		
6/30/84-85	181,560	6,810,711	6,934,596	6,939,485	6,879,000	6,947,000	68,289	136,289	3.789	3.826
6/30/85-86	195,247	10,272,096	10,524,251	10,523,944	10,580,000	10,683,000	307,904	410,904	5.419	5.472
6/30/86-87	224,370	13,480,506	13,887,742	13,901,274	13,750,000	13,885,000	269,494	404,494	6.128	6.188
6/30/87-88	262,864	19,370,600	21,829,790	20,064,363	20,064,000	20,738,500	693,400	1,367,900	7.633	7.889
6/30/88-89	283,884	19,949,853	20,759,780	20,773,907	20,760,000	20,774,000	810,147	824,147	7.313	7.318
6/30/89-90	285,078	14,988,218	15,628,465	15,727,318	15,138,000	15,288,000	149,782	299,782	5.310	5.363
6/30/90-91	267,732	10,865,103	11,366,500	11,363,032	10,974,000	11,082,000	108,897	216,897	4.099	4.139
6/30/91-92	261,442	7,536,094	7,914,524	7,909,958	7,910,000	7,915,000	373,906	378,906	3.026	3.027
6/30/92-93	259,992	4,189,576	4,419,195	4,416,347	4,231,000	4,273,000	41,424	83,424	1.627	1.644
6/30/93-94	257,062	3,496,223	3,691,425	3,689,392	3,566,000	3,601,000	69,777	104,777	1.387	1.401
6/30/94-95	255,854	2,081,529	2,206,591	2,207,881	2,207,000	2,208,000	125,471	126,471	0.863	0.863
6/30/95-96	255,539	3,034,290	3,232,512	3,230,437	3,230,000	3,233,000	195,710	198,710	1.264	1.265
6/30/96-97	270,071	2,467,027	2,632,967	2,634,249	2,633,000	2,634,000	165,973	166,973	0.975	0.975
6/30/97-98	245,367	2,603,111	2,807,069	2,805,369	2,805,000	2,807,000	201,889	203,889	1.143	1.144
6/30/98-99	251,453	2,410,298	2,602,166	2,603,494	2,602,000	2,603,000	191,702	192,702	1.035	1.035
6/30/99-00	255,641	2,339,128	2,574,110	2,573,783	2,574,000	2,574,000	234,872	234,872	1.007	1.007
6/30/00-01	263,918	3,216,895	3,601,859	3,591,290	3,591,000	3,602,000	374,105	385,105	1.361	1.365
6/30/01-02	267,598	2,229,481	2,517,163	2,519,558	2,517,000	2,520,000	287,519	290,519	0.941	0.942
6/30/02-03	274,465	2,951,875	3,380,647	3,374,133	3,374,000	3,381,000	422,125	429,125	1.229	1.232
6/30/03-04	272,384	3,057,255	3,556,554	3,546,402	3,546,000	3,557,000	488,745	499,745	1.302	1.306
6/30/04-05	273,647	2,658,617	3,127,804	3,098,527	3,099,000	3,128,000	440,383	469,383	1.132	1.143
6/30/05-06	285,139	2,586,031	3,108,882	3,092,491	3,092,000	3,109,000	505,969	522,969	1.084	1.090
6/30/06-07	298,516	2,644,984	3,373,438	3,367,740	3,368,000	3,373,000	723,016	728,016	1.128	1.130
6/30/07-08	314,231	1,447,068	2,115,952	2,403,438	2,116,000	2,403,000	668,932	955,932	0.673	0.765
6/30/08-09	302,998	2,053,061	2,866,165	3,011,136	2,866,000	3,011,000	812,939	957,939	0.946	0.994
6/30/09-10	297,252	2,880,305	4,126,267	3,978,357	3,978,000	4,126,000	1,097,695	1,245,695	1.338	1.388
6/30/10-11	292,432	2,104,774	3,389,527	3,396,927	3,390,000	3,397,000	1,285,226	1,292,226	1.159	1.162
6/30/11-12	295,908	2,028,040	3,829,241	3,732,381	3,732,000	3,829,000	1,703,960	1,800,960	1.261	1.294
6/30/12-13	301,541	1,418,163	3,572,374	3,636,211	3,572,000	3,636,000	2,153,837	2,217,837	1.185	1.206
6/30/13-14	309,910	693,795	3,595,643	3,741,648	3,596,000	3,742,000	2,902,205	3,048,205	1.160	1.207
Total	8,063,095	191,396,747	194,179,810	177,854,471	216,044,508	221,248,595	24,647,761	29,851,848		
Tot 6/30/84-14	8,063,095	157,864,712	179,173,199	177,854,471	175,740,000	178,059,500	17,875,288	20,194,788	2.180	2.208

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, 2014

Department of Developmental Services - 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 7/1/12-13	Paid Counts 7/1/13-14	Average Outstanding Claim	Average Age
All Prior Yrs		19,419,596							10	10		76
6/30/82-83		4,309,167	1.012	1.100	4,795,831	390,400	5,186,231		1	1	486,665	86
6/30/83-84		7,598,225	1.017	1.200	9,271,230	549,150	9,820,380		3	3	557,668	68
6/30/84-85	181,560	5,655,860	1.022	1.000	5,779,745	1,154,851	6,934,596	3.819	1	0		
6/30/85-86	195,247	9,334,452	1.027	1.000	9,586,607	937,644	10,524,251	5.390	0	0		
6/30/86-87	224,370	11,412,789	1.035	1.000	11,814,856	2,072,886	13,887,742	6.190	0	0		
6/30/87-88	262,864	16,574,836	1.044	1.100	19,025,632	2,804,158	21,829,790	8.305	3	3	816,932	71
6/30/88-89	283,884	16,310,241	1.049	1.000	17,107,409	3,652,371	20,759,780	7.313	3	2	398,584	84
6/30/89-90	285,078	11,631,137	1.054	1.000	12,257,925	3,370,540	15,628,465	5.482	1	1	626,789	60
6/30/90-91	267,732	8,299,673	1.059	1.000	8,789,492	2,577,008	11,366,500	4.245	1	1	489,819	82
6/30/91-92	261,442	5,729,682	1.064	1.000	6,096,000	1,818,524	7,914,524	3.027	2	2	183,159	63
6/30/92-93	259,992	3,210,473	1.069	1.000	3,432,968	986,227	4,419,195	1.700	0	0		
6/30/93-94	257,062	2,527,522	1.074	1.000	2,715,526	975,898	3,691,425	1.436	0	0		
6/30/94-95	255,854	1,526,329	1.078	1.000	1,646,117	560,474	2,206,591	0.862	0	0		
6/30/95-96	255,539	2,287,650	1.083	1.000	2,476,900	755,612	3,232,512	1.265	1	1	189,249	58
6/30/96-97	270,071	1,787,477	1.087	1.000	1,943,430	689,538	2,632,967	0.975	0	0		
6/30/97-98	245,367	2,069,948	1.092	1.000	2,260,569	546,500	2,807,069	1.144	1	1	190,621	54
6/30/98-99	251,453	1,758,227	1.100	1.000	1,933,875	668,291	2,602,166	1.035	1	0		
6/30/99-00	255,641	1,996,627	1.107	1.000	2,210,641	363,469	2,574,110	1.007	1	1	214,014	70
6/30/00-01	263,918	2,965,792	1.118	1.000	3,316,593	285,265	3,601,859	1.365	4	4	87,700	57
6/30/01-02	267,598	1,946,268	1.132	1.000	2,202,960	314,203	2,517,163	0.941	1	0		
6/30/02-03	274,465	2,623,851	1.145	1.000	3,005,072	375,575	3,380,647	1.232	2	1	381,220	69
6/30/03-04	272,384	2,777,430	1.160	1.000	3,221,500	335,054	3,556,554	1.306	2	3	148,023	60
6/30/04-05	273,647	2,315,265	1.175	1.000	2,721,192	406,612	3,127,804	1.143	0	0		
6/30/05-06	285,139	2,319,829	1.195	1.000	2,771,957	336,925	3,108,882	1.090	4	3	150,709	58
6/30/06-07	298,516	2,357,734	1.219	1.000	2,873,438	500,000	3,373,438	1.130	8	7	73,672	54
6/30/07-08	314,231	1,289,567	1.253	1.000	1,615,952	500,000	2,115,952	0.673	2	2	163,192	42
6/30/08-09	302,998	1,807,061	1.309	1.000	2,366,165	500,000	2,866,165	0.946	11	6	93,184	53
6/30/09-10	297,252	2,542,928	1.374	1.000	3,493,182	633,085	4,126,267	1.388	23	17	55,897	51
6/30/10-11	292,432	1,948,510	1.483	1.000	2,889,527	500,000	3,389,527	1.159	25	19	49,527	52
6/30/11-12	295,908	1,872,540	1.716	1.000	3,213,453	615,789	3,829,241	1.294	87	27	49,663	53
6/30/12-13	301,541	1,316,963	2.247	1.000	2,959,578	612,797	3,572,374	1.185	215	61	26,928	48
6/30/13-14	309,910	693,795	4.327	1.000	3,001,718	593,924	3,595,643	1.160		241	9,576	49
Total	8,063,095	162,217,447			162,797,040	31,382,769	194,179,810		413	417		

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, 2014

Department of Developmental Services - 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	1.022	5,784,634	1,154,851	6,939,485	3.822	3.186
6/30/85-86	195,247	4.904	9,334,452	1.027	9,586,300	937,644	10,523,944	5.390	4.910
6/30/86-87	224,370	5.443	11,412,789	1.035	11,828,387	2,072,886	13,901,274	6.196	5.272
6/30/87-88	262,864	6.253	16,574,836	1.044	17,260,205	2,804,158	20,064,363	7.633	6.566
6/30/88-89	283,884	6.133	16,310,241	1.049	17,121,536	3,652,371	20,773,907	7.318	6.031
6/30/89-90	285,078	4.978	11,631,137	1.054	12,356,779	3,370,540	15,727,318	5.517	4.335
6/30/90-91	267,732	3.260	8,299,673	1.059	8,786,025	2,577,008	11,363,032	4.244	3.282
6/30/91-92	261,442	2.303	5,729,682	1.064	6,091,434	1,818,524	7,909,958	3.026	2.330
6/30/92-93	259,992	1.304	3,210,473	1.069	3,430,121	986,227	4,416,347	1.699	1.319
6/30/93-94	257,062	1.045	2,527,522	1.074	2,713,494	975,898	3,689,392	1.435	1.056
6/30/94-95	255,854	0.650	1,526,329	1.078	1,647,407	560,474	2,207,881	0.863	0.644
6/30/95-96	255,539	0.959	2,287,650	1.083	2,474,825	755,612	3,230,437	1.264	0.968
6/30/96-97	270,071	0.726	1,787,477	1.087	1,944,711	689,538	2,634,249	0.975	0.720
6/30/97-98	245,367	0.913	2,069,948	1.092	2,258,869	546,500	2,805,369	1.143	0.921
6/30/98-99	251,453	0.775	1,758,227	1.100	1,935,203	668,291	2,603,494	1.035	0.770
6/30/99-00	255,641	0.863	1,996,627	1.107	2,210,314	363,469	2,573,783	1.007	0.865
6/30/00-01	263,918	1.219	2,965,792	1.118	3,306,025	285,265	3,591,290	1.361	1.253
6/30/01-02	267,598	0.831	1,946,268	1.132	2,205,354	314,203	2,519,558	0.942	0.824
6/30/02-03	274,465	1.076	2,623,851	1.145	2,998,558	375,575	3,374,133	1.229	1.093
6/30/03-04	272,384	1.156	2,777,430	1.160	3,211,348	335,054	3,546,402	1.302	1.179
6/30/04-05	273,647	0.923	2,315,265	1.175	2,691,916	406,612	3,098,527	1.132	0.984
6/30/05-06	285,139	0.937	2,319,829	1.195	2,755,566	336,925	3,092,491	1.085	0.966
6/30/06-07	298,516	0.952	2,357,734	1.219	2,867,740	500,000	3,367,740	1.128	0.961
6/30/07-08	314,231	0.967	1,289,567	1.253	1,903,438	500,000	2,403,438	0.765	0.606
6/30/08-09	302,998	0.983	1,807,061	1.309	2,511,136	500,000	3,011,136	0.994	0.829
6/30/09-10	297,252	0.992	2,542,928	1.374	3,345,272	633,085	3,978,357	1.338	1.125
6/30/10-11	292,432	0.996	1,948,510	1.483	2,896,927	500,000	3,396,927	1.162	0.991
6/30/11-12	295,908	1.008	1,872,540	1.716	3,116,593	615,789	3,732,381	1.261	1.053
6/30/12-13	301,541	1.020	1,316,963	2.247	3,023,414	612,797	3,636,211	1.206	1.003
6/30/13-14	309,910	1.030	693,795	4.327	3,147,724	593,924	3,741,648	1.207	1.016
Total	8,063,095		130,890,459		147,411,252	30,443,219	177,854,471		

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, 2014

Department of Developmental Services - 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	8,789,492	3.283	0.957	3.143	1.127	3.543	0.959	3.382	3.260
6/30/91-92	261,442	6,096,000	2.332	1.050	2.449	1.122	2.747	0.879	2.389	2.303
6/30/92-93	259,992	3,432,968	1.320	1.225	1.617	1.116	1.805	0.757	1.364	1.304
6/30/93-94	257,062	2,715,526	1.056	1.209	1.277	1.110	1.418	0.771	1.094	1.045
6/30/94-95	255,854	1,646,117	0.643	1.198	0.771	1.105	0.852	0.782	0.678	0.650
6/30/95-96	255,539	2,476,900	0.969	1.188	1.152	1.099	1.266	0.792	0.987	0.959
6/30/96-97	270,071	1,943,430	0.720	1.177	0.847	1.094	0.926	0.804	0.755	0.726
6/30/97-98	245,367	2,260,569	0.921	1.162	1.070	1.088	1.165	0.819	0.943	0.913
6/30/98-99	251,453	1,933,875	0.769	1.146	0.882	1.083	0.955	0.834	0.807	0.775
6/30/99-00	255,641	2,210,641	0.865	1.128	0.975	1.078	1.051	0.852	0.885	0.863
6/30/00-01	263,918	3,316,593	1.257	1.099	1.381	1.072	1.481	0.878	1.251	1.219
6/30/01-02	267,598	2,202,960	0.823	1.078	0.887	1.067	0.947	0.900	0.866	0.831
6/30/02-03	274,465	3,005,072	1.095	1.074	1.176	1.062	1.248	0.908	1.115	1.076
6/30/03-04	272,384	3,221,500	1.183	1.074	1.270	1.056	1.342	0.912	1.182	1.156
6/30/04-05	273,647	2,721,192	0.994	1.067	1.061	1.051	1.115	0.923	0.904	0.923
6/30/05-06	285,139	2,771,957	0.972	1.056	1.027	1.046	1.074	0.937	0.923	0.937
6/30/06-07	298,516	2,873,438	0.963	1.045	1.006	1.041	1.047	0.952	0.942	0.952
6/30/07-08	314,231	1,615,952	0.514	1.033	0.531	1.036	0.550	0.967	0.962	0.967
6/30/08-09	302,998	2,366,165	0.781	1.021	0.798	1.030	0.822	0.983	0.983	0.983
6/30/09-10	297,252	3,493,182	1.175	1.017	1.196	1.025	1.226	0.992	0.997	0.992
6/30/10-11	292,432	2,889,527	0.988	1.019	1.007	1.020	1.027	0.996	1.005	0.996
6/30/11-12	295,908	3,213,453	1.086	1.012	1.099	1.015	1.116	1.008	1.022	1.008
6/30/12-13	301,541	2,959,578	0.981	1.005	0.986	1.010	0.996	1.020	1.040	1.020
6/30/13-14	309,910	3,001,718	0.969	1.000	0.969	1.005	0.973	1.030		1.030
Total	6,630,092	73,157,806								

Trend Last 4 (ex 13-14):	-4.8%	Avg 3 (x13-14):	1.046
Trend Last 8 (ex 13-14):	3.0%	Avg 5 (x13-14):	1.037
Trend Last 12 (ex 13-14):	-1.6%	Avg 10 (x13-14):	1.031
Prior Selected Trend:	1.0%	Prior Sel Avg:	1.050
Selected Trend:	0.5%	Sel. Loss Cost:	1.035

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, 2013
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

Department of Developmental Services - 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 2014	380,197	380,197
(7)	Estimated Reserve	7,223,752	10,420,868
(8)	Paid to Date (82 & Prior)	19,419,596	19,419,596
(9)	Est Ult Paid for 1982 & Prior	26,643,348	29,840,463

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	379,140	382,459
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	2,653,980	2,677,212
(13)	Paid to Date (82 & Prior)	19,419,596	19,039,398
(14)	Est Ult Paid for 1982 & Prior	22,073,576	21,716,611
(14a)	Paid Counts During Fiscal Year	10	10
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	24,358,462	26,590,922
(16)	Lump Sum Ultimates	1,265,498	1,265,498
(17)	Ult Loss Including Lump Sums	**25,623,960**	**27,856,420**
(18)	Implied Tail	1.254	1.369
(19)	Ult Loss Inc Lump Sums @ 6/13	25,297,813	27,563,642

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, 2013

Department of Developmental Services - 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 =	23
2001	10	586,837	13.283	0.920	S(x) =	46,069
2002	11	551,859	13.221	0.940	S(x-sq) =	92,277,219
2003	12	510,510	13.143	0.925	S(xy) =	605,852
2004	13	475,438	13.072	0.931	S(y) =	302
2005	14	461,151	13.041	0.970	D =	23,276
2006	15	476,801	13.075	1.034	slope =	-0.034
2007	16	429,059	12.969	0.900	Avg Trend =	0.966
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		
2014	23	380,197	12.848	0.988		
					Selected Trend:	**0.960**

NOTES:

(3) 2014 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2013

(4) LN [(3)]

(5) Eg. 2014: 0.988 = 380197 / 384664

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	384
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	4,309,167
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	7,598,225	
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	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	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	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	16,574,836					
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	16,310,241						
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	11,631,137							
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	8,299,673								
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	5,729,682									
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	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	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	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	2,287,650													
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	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	2,069,948															
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	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	1,996,627																	
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	2,965,792																		
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	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	2,623,851																				
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	2,777,430																					
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	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	2,319,829																							
June-07	526,806	1,054,827	1,513,205	1,806,536	2,009,359	2,144,089	2,257,101	2,357,734																								
June-08	492,006	840,226	1,027,421	1,150,550	1,226,279	1,259,770	1,289,567																									
June-09	609,589	1,045,186	1,367,431	1,598,834	1,731,424	1,807,061																										
June-10	611,726	1,437,135	2,071,218	2,345,985	2,542,928																											
June-11	714,837	1,318,901	1,664,634	1,948,510																												
June-12	737,468	1,470,092	1,872,540																													
June-13	748,452	1,316,963																														
June-14	693,795																															

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
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	1.017	1.018	1.018	1.019	1.019	1.019	1.011	1.010	1.010	1.008
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	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	1.000		
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	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	1.003	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	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	1.007	1.006	1.004						
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	1.001							
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	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	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	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	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	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	1.013													
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	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	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	1.000																
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	1.018																	
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	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	1.000																			
June-03	2.034	1.393	1.157	1.050	1.038	1.017	1.015	1.014	1.010	1.010	1.010																				
June-04	2.031	1.366	1.195	1.088	1.078	1.052	1.029	1.024	1.023	1.023																					
June-05	2.018	1.374	1.177	1.072	1.037	1.007	1.006	1.000	1.000																						
June-06	2.056	1.352	1.146	1.088	1.057	1.050	1.034	1.036																							
June-07	2.002	1.435	1.194	1.112	1.067	1.053	1.045																								
June-08	1.708	1.223	1.120	1.066	1.027	1.024																									
June-09	1.715	1.308	1.169	1.083	1.044																										
June-10	2.349	1.441	1.133	1.084																											
June-11	1.845	1.262	1.171																												
June-12	1.993	1.274																													
June-13	1.760																														

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	2.037	1.332	1.170	1.097	1.065	1.043	1.035	1.023	1.020	1.016	1.014	1.013	1.011	1.010	1.008	1.006	1.006	1.006	1.006	1.006	1.006	1.007	1.007	1.007	1.007	1.007	1.007	1.007	1.009	1.013	1.008	
Latest 5	1.932	1.302	1.157	1.087	1.046	1.037	1.026	1.015	1.011	1.015	1.010	1.010	1.011	1.008	1.004	1.005	1.002	1.004	1.001	1.002	1.003	1.005	1.004	1.004	1.003	1.005	1.007					
Latest 3	1.866	1.326	1.157	1.078	1.046	1.042	1.028	1.020	1.011	1.012	1.010	1.013	1.014	1.012	1.004	1.007	1.004	1.004	1.000	1.003	1.003	1.003	1.002	1.006	1.005	1.003	1.000	1.005	1.009			
Volume Wtd																																
All Yrs	2.107	1.353	1.186	1.111	1.072	1.047	1.040	1.025	1.022	1.018	1.015	1.014	1.011	1.011	1.009	1.007	1.007	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.007	1.005	1.006	1.009	1.014	1.008	
Latest 5	1.925	1.310	1.158	1.088	1.048	1.038	1.025	1.015	1.012	1.016	1.011	1.011	1.012	1.008	1.004	1.005	1.002	1.005	1.002	1.001	1.003	1.006	1.005	1.005	1.004	1.006	1.005					
Latest 3	1.866	1.327	1.155	1.080	1.049	1.045	1.028	1.020	1.012	1.013	1.011	1.014	1.015	1.012	1.004	1.008	1.005	1.005	1.000	1.004	1.003	1.002	1.003	1.006	1.005	1.004	1.000	1.005	1.009			

Dev Factor Selection																																
Industry 1	2.861	1.511	1.198	1.090	1.035	1.020	1.016																									
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	*1.931*	*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*	*1.013*	*1.012*	*1.011*	*1.010*	*1.010*	*1.010*	*1.010*	*1.010*	*1.010*	*1.012*	
Selected	1.925	1.310	1.157	1.080	1.049	1.045	1.028	1.020	1.017	1.013	1.013	1.012	1.012	1.010	1.007	1.007	1.004	1.004	1.004	1.004	1.005	1.005	1.005	1.005	1.005	1.005	1.008	1.008	1.005	1.005	1.005	1.012
FacToUlt	4.327	2.247	1.716	1.483	1.374	1.309	1.253	1.219	1.195	1.175	1.160	1.145	1.132	1.118	1.107	1.100	1.092	1.087	1.083	1.078	1.074	1.069	1.064	1.059	1.054	1.049	1.044	1.035	1.027	1.022	1.017	1.012
Percent of Ult	23.1%	44.5%	58.3%	67.4%	72.8%	76.4%	79.8%	82.1%	83.7%	85.1%	86.2%	87.3%	88.3%	89.4%	90.3%	90.9%	91.6%	92.0%	92.4%	92.7%	93.1%	93.5%	94.0%	94.4%	94.9%	95.3%	95.8%	96.6%	97.4%	97.9%	98.3%	98.8%

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

Department of Developmental Services - 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 6/13		As of 6/14		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	25,297,813	27,563,642	25,623,960	27,856,420	326,147	1.3%	292,779	1.1%
6/30/82-83	5,019,562	5,276,976	5,056,576	5,315,887	37,013	0.7%	38,911	0.7%
6/30/83-84	9,530,201	9,919,189	9,623,972	10,016,787	93,771	1.0%	97,598	1.0%
6/30/84-85	6,879,000	6,947,000	6,879,000	6,947,000	0	0.0%	0	0.0%
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	20,194,000	21,098,000	20,064,000	20,738,500	(130,000)	-0.6%	(359,500)	-1.7%
6/30/88-89	21,091,000	21,094,000	20,760,000	20,774,000	(331,000)	-1.6%	(320,000)	-1.5%
6/30/89-90	15,120,000	15,270,000	15,138,000	15,288,000	18,000	0.1%	18,000	0.1%
6/30/90-91	10,973,000	11,081,000	10,974,000	11,082,000	1,000	0.0%	1,000	0.0%
6/30/91-92	8,149,000	8,158,000	7,910,000	7,915,000	(239,000)	-2.9%	(243,000)	-3.0%
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	2,295,000	2,296,000	2,207,000	2,208,000	(88,000)	-3.8%	(88,000)	-3.8%
6/30/95-96	3,324,000	3,329,000	3,230,000	3,233,000	(94,000)	-2.8%	(96,000)	-2.9%
6/30/96-97	2,738,000	2,739,000	2,633,000	2,634,000	(105,000)	-3.8%	(105,000)	-3.8%
6/30/97-98	2,904,000	2,908,000	2,805,000	2,807,000	(99,000)	-3.4%	(101,000)	-3.5%
6/30/98-99	2,649,000	2,649,000	2,602,000	2,603,000	(47,000)	-1.8%	(46,000)	-1.7%
6/30/99-00	2,654,000	2,657,000	2,574,000	2,574,000	(80,000)	-3.0%	(83,000)	-3.1%
6/30/00-01	3,705,000	3,723,000	3,591,000	3,602,000	(114,000)	-3.1%	(121,000)	-3.3%
6/30/01-02	2,642,000	2,642,000	2,517,000	2,520,000	(125,000)	-4.7%	(122,000)	-4.6%
6/30/02-03	3,511,000	3,523,000	3,374,000	3,381,000	(137,000)	-3.9%	(142,000)	-4.0%
6/30/03-04	3,647,000	3,663,000	3,546,000	3,557,000	(101,000)	-2.8%	(106,000)	-2.9%
6/30/04-05	3,219,000	3,294,000	3,099,000	3,128,000	(120,000)	-3.7%	(166,000)	-5.0%
6/30/05-06	3,280,000	3,319,000	3,092,000	3,109,000	(188,000)	-5.7%	(210,000)	-6.3%
6/30/06-07	3,385,000	3,406,000	3,368,000	3,373,000	(17,000)	-0.5%	(33,000)	-1.0%
6/30/07-08	2,179,000	2,514,000	2,116,000	2,403,000	(63,000)	-2.9%	(111,000)	-4.4%
6/30/08-09	2,936,000	3,093,000	2,866,000	3,011,000	(70,000)	-2.4%	(82,000)	-2.7%
6/30/09-10	3,961,000	4,177,000	3,978,000	4,126,000	17,000	0.4%	(51,000)	-1.2%
6/30/10-11	3,437,000	3,440,000	3,390,000	3,397,000	(47,000)	-1.4%	(43,000)	-1.3%
6/30/11-12	3,849,000	4,110,000	3,732,000	3,829,000	(117,000)	-3.0%	(281,000)	-6.8%
6/30/12-13	3,869,000	4,090,000	3,572,000	3,636,000	(297,000)	-7.7%	(454,000)	-11.1%
6/30/13-14								
Total	214,564,577	220,421,807	212,448,508	217,506,595	(2,116,069)	-1.0%	(2,915,212)	-1.3%

NOTES:

(2), (3) From Aon analysis as of June 30, 2013

(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, 2014

Department of Developmental Services - 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	19,419,596	1.312	25,474,692	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	4,309,167	1.113	4,795,831	0.0%	0.0%	0	390,400	390,400	8.1%	1.000	390,400	390,400	390,400
6/30/83-84	7,598,225	1.220	9,271,230	0.0%	0.0%	0	549,150	549,150	5.9%	1.000	549,150	549,150	549,150
6/30/84-85	5,655,860	1.022	5,779,745	0.0%	0.0%	0	1,154,851	1,154,851	20.0%	1.000	1,154,851	1,154,851	1,154,851
6/30/85-86	9,334,452	1.027	9,586,607	0.0%	0.0%	0	937,644	937,644	9.8%	1.000	937,644	937,644	937,644
6/30/86-87	11,412,789	1.035	11,814,856	0.0%	0.0%	0	2,067,717	2,067,717	17.5%	1.005	2,078,056	2,072,886	2,067,717
6/30/87-88	16,574,836	1.148	19,025,632	0.0%	0.0%	0	2,795,764	2,795,764	14.7%	1.006	2,812,553	2,804,158	2,797,162
6/30/88-89	16,310,241	1.049	17,107,409	0.0%	0.0%	0	3,639,613	3,639,613	21.3%	1.007	3,665,130	3,652,371	3,645,076
6/30/89-90	11,631,137	1.054	12,257,925	0.0%	0.0%	0	3,357,081	3,357,081	27.4%	1.008	3,383,998	3,370,540	3,360,976
6/30/90-91	8,299,673	1.059	8,789,492	0.0%	0.0%	0	2,565,430	2,565,430	29.2%	1.009	2,588,586	2,577,008	2,582,861
6/30/91-92	5,729,682	1.064	6,096,000	0.1%	0.1%	6,096	1,806,412	1,812,508	29.7%	1.010	1,824,539	1,818,524	1,826,367
6/30/92-93	3,210,473	1.069	3,432,968	0.0%	0.1%	3,433	979,103	982,536	28.6%	1.011	989,917	986,227	994,371
6/30/93-94	2,527,522	1.074	2,715,526	0.0%	0.1%	2,716	968,701	971,417	35.8%	1.012	980,380	975,898	988,066
6/30/94-95	1,526,329	1.078	1,646,117	0.1%	0.2%	3,292	555,200	558,492	33.9%	1.013	562,455	560,474	568,255
6/30/95-96	2,287,650	1.083	2,476,900	0.1%	0.3%	7,431	746,640	754,071	30.4%	1.014	757,154	755,612	767,595
6/30/96-97	1,787,477	1.087	1,943,430	0.2%	0.5%	9,717	679,550	689,267	35.5%	1.015	689,808	689,538	700,361
6/30/97-98	2,069,948	1.092	2,260,569	0.3%	0.8%	18,085	533,163	551,248	24.4%	1.016	541,752	546,500	557,528
6/30/98-99	1,758,227	1.100	1,933,875	0.3%	1.1%	21,273	652,071	673,344	34.8%	1.017	663,239	668,291	615,794
6/30/99-00	1,996,627	1.107	2,210,641	0.3%	1.4%	30,949	342,501	373,450	16.9%	1.032	353,488	363,469	375,204
6/30/00-01	2,965,792	1.118	3,316,593	0.3%	1.7%	56,382	251,103	307,485	9.3%	1.048	263,046	285,265	300,561
6/30/01-02	1,946,268	1.132	2,202,960	0.3%	2.0%	44,059	283,214	327,273	14.9%	1.063	301,134	314,203	326,203
6/30/02-03	2,623,851	1.145	3,005,072	0.3%	2.3%	69,117	328,024	397,140	13.2%	1.079	354,011	375,575	391,249
6/30/03-04	2,777,430	1.160	3,221,500	0.3%	2.6%	83,759	279,825	363,584	11.3%	1.095	306,523	335,054	355,404
6/30/04-05	2,315,265	1.175	2,721,192	0.5%	3.1%	84,357	343,352	427,709	15.7%	1.123	385,514	406,612	428,188
6/30/05-06	2,319,829	1.195	2,771,957	0.5%	3.6%	99,790	266,202	365,992	13.2%	1.156	307,857	336,925	500,000
6/30/06-07	2,357,734	1.219	2,873,438	1.0%	4.6%	132,178	287,250	419,428	14.6%	1.202	345,325	500,000	500,000
6/30/07-08	1,289,567	1.253	1,615,952	1.0%	5.6%	90,493	157,501	247,994	15.3%	1.238	195,024	500,000	500,000
6/30/08-09	1,807,061	1.309	2,366,165	1.0%	6.6%	156,167	246,000	402,167	17.0%	1.282	315,269	500,000	500,000
6/30/09-10	2,542,928	1.374	3,493,182	1.9%	8.5%	295,707	337,378	633,085	18.1%	1.596	538,415	633,085	589,813
6/30/10-11	1,948,510	1.483	2,889,527	2.5%	11.0%	316,844	156,263	473,108	16.4%	2.288	357,536	500,000	503,429
6/30/11-12	1,872,540	1.716	3,213,453	3.4%	14.3%	460,289	155,500	615,789	19.2%	4.004	622,631	615,789	633,073
6/30/12-13	1,316,963	2.247	2,959,578	3.0%	17.3%	511,597	101,200	612,797	20.7%	10.704	1,083,280	612,797	672,845
6/30/13-14	693,795	4.327	3,001,718	2.5%	19.8%	593,924	0	593,924	19.8%	58.874	0	593,924	
Total	162,217,447		188,271,733			3,097,654	29,179,300	32,276,954	17.1%		31,564,164	32,648,267	32,345,641

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, 2013

Commonwealth of Massachusetts Workers Compensation
Department of Developmental Services - 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	384-396
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	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	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	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	0			
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	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	1	0	0	0	4,000	0	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	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	4,500								
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	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	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	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	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	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	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	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	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	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	0																		
Jun-01	17,500	22,844	43,510	37,903	34,170	41,676	38,500	15,000	0	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	0																				
Jun-03	0	0	48,352	99,400	91,822	48,450	10,000	0	0	30,000	0	0																					
Jun-04	0	0	88,974	64,100	121,250	0	0	5,501	0	0	0																						
Jun-05	0	7,500	39,052	104,600	42,000	94,000	20,000	0	36,200	0																							
Jun-06	0	14,800	50,202	87,500	46,500	30,000	3,500	14,000	19,700																								
Jun-07	0	8,500	85,000	83,750	78,000	6,000	6,000	20,000																									
Jun-08	0	37,000	17,501	25,000	45,000	30,000	3,000																										
Jun-09	0	24,000	55,000	41,000	35,500	90,500																											
Jun-10	0	12,500	57,878	128,398	138,602																												
Jun-11	0	27,523	53,478	75,263																													
Jun-12	0	35,436	120,064																														
Jun-13	0	101,200																															
Jun-14	0																																

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	396
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	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	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	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	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	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	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	2,791,763	2,791,764	2,791,764	2,791,764	2,795,764	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	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	3,357,081								
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	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	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	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	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	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	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	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	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	652,071																	
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	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	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	283,214																				
Jun-03	0	0	48,352	147,752	239,574	288,024	298,024	298,024	298,024	328,024	328,024	328,024																					
Jun-04	0	0	88,974	153,074	274,324	274,324	274,324	279,825	279,825	279,825	279,825																						
Jun-05	0	7,500	46,552	151,152	193,152	287,152	307,152	307,152	343,352	343,352																							
Jun-06	0	14,800	65,002	152,502	199,002	229,002	232,502	246,502	266,202																								
Jun-07	0	8,500	93,500	177,250	255,250	261,250	267,250	287,250																									
Jun-08	0	37,000	54,501	79,501	124,501	154,501	157,501																										
Jun-09	0	24,000	79,000	120,000	155,500	246,000																											
Jun-10	0	12,500	70,378	198,776	337,378																												
Jun-11	0	27,523	81,000	156,263																													
Jun-12	0	35,436	155,500																														
Jun-13	0	101,200																															
Jun-14	0																																

Commonwealth of Massachusetts Workers Compensation
Department of Developmental Services - 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*	*384-396*
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	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	0.000	
Jun-84	0.000	0.000	0.000	0.000	0.000	0.004	0.002	0.000	0.005	0.012	0.007	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	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	0.036	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	0.000			
Jun-86	0.000	0.000	0.002	0.002	0.002	0.010	0.018	0.050	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	0.000				
Jun-87	0.000	0.003	0.001	0.009	0.006	0.033	0.044	0.017	0.013	0.001	0.008	0.001	0.012	0.011	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	0.000					
Jun-88	0.000	0.000	0.005	0.017	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	0.000						
Jun-89	0.000	0.003	0.006	0.031	0.049	0.027	0.012	0.027	0.013	0.006	0.011	0.013	0.008	0.000	0.000	0.000	0.000	0.002	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000							
Jun-90	0.000	0.007	0.046	0.060	0.020	0.024	0.043	0.024	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	0.000								
Jun-91	0.001	0.036	0.099	0.032	0.020	0.058	0.036	0.007	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	0.000									
Jun-92	0.009	0.056	0.021	0.014	0.089	0.039	0.009	0.002	0.005	0.010	0.014	0.000	0.000	0.000	0.000	0.000	0.027	0.000	0.000	0.000	0.000	0.000	0.000										
Jun-93	0.010	0.051	0.048	0.115	0.014	0.019	0.022	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											
Jun-94	0.008	0.033	0.107	0.082	0.041	0.030	0.043	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												
Jun-95	0.002	0.095	0.126	0.099	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	0.000													
Jun-96	0.021	0.086	0.089	0.020	0.017	0.000	0.020	0.008	0.017	0.014	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000														
Jun-97	0.019	0.092	0.110	0.080	0.044	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															
Jun-98	0.004	0.048	0.106	0.053	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.000	0.000	0.000	0.000	0.000																
Jun-99	0.000	0.094	0.099	0.059	0.001	0.004	0.006	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.034	0.034																	
Jun-00	0.006	0.026	0.037	0.017	0.017	0.004	0.005	0.012	0.005	0.000	0.000	0.015	0.011	0.000	0.000																		
Jun-01	0.005	0.007	0.013	0.011	0.010	0.013	0.012	0.005	0.000	0.000	0.000	0.000	0.000	0.000																			
Jun-02	0.000	0.000	0.011	0.024	0.033	0.015	0.034	0.011	0.000	0.000	0.000	0.000	0.000																				
Jun-03	0.000	0.000	0.016	0.033	0.031	0.016	0.003	0.000	0.000	0.010	0.000	0.000																					
Jun-04	0.000	0.000	0.028	0.020	0.038	0.000	0.000	0.002	0.000	0.000	0.000																						
Jun-05	0.000	0.003	0.014	0.038	0.015	0.035	0.007	0.000	0.013	0.000																							
Jun-06	0.000	0.005	0.018	0.032	0.017	0.011	0.001	0.005	0.007																								
Jun-07	0.000	0.003	0.030	0.029	0.027	0.002	0.002	0.007																									
Jun-08	0.000	0.023	0.011	0.015	0.028	0.019	0.002																										
Jun-09	0.000	0.010	0.023	0.017	0.015	0.038																											
Jun-10	0.000	0.004	0.017	0.037	0.040																												
Jun-11	0.000	0.010	0.019	0.026																													
Jun-12	0.000	0.011	0.037																														
Jun-13	0.000	0.034																															
Jun-14	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*	*384-396*
Simple Avg																																	
All Yrs (ex P)	0.003	0.024	0.038	0.034	0.022	0.016	0.014	0.009	0.007	0.005	0.004	0.004	0.004	0.002	0.004	0.003	0.002	0.000	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	0.000	
Latest 5	0.000	0.014	0.021	0.025	0.025	0.021	0.003	0.003	0.004	0.002	0.000	0.003	0.002	0.000	0.007	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					
Latest 3	0.000	0.018	0.024	0.027	0.028	0.020	0.002	0.004	0.007	0.003	0.000	0.000	0.004	0.000	0.011	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	0.001	0.000			
Olympic Avg																																	
All Yrs (ex P)	0.002	0.022	0.036	0.032	0.020	0.015	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	0.000			
Latest 10	0.000	0.009	0.021	0.027	0.025	0.014	0.005	0.005	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	0.000	0.000	0.000	0.000	0.000					
Latest 5	0.000	0.010	0.019	0.024	0.024	0.021	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	0.000	0.000	0.000	0.000					

Dev Factor Selection																																	
Prior	*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*	
Selected	NA	0.025	0.030	0.034	0.025	0.019	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	0.001	0.001	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FacToUlt	NA	0.198	0.173	0.143	0.110	0.085	0.066	0.056	0.046	0.036	0.031	0.026	0.023	0.020	0.017	0.014	0.011	0.008	0.005	0.003	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

Commonwealth of Massachusetts Workers Compensation
Department of Developmental Services - 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	396
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	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	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	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	1,154,851	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	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	3,357,081								
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	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	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	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	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	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	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	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	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	652,071																
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	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	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	283,214																				
Jun-03	0	0	48,352	147,752	239,574	288,024	298,024	298,024	298,024	328,024	328,024	328,024	328,024																				
Jun-04	0	0	88,974	153,074	274,324	274,324	274,324	279,825	279,825	279,825	279,825																						
Jun-05	0	7,500	46,552	151,152	193,152	287,152	307,152	307,152	343,352	343,352																							
Jun-06	0	14,800	65,002	152,502	199,002	229,002	232,502	246,502	266,202																								
Jun-07	0	8,500	93,500	177,250	255,250	261,250	267,250	287,250																									
Jun-08	0	37,000	54,501	79,501	124,501	154,501	157,501																										
Jun-09	0	24,000	79,000	120,000	155,500	246,000																											
Jun-10	0	12,500	70,378	198,776	337,378																												
Jun-11	0	27,523	81,000	156,263																													
Jun-12	0	35,436	155,500																														
Jun-13	0	101,200																															
Jun-14	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	384-396	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	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	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	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	1.000				
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	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	1.000	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	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	1.001									
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	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	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	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	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	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	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	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	1.111																		
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	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	1.000																				
Jun-02		30.925	3.133	1.931	1.218	1.417	1.097	1.000	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	1.000																						
Jun-04			1.720	1.792	1.000	1.000	1.020	1.000	1.000	1.000																							
Jun-05		6.207	3.247	1.278	1.487	1.070	1.000	1.118	1.000																								
Jun-06		4.392	2.346	1.305	1.151	1.015	1.060	1.080																									
Jun-07		11.000	1.896	1.440	1.024	1.023	1.075																										
Jun-08		1.473	1.459	1.566	1.241	1.019																											
Jun-09		3.292	1.519	1.296	1.582																												
Jun-10		5.630	2.824	1.697																													
Jun-11		2.943	1.929																														
Jun-12		4.388																															
Jun-13																																	

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	384-396	To Ult
Simple Avg																																	
All Yrs (ex P)	12.239	5.000	2.081	1.484	1.329	1.234	1.143	1.107	1.124	1.082	1.047	1.040	1.045	1.045	1.014	1.012	1.002	1.007	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.006	1.000	1.000	1.000			
Latest 5	6.137	3.545	1.925	1.461	1.297	1.025	1.031	1.040	1.020	1.000	1.024	1.016	1.000	1.025	1.022	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.000							
Latest 3	6.574	4.320	2.091	1.520	1.282	1.019	1.045	1.066	1.034	1.000	1.000	1.026	1.000	1.042	1.037	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.007	1.000				
Volume Wtd																																	
All Yrs (ex P)		2.673	1.650	1.318	1.245	1.164	1.109	1.069	1.040	1.040	1.032	1.028	1.011	1.014	1.008	1.010	1.003	1.004	1.003	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.008	1.000	1.000	1.000		
Latest 5		3.227	1.934	1.472	1.270	1.027	1.029	1.040	1.021	1.000	1.020	1.013	1.000	1.023	1.021	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000						
Latest 3		4.067	2.062	1.550	1.236	1.019	1.042	1.067	1.033	1.000	1.000	1.029	1.000	1.047	1.036	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.010	1.000				

Dev Factor Selection																																	
Prior	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	
Selected	5.500	2.673	1.750	1.434	1.245	1.035	1.030	1.040	1.030	1.025	1.015	1.015	1.015	1.015	1.015	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.005	1.000	1.000	1.000	1.000	1.000
FacToUlt	58.874	10.704	4.004	2.288	1.596	1.282	1.238	1.202	1.156	1.123	1.095	1.079	1.063	1.048	1.032	1.017	1.016	1.015	1.014	1.013	1.012	1.011	1.010	1.009	1.008	1.007	1.006	1.005	1.000	1.000	1.000	1.000	1.000
Percent of Ult	1.7%	9.3%	25.0%	43.7%	62.7%	78.0%	80.8%	83.2%	86.5%	89.1%	91.3%	92.7%	94.0%	95.5%	96.9%	98.3%	98.4%	98.5%	98.6%	98.7%	98.8%	98.9%	99.0%	99.1%	99.2%	99.3%	99.4%	99.5%	100.0%	100.0%	100.0%	100.0%	100.0%

Department of Developmental Services - 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%
396	100.0%	1.2%	0.0%	0.3%	0.2%	1.000	1.000
384	98.8%	0.5%	1.2%	0.1%	0.1%	0.981	0.971
372	98.3%	0.5%	1.7%	0.1%	0.1%	0.954	0.933
360	97.9%	0.5%	2.1%	0.2%	0.1%	0.932	0.901
348	97.4%	0.8%	2.6%	0.3%	0.1%	0.912	0.872
336	96.6%	0.8%	3.4%	0.3%	0.2%	0.900	0.857
324	95.8%	0.5%	4.2%	0.2%	0.1%	0.887	0.838
312	95.3%	0.5%	4.7%	0.2%	0.1%	0.866	0.810
300	94.9%	0.5%	5.1%	0.2%	0.1%	0.846	0.782
288	94.4%	0.4%	5.6%	0.2%	0.1%	0.827	0.757
276	94.0%	0.5%	6.0%	0.2%	0.1%	0.809	0.733
264	93.5%	0.4%	6.5%	0.2%	0.1%	0.792	0.712
252	93.1%	0.4%	6.9%	0.2%	0.1%	0.776	0.691
240	92.7%	0.4%	7.3%	0.2%	0.1%	0.757	0.667
228	92.4%	0.4%	7.6%	0.2%	0.1%	0.740	0.646
216	92.0%	0.4%	8.0%	0.2%	0.1%	0.725	0.626
204	91.6%	0.7%	8.4%	0.3%	0.2%	0.711	0.609
192	90.9%	0.6%	9.1%	0.3%	0.2%	0.705	0.603
180	90.3%	0.9%	9.7%	0.5%	0.4%	0.696	0.594
168	89.4%	1.1%	10.6%	0.6%	0.5%	0.696	0.595
156	88.3%	1.0%	11.7%	0.6%	0.5%	0.698	0.599
144	87.3%	1.1%	12.7%	0.7%	0.6%	0.696	0.598
132	86.2%	1.1%	13.8%	0.8%	0.6%	0.694	0.597
120	85.1%	1.4%	14.9%	1.0%	0.8%	0.691	0.594
108	83.7%	1.6%	16.3%	1.2%	1.0%	0.692	0.596
96	82.1%	2.3%	17.9%	1.7%	1.5%	0.694	0.599
84	79.8%	3.4%	20.2%	2.7%	2.3%	0.702	0.611
72	76.4%	3.6%	23.6%	2.9%	2.6%	0.719	0.633
60	72.8%	5.4%	27.2%	4.5%	4.1%	0.730	0.647
48	67.4%	9.2%	32.6%	8.0%	7.5%	0.748	0.670
36	58.3%	13.8%	41.7%	12.5%	11.9%	0.776	0.706
24	44.5%	21.4%	55.5%	20.2%	19.6%	0.805	0.742
12	23.1%	23.1%	76.9%	22.7%	22.4%	0.831	0.775
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)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

Department of Developmental Services - 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	4,938,866	7,171,327		4,319,459	6,271,935
6/30/82-83	357,009	616,320	0.981	350,076	604,352
6/30/83-84	1,476,598	1,869,413	0.954	1,408,788	1,783,565
6/30/84-85	68,289	136,289	0.932	63,632	126,995
6/30/85-86	307,904	410,904	0.912	280,695	374,593
6/30/86-87	269,494	404,494	0.900	242,595	364,120
6/30/87-88	693,400	1,367,900	0.887	614,846	1,212,933
6/30/88-89	810,147	824,147	0.866	701,641	713,766
6/30/89-90	149,782	299,782	0.846	126,696	253,577
6/30/90-91	108,897	216,897	0.827	90,071	179,401
6/30/91-92	373,906	378,906	0.809	302,402	306,446
6/30/92-93	41,424	83,424	0.792	32,826	66,108
6/30/93-94	69,777	104,777	0.776	54,141	81,299
6/30/94-95	125,471	126,471	0.757	95,041	95,799
6/30/95-96	195,710	198,710	0.740	144,893	147,114
6/30/96-97	165,973	166,973	0.725	120,285	121,010
6/30/97-98	201,889	203,889	0.711	143,457	144,879
6/30/98-99	191,702	192,702	0.705	135,061	135,765
6/30/99-00	234,872	234,872	0.696	163,512	163,512
6/30/00-01	374,105	385,105	0.696	260,287	267,941
6/30/01-02	287,519	290,519	0.698	200,615	202,708
6/30/02-03	422,125	429,125	0.696	293,860	298,733
6/30/03-04	488,745	499,745	0.694	339,274	346,910
6/30/04-05	440,383	469,383	0.691	304,414	324,460
6/30/05-06	505,969	522,969	0.692	349,955	361,713
6/30/06-07	723,016	728,016	0.694	501,645	505,114
6/30/07-08	668,932	955,932	0.702	469,631	671,122
6/30/08-09	812,939	957,939	0.719	584,850	689,167
6/30/09-10	1,097,695	1,245,695	0.730	800,991	908,987
6/30/10-11	1,285,226	1,292,226	0.748	960,804	966,038
6/30/11-12	1,703,960	1,800,960	0.776	1,322,773	1,398,073
6/30/12-13	2,153,837	2,217,837	0.805	1,732,853	1,784,344
6/30/13-14	2,902,205	3,048,205	0.831	2,412,220	2,533,571
Total	24,647,761	29,851,848		19,924,291	24,406,048
			(7) Total Discount Factor:	0.808	0.818

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	4,938,866	7,171,327
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	705,552	1,024,475
(11) Discounted Value at 4%:	4,319,459	6,271,935

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, 2014

Department of Developmental Services - 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	4,938,866	7,171,327		4,056,822	5,890,582
6/30/82-83	357,009	616,320	0.971	346,758	598,623
6/30/83-84	1,476,598	1,869,413	0.933	1,377,150	1,743,509
6/30/84-85	68,289	136,289	0.901	61,510	122,759
6/30/85-86	307,904	410,904	0.872	268,567	358,407
6/30/86-87	269,494	404,494	0.857	230,841	346,478
6/30/87-88	693,400	1,367,900	0.838	581,133	1,146,427
6/30/88-89	810,147	824,147	0.810	655,936	667,271
6/30/89-90	149,782	299,782	0.782	117,163	234,497
6/30/90-91	108,897	216,897	0.757	82,455	164,231
6/30/91-92	373,906	378,906	0.733	274,067	277,732
6/30/92-93	41,424	83,424	0.712	29,488	59,387
6/30/93-94	69,777	104,777	0.691	48,196	72,371
6/30/94-95	125,471	126,471	0.667	83,709	84,376
6/30/95-96	195,710	198,710	0.646	126,362	128,299
6/30/96-97	165,973	166,973	0.626	103,973	104,600
6/30/97-98	201,889	203,889	0.609	123,027	124,246
6/30/98-99	191,702	192,702	0.603	115,648	116,251
6/30/99-00	234,872	234,872	0.594	139,509	139,509
6/30/00-01	374,105	385,105	0.595	222,656	229,203
6/30/01-02	287,519	290,519	0.599	172,307	174,104
6/30/02-03	422,125	429,125	0.598	252,618	256,807
6/30/03-04	488,745	499,745	0.597	291,774	298,341
6/30/04-05	440,383	469,383	0.594	261,667	278,898
6/30/05-06	505,969	522,969	0.596	301,375	311,501
6/30/06-07	723,016	728,016	0.599	433,269	436,265
6/30/07-08	668,932	955,932	0.611	408,425	583,656
6/30/08-09	812,939	957,939	0.633	514,921	606,765
6/30/09-10	1,097,695	1,245,695	0.647	709,829	805,534
6/30/10-11	1,285,226	1,292,226	0.670	860,514	865,201
6/30/11-12	1,703,960	1,800,960	0.706	1,203,361	1,271,864
6/30/12-13	2,153,837	2,217,837	0.742	1,598,021	1,645,506
6/30/13-14	2,902,205	3,048,205	0.775	2,250,414	2,363,624
Total	24,647,761	29,851,848		18,303,465	22,506,825
			(7) Total Discount Factor:	0.743	0.754

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	4,938,866	7,171,327
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	705,552	1,024,475
(11) Discounted Value at 6%:	4,056,822	5,890,582

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, 2014

Department of Developmental Services - Cluster 1
Total Indemnity (Including Lump Sums) + Medical

Calculation of Fiscal Year 7/1/14 - 15 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Cumulative	Incremental Paid		Estimated Payments from		FY 7/1/14 - 6/30/15	
Accident	Est Ult Losses	Est Ult Losses	Paid Losses	Reserves	Reserves	Percent	as a % of	as a % of	7/1/14 - 6/30/15		as a % of Reserves	
Year	(Low)	(High)	to Date	(Low)	(High)	Paid	Ultimates	Reserves	(Low)	(High)	(Low)	(High)
All Prior Yrs	26,835,650	29,070,202	21,895,606	4,940,044	7,174,596				365,133	401,646	7.4%	5.6%
6/30/82-83	5,320,154	5,586,887	4,960,536	359,618	626,351	91.0%	1.0%	11.1%	39,782	69,289	11.1%	11.1%
6/30/83-84	11,048,537	11,481,787	9,557,835	1,490,702	1,923,952	84.8%	1.0%	6.6%	98,358	126,945	6.6%	6.6%
6/30/84-85	7,650,803	7,726,444	7,574,872	75,931	151,572	98.5%	1.0%	67.6%	51,323	102,450	67.6%	67.6%
6/30/85-86	12,199,000	12,303,000	11,874,262	324,739	428,739	96.9%	1.0%	32.5%	105,600	139,420	32.5%	32.5%
6/30/86-87	15,670,000	15,807,000	15,376,859	293,141	430,141	97.7%	1.0%	43.5%	127,574	187,196	43.5%	43.5%
6/30/87-88	22,583,000	23,260,500	21,854,281	728,719	1,406,219	95.3%	1.0%	21.5%	156,478	301,957	21.5%	21.5%
6/30/88-89	24,726,000	24,741,000	23,852,188	873,812	888,812	96.4%	1.0%	28.1%	245,230	249,440	28.1%	28.1%
6/30/89-90	18,860,328	19,047,183	18,673,691	186,637	373,492	98.5%	1.0%	67.7%	126,309	252,766	67.7%	67.7%
6/30/90-91	13,905,390	14,043,000	13,767,147	138,243	275,853	98.5%	1.0%	67.5%	93,304	186,180	67.5%	67.5%
6/30/91-92	10,529,540	10,562,000	10,124,720	404,820	437,280	96.0%	1.0%	25.0%	101,393	109,523	25.0%	25.0%
6/30/92-93	6,011,020	6,072,000	5,945,369	65,651	126,631	98.4%	1.0%	62.8%	41,255	79,575	62.8%	62.8%
6/30/93-94	4,855,970	4,905,000	4,766,406	89,564	138,594	97.7%	1.0%	42.8%	38,317	59,293	42.8%	42.8%
6/30/94-95	3,152,450	3,163,000	3,009,689	142,761	153,311	95.3%	1.0%	21.3%	30,452	32,702	21.3%	21.3%
6/30/95-96	4,265,000	4,268,000	4,038,313	226,687	229,687	94.7%	0.7%	12.3%	27,986	28,357	12.3%	12.3%
6/30/96-97	3,544,000	3,545,000	3,349,690	194,310	195,310	94.5%	0.1%	2.7%	5,224	5,251	2.7%	2.7%
6/30/97-98	3,591,000	3,609,000	3,363,682	227,318	245,318	93.4%	1.1%	16.3%	36,993	39,922	16.3%	16.3%
6/30/98-99	3,259,000	3,274,000	3,044,791	214,209	229,209	93.2%	0.2%	3.3%	7,037	7,530	3.3%	3.3%
6/30/99-00	3,383,000	3,400,000	3,118,618	264,382	281,382	92.0%	1.3%	15.6%	41,359	44,018	15.6%	15.6%
6/30/00-01	5,005,000	5,046,000	4,575,526	429,474	470,474	91.0%	0.9%	10.1%	43,542	47,699	10.1%	10.1%
6/30/01-02	3,418,000	3,440,000	3,090,695	327,305	349,305	90.1%	0.9%	9.2%	30,261	32,295	9.2%	9.2%
6/30/02-03	4,268,000	4,294,000	3,803,810	464,190	490,190	88.9%	1.3%	11.5%	53,333	56,320	11.5%	11.5%
6/30/03-04	4,454,000	4,484,000	3,918,932	535,068	565,068	87.7%	1.2%	9.4%	50,507	53,338	9.4%	9.4%
6/30/04-05	4,151,000	4,237,000	3,705,474	445,526	531,526	88.4%	2.0%	17.2%	76,497	91,263	17.2%	17.2%
6/30/05-06	4,271,000	4,350,000	3,743,568	527,432	606,432	86.8%	1.5%	11.4%	60,318	69,352	11.4%	11.4%
6/30/06-07	4,535,000	4,604,000	3,773,504	761,496	830,496	82.6%	4.3%	24.5%	186,548	203,452	24.5%	24.5%
6/30/07-08	3,115,000	3,484,000	2,395,979	719,021	1,088,021	72.6%	2.0%	7.3%	52,515	79,465	7.3%	7.3%
6/30/08-09	4,040,000	4,383,000	3,189,661	850,339	1,193,339	75.7%	2.0%	8.2%	70,093	98,367	8.2%	8.2%
6/30/09-10	5,244,000	5,603,000	4,061,977	1,182,024	1,541,024	74.9%	2.0%	8.0%	94,170	122,770	8.0%	8.0%
6/30/10-11	4,462,000	4,678,000	3,058,209	1,403,791	1,619,791	66.9%	8.0%	24.1%	338,490	390,573	24.1%	24.1%
6/30/11-12	4,980,000	5,286,000	3,013,600	1,966,400	2,272,400	58.7%	8.2%	19.9%	390,945	451,782	19.9%	19.9%
6/30/12-13	4,826,000	5,104,000	2,200,732	2,625,268	2,903,268	44.3%	14.4%	25.8%	678,320	750,150	25.8%	25.8%
6/30/13-14	4,766,000	5,229,000	1,037,296	3,728,704	4,191,704	20.8%	23.6%	29.7%	1,108,989	1,246,695	29.7%	29.7%
Total	262,924,843	270,087,004	235,717,516	27,207,327	34,369,488				4,973,636	6,116,981	18.3%	17.8%

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, 2014

Department of Developmental Services - 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		1,210,512			1,211,690	1,213,782	1,178	3,270		
6/30/82-83		260,969	262,847		263,579	271,000	2,610	10,031		
6/30/83-84		1,410,461	1,422,031		1,424,565	1,465,000	14,105	54,539		
6/30/84-85	181,560	764,161	771,200	771,536	771,803	779,444	7,642	15,283	0.425	0.429
6/30/85-86	195,247	1,602,166	1,618,541	1,619,114	1,619,000	1,620,000	16,835	17,835	0.829	0.830
6/30/86-87	224,370	1,896,353	1,919,566	1,921,343	1,920,000	1,922,000	23,647	25,647	0.856	0.857
6/30/87-88	262,864	2,483,681	2,519,112	2,521,910	2,519,000	2,522,000	35,319	38,319	0.958	0.959
6/30/88-89	283,884	3,902,335	3,965,921	3,966,830	3,966,000	3,967,000	63,665	64,665	1.397	1.397
6/30/89-90	285,078	3,685,474	3,753,017	3,759,097	3,722,328	3,759,183	36,855	73,709	1.306	1.319
6/30/90-91	267,732	2,902,044	2,961,140	2,960,717	2,931,390	2,961,000	29,346	58,956	1.095	1.106
6/30/91-92	261,442	2,588,626	2,646,622	2,645,826	2,619,540	2,647,000	30,914	58,374	1.002	1.012
6/30/92-93	259,992	1,755,793	1,798,721	1,798,030	1,780,020	1,799,000	24,227	43,207	0.685	0.692
6/30/93-94	257,062	1,270,183	1,303,840	1,303,362	1,289,970	1,304,000	19,787	33,817	0.502	0.507
6/30/94-95	255,854	928,160	955,026	954,880	945,450	955,000	17,290	26,840	0.370	0.373
6/30/95-96	255,539	1,004,022	1,035,253	1,034,953	1,035,000	1,035,000	30,978	30,978	0.405	0.405
6/30/96-97	270,071	882,663	911,237	911,308	911,000	911,000	28,337	28,337	0.337	0.337
6/30/97-98	245,367	760,571	785,842	786,051	786,000	802,000	25,429	41,429	0.320	0.327
6/30/98-99	251,453	634,493	656,860	657,597	657,000	671,000	22,507	36,507	0.261	0.267
6/30/99-00	255,641	779,490	809,174	809,586	809,000	826,000	29,510	46,510	0.316	0.323
6/30/00-01	263,918	1,358,630	1,416,010	1,414,256	1,414,000	1,444,000	55,370	85,370	0.536	0.547
6/30/01-02	267,598	861,213	901,176	901,678	901,000	920,000	39,787	58,787	0.337	0.344
6/30/02-03	274,465	851,935	893,984	894,851	894,000	913,000	42,065	61,065	0.326	0.333
6/30/03-04	272,384	861,676	907,823	908,842	908,000	927,000	46,324	65,324	0.333	0.340
6/30/04-05	273,647	1,046,856	1,107,332	1,108,914	1,052,000	1,109,000	5,144	62,144	0.384	0.405
6/30/05-06	285,139	1,157,537	1,240,875	1,238,129	1,179,000	1,241,000	21,463	83,463	0.413	0.435
6/30/06-07	298,516	1,128,520	1,227,915	1,231,228	1,167,000	1,231,000	38,480	102,480	0.391	0.412
6/30/07-08	314,231	948,911	1,051,718	1,080,779	999,000	1,081,000	50,089	132,089	0.318	0.344
6/30/08-09	302,998	1,136,600	1,304,108	1,306,251	1,174,000	1,372,000	37,400	235,400	0.387	0.453
6/30/09-10	297,252	1,181,671	1,406,680	1,396,561	1,266,000	1,477,000	84,329	295,329	0.426	0.497
6/30/10-11	292,432	953,435	1,191,147	1,219,825	1,072,000	1,281,000	118,565	327,565	0.367	0.438
6/30/11-12	295,908	985,560	1,387,148	1,380,512	1,248,000	1,457,000	262,440	471,440	0.422	0.492
6/30/12-13	301,541	782,569	1,393,411	1,398,095	1,254,000	1,468,000	471,431	685,431	0.416	0.487
6/30/13-14	309,910	343,501	1,299,911	1,415,857	1,170,000	1,487,000	826,499	1,143,499	0.378	0.480
Total	8,063,095	44,320,769	46,825,188	45,317,920	46,880,335	48,838,409	2,559,566	4,517,640		
Tot 6/30/84-14	8,063,095	41,438,827	45,140,309	45,317,920	43,980,501	45,888,627	2,541,674	4,449,800	0.545	0.569

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, 2014

Department of Developmental Services - 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 7/1/12-13	Paid Counts 7/1/13-14	Average Outstanding Claim
All Prior Yrs		1,210,512							1	1	
6/30/82-83		260,969	1.007	1.000	262,847	N/A	262,847		0	0	
6/30/83-84		1,410,461	1.008	1.000	1,422,031	N/A	1,422,031		1	2	5,785
6/30/84-85	181,560	764,161	1.009	1.000	771,200	N/A	771,200	0.425	1	1	7,039
6/30/85-86	195,247	1,602,166	1.010	1.000	1,618,541	N/A	1,618,541	0.829	0	0	
6/30/86-87	224,370	1,896,353	1.012	1.000	1,919,566	N/A	1,919,566	0.856	0	0	
6/30/87-88	262,864	2,483,681	1.014	1.000	2,519,112	N/A	2,519,112	0.958	1	1	35,432
6/30/88-89	283,884	3,902,335	1.016	1.000	3,965,921	N/A	3,965,921	1.397	5	3	21,195
6/30/89-90	285,078	3,685,474	1.018	1.000	3,753,017	N/A	3,753,017	1.316	2	2	33,772
6/30/90-91	267,732	2,902,044	1.020	1.000	2,961,140	N/A	2,961,140	1.106	1	1	59,096
6/30/91-92	261,442	2,588,626	1.022	1.000	2,646,622	N/A	2,646,622	1.012	2	2	28,998
6/30/92-93	259,992	1,755,793	1.024	1.000	1,798,721	N/A	1,798,721	0.692	1	1	42,928
6/30/93-94	257,062	1,270,183	1.026	1.000	1,303,840	N/A	1,303,840	0.507	2	2	16,829
6/30/94-95	255,854	928,160	1.029	1.000	955,026	N/A	955,026	0.373	0	1	26,866
6/30/95-96	255,539	1,004,022	1.031	1.000	1,035,253	N/A	1,035,253	0.405	0	0	
6/30/96-97	270,071	882,663	1.032	1.000	911,237	N/A	911,237	0.337	0	1	28,575
6/30/97-98	245,367	760,571	1.033	1.000	785,842	N/A	785,842	0.320	2	1	25,271
6/30/98-99	251,453	634,493	1.035	1.000	656,860	N/A	656,860	0.261	1	1	22,367
6/30/99-00	255,641	779,490	1.038	1.000	809,174	N/A	809,174	0.317	2	1	29,684
6/30/00-01	263,918	1,358,630	1.042	1.000	1,416,010	N/A	1,416,010	0.537	7	7	8,197
6/30/01-02	267,598	861,213	1.046	1.000	901,176	N/A	901,176	0.337	5	3	13,321
6/30/02-03	274,465	851,935	1.049	1.000	893,984	N/A	893,984	0.326	6	6	7,008
6/30/03-04	272,384	861,676	1.054	1.000	907,823	N/A	907,823	0.333	8	5	9,229
6/30/04-05	273,647	1,046,856	1.058	1.000	1,107,332	N/A	1,107,332	0.405	1	1	60,476
6/30/05-06	285,139	1,157,537	1.072	1.000	1,240,875	N/A	1,240,875	0.435	6	4	20,834
6/30/06-07	298,516	1,128,520	1.088	1.000	1,227,915	N/A	1,227,915	0.411	12	6	16,566
6/30/07-08	314,231	948,911	1.108	1.000	1,051,718	N/A	1,051,718	0.335	10	3	34,269
6/30/08-09	302,998	1,136,600	1.147	1.000	1,304,108	N/A	1,304,108	0.430	16	11	15,228
6/30/09-10	297,252	1,181,671	1.190	1.000	1,406,680	N/A	1,406,680	0.473	32	21	10,715
6/30/10-11	292,432	953,435	1.249	1.000	1,191,147	N/A	1,191,147	0.407	43	25	9,508
6/30/11-12	295,908	985,560	1.407	1.000	1,387,148	N/A	1,387,148	0.469	202	56	7,171
6/30/12-13	301,541	782,569	1.781	1.000	1,393,411	N/A	1,393,411	0.462	266	194	3,149
6/30/13-14	309,910	343,501	3.784	1.000	1,299,911	N/A	1,299,911	0.419		294	3,253
Total	8,063,095	44,320,769			46,825,188		46,825,188		636	657	

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, 2014

Department of Developmental Services - 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	764,161	1.009	771,536	N/A	771,536	0.425	0.425
6/30/85-86	195,247	0.858	1,602,166	1.010	1,619,114	N/A	1,619,114	0.829	0.829
6/30/86-87	224,370	0.921	1,896,353	1.012	1,921,343	N/A	1,921,343	0.856	0.856
6/30/87-88	262,864	1.034	2,483,681	1.014	2,521,910	N/A	2,521,910	0.959	0.959
6/30/88-89	283,884	1.417	3,902,335	1.016	3,966,830	N/A	3,966,830	1.397	1.397
6/30/89-90	285,078	1.435	3,685,474	1.018	3,759,097	N/A	3,759,097	1.319	1.319
6/30/90-91	267,732	1.098	2,902,044	1.020	2,960,717	N/A	2,960,717	1.106	1.106
6/30/91-92	261,442	0.998	2,588,626	1.022	2,645,826	N/A	2,645,826	1.012	1.012
6/30/92-93	259,992	0.681	1,755,793	1.024	1,798,030	N/A	1,798,030	0.692	0.692
6/30/93-94	257,062	0.500	1,270,183	1.026	1,303,362	N/A	1,303,362	0.507	0.507
6/30/94-95	255,854	0.371	928,160	1.029	954,880	N/A	954,880	0.373	0.373
6/30/95-96	255,539	0.401	1,004,022	1.031	1,034,953	N/A	1,034,953	0.405	0.405
6/30/96-97	270,071	0.338	882,663	1.032	911,308	N/A	911,308	0.337	0.337
6/30/97-98	245,367	0.323	760,571	1.033	786,051	N/A	786,051	0.320	0.320
6/30/98-99	251,453	0.270	634,493	1.035	657,597	N/A	657,597	0.262	0.262
6/30/99-00	255,641	0.321	779,490	1.038	809,586	N/A	809,586	0.317	0.317
6/30/00-01	263,918	0.520	1,358,630	1.042	1,414,256	N/A	1,414,256	0.536	0.536
6/30/01-02	267,598	0.341	861,213	1.046	901,678	N/A	901,678	0.337	0.337
6/30/02-03	274,465	0.332	851,935	1.049	894,851	N/A	894,851	0.326	0.326
6/30/03-04	272,384	0.341	861,676	1.054	908,842	N/A	908,842	0.334	0.334
6/30/04-05	273,647	0.415	1,046,856	1.058	1,108,914	N/A	1,108,914	0.405	0.405
6/30/05-06	285,139	0.421	1,157,537	1.072	1,238,129	N/A	1,238,129	0.434	0.434
6/30/06-07	298,516	0.425	1,128,520	1.088	1,231,228	N/A	1,231,228	0.412	0.412
6/30/07-08	314,231	0.429	948,911	1.108	1,080,779	N/A	1,080,779	0.344	0.344
6/30/08-09	302,998	0.436	1,136,600	1.147	1,306,251	N/A	1,306,251	0.431	0.431
6/30/09-10	297,252	0.452	1,181,671	1.190	1,396,561	N/A	1,396,561	0.470	0.470
6/30/10-11	292,432	0.456	953,435	1.249	1,219,825	N/A	1,219,825	0.417	0.417
6/30/11-12	295,908	0.461	985,560	1.407	1,380,512	N/A	1,380,512	0.467	0.467
6/30/12-13	301,541	0.466	782,569	1.781	1,398,095	N/A	1,398,095	0.464	0.464
6/30/13-14	309,910	0.470	343,501	3.784	1,415,857	N/A	1,415,857	0.457	0.457
Total	8,063,095		41,438,827		45,317,920		45,317,920		

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, 2014

Department of Developmental Services - 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	2,961,140	1.106	1.194	1.320	1.270	1.677	0.313	1.097	1.098
6/30/91-92	261,442	2,646,622	1.012	1.189	1.203	1.257	1.513	0.318	0.930	0.998
6/30/92-93	259,992	1,798,721	0.692	1.189	0.823	1.245	1.024	0.321	0.679	0.681
6/30/93-94	257,062	1,303,840	0.507	1.178	0.598	1.232	0.737	0.327	0.497	0.500
6/30/94-95	255,854	955,026	0.373	1.170	0.437	1.220	0.533	0.333	0.368	0.371
6/30/95-96	255,539	1,035,253	0.405	1.155	0.468	1.208	0.566	0.340	0.397	0.401
6/30/96-97	270,071	911,237	0.337	1.137	0.384	1.196	0.459	0.349	0.333	0.338
6/30/97-98	245,367	785,842	0.320	1.135	0.364	1.184	0.431	0.353	0.315	0.323
6/30/98-99	251,453	656,860	0.261	1.135	0.296	1.173	0.348	0.357	0.264	0.270
6/30/99-00	255,641	809,174	0.317	1.135	0.359	1.161	0.417	0.360	0.311	0.321
6/30/00-01	263,918	1,416,010	0.537	1.109	0.595	1.149	0.684	0.373	0.496	0.520
6/30/01-02	267,598	901,176	0.337	1.101	0.371	1.138	0.422	0.379	0.328	0.341
6/30/02-03	274,465	893,984	0.326	1.073	0.349	1.127	0.394	0.393	0.326	0.332
6/30/03-04	272,384	907,823	0.333	1.046	0.349	1.116	0.389	0.407	0.332	0.341
6/30/04-05	273,647	1,107,332	0.405	1.036	0.419	1.105	0.463	0.415	0.377	0.415
6/30/05-06	285,139	1,240,875	0.435	1.032	0.449	1.094	0.491	0.421	0.390	0.421
6/30/06-07	298,516	1,227,915	0.411	1.032	0.425	1.083	0.460	0.425	0.402	0.425
6/30/07-08	314,231	1,051,718	0.335	1.032	0.345	1.072	0.370	0.429	0.414	0.429
6/30/08-09	302,998	1,304,108	0.430	1.027	0.442	1.062	0.469	0.436	0.429	0.436
6/30/09-10	297,252	1,406,680	0.473	1.000	0.473	1.051	0.497	0.452	0.453	0.452
6/30/10-11	292,432	1,191,147	0.407	1.000	0.407	1.041	0.424	0.456	0.467	0.456
6/30/11-12	295,908	1,387,148	0.469	1.000	0.469	1.030	0.483	0.461	0.481	0.461
6/30/12-13	301,541	1,393,411	0.462	1.000	0.462	1.020	0.471	0.466	0.495	0.466
6/30/13-14	309,910	1,299,911	0.419	1.000	0.419	1.010	0.424	0.470		0.470
Total	6,630,092	30,592,952								

Trend Last 4 (ex 13-14):	0.7%	Avg 3 (x13-14):	0.459
Trend Last 8 (ex 13-14):	1.5%	Avg 5 (x13-14):	0.469
Trend Last 12 (ex 13-14):	2.3%	Avg 10 (x13-14):	0.452
Prior Selected Trend:	3.0%	Prior Sel Avg:	0.510
Selected Trend:	1.0%	Sel. Loss Cost:	0.475

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, 2013
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

Department of Developmental Services - Cluster 1
Medical

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend	0.800	
(2)	Credibility	33%	
(3)	Average Pmt Trend Statewide	0.950	
(4)	Credibility Weighted Trend	0.900	
		(Low)	(High)
(5)	Selected Range	0.860	0.945
(6)	Incremental Paid for 2014	179	179
(7)	Estimated Reserve	1,101	3,094
(8)	Paid to Date (82 & Prior)	1,210,512	1,210,512
(9)	Est Ult Paid for 1982 & Prior	1,211,613	1,213,606

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	179	518
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	1,255	3,625
(13)	Paid to Date (82 & Prior)	1,210,512	1,210,333
(14)	Est Ult Paid for 1982 & Prior	1,211,767	1,213,957
(14a)	Paid Counts During Fiscal Year	1	1
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	1,211,690	1,213,782
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	**1,211,690**	**1,213,782**
(18)	Implied Tail	1.001	1.003
(19)	Ult Loss Inc Lump Sums @ 6/13	1,212,653	1,218,313

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, 2013

Department of Developmental Services - Cluster 1
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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 =	23
2001	10	9,078	9.114	0.761	S(x) =	46,069
2002	11	5,110	8.539	0.563	S(x-sq) =	92,277,219
2003	12	6,295	8.748	1.232	S(xy) =	405,799
2004	13	4,115	8.322	0.654	S(y) =	203
2005	14	17,494	9.770	4.251	D =	23,276
2006	15	5,802	8.666	0.332	slope =	-0.245
2007	16	8,975	9.102	1.547	Avg Trend =	0.755
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		
2014	23	179	5.189	1.000		
					Selected Trend:	**0.800**

NOTES:

(3) 2014 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2013

(4) LN [(3)]

(5) Eg. 2014: 1 = 179 / 179

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
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	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	1,410,461	
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	764,161		
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	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	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	2,483,681					
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	3,902,335						
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	3,685,474							
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	2,902,044								
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	2,588,626									
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	1,755,793										
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	1,270,183											
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	928,160												
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	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	882,663														
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	760,571															
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	634,493																
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	779,490																	
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	1,358,630																		
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	861,213																			
June-03	163,049	459,264	666,927	739,223	775,337	800,620	814,827	825,961	832,962	839,586	845,639	851,935																				
June-04	79,919	361,725	544,497	684,486	731,761	788,111	824,704	835,702	842,619	849,442	861,676																					
June-05	394,825	766,546	887,167	942,140	987,834	999,094	1,003,380	1,005,881	1,006,180	1,046,856																						
June-06	318,539	662,581	842,645	941,494	1,038,675	1,080,705	1,115,105	1,134,878	1,157,537																							
June-07	310,954	746,618	936,091	1,034,943	1,071,013	1,094,137	1,114,504	1,128,520																								
June-08	418,873	692,272	777,557	805,740	842,963	874,236	948,911																									
June-09	491,289	882,544	982,774	1,088,621	1,119,184	1,136,600																										
June-10	412,961	823,720	1,038,592	1,141,629	1,181,671																											
June-11	434,256	781,068	901,778	953,435																												
June-12	463,779	899,638	985,560																													
June-13	317,812	782,569																														
June-14	343,501																															

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
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	1.002	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	1.004	
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	1.000		
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	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	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	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	1.005						
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	1.001							
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	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	1.073									
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	1.000										
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	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	1.001												
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	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	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	1.010															
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	1.001																
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	1.014																	
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	1.040																		
June-02	2.412	1.149	1.152	1.069	1.072	1.034	1.030	1.026	1.028	1.013	1.025	1.024																			
June-03	2.817	1.452	1.108	1.049	1.033	1.018	1.014	1.008	1.008	1.007	1.007																				
June-04	4.526	1.505	1.257	1.069	1.077	1.046	1.013	1.008	1.008	1.014																					
June-05	1.941	1.157	1.062	1.049	1.011	1.004	1.002	1.000	1.040																						
June-06	2.080	1.272	1.117	1.103	1.040	1.032	1.018	1.020																							
June-07	2.401	1.254	1.106	1.035	1.022	1.019	1.013																								
June-08	1.653	1.123	1.036	1.046	1.037	1.085																									
June-09	1.796	1.114	1.108	1.028	1.016																										
June-10	1.995	1.261	1.099	1.035																											
June-11	1.799	1.155	1.057																												
June-12	1.940	1.096																													
June-13	2.462																														

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	2.311	1.265	1.127	1.080	1.059	1.046	1.033	1.025	1.019	1.011	1.017	1.007	1.007	1.004	1.004	1.003	1.003	1.002	1.001	1.003	1.003	1.009	1.002	1.002	1.001	1.001	1.006	1.009	1.000	1.002	1.000	
Latest 5	1.998	1.150	1.081	1.049	1.025	1.037	1.012	1.013	1.026	1.018	1.018	1.013	1.012	1.004	1.001	1.002	1.001	1.001	1.002	1.002	1.002	1.016	1.001	1.001	1.001	1.002	1.006					
Latest 3	2.067	1.170	1.088	1.036	1.025	1.045	1.011	1.010	1.019	1.011	1.025	1.021	1.018	1.007	1.001	1.003	1.000	1.000	1.002	1.002	1.003	1.026	1.002	1.002	1.002	1.000	1.004	1.011	1.000			
Volume Wtd																																
All Yrs	2.277	1.250	1.117	1.073	1.050	1.037	1.024	1.018	1.013	1.009	1.009	1.006	1.006	1.004	1.004	1.003	1.003	1.002	1.002	1.003	1.003	1.010	1.002	1.002	1.001	1.006	1.006	1.001	1.003	1.000		
Latest 5	1.967	1.149	1.084	1.048	1.025	1.035	1.012	1.012	1.028	1.020	1.021	1.016	1.015	1.004	1.001	1.002	1.001	1.002	1.002	1.002	1.003	1.013	1.001	1.002	1.002	1.001	1.006					
Latest 3	2.026	1.168	1.089	1.036	1.024	1.042	1.011	1.010	1.020	1.011	1.027	1.023	1.023	1.008	1.001	1.003	1.000	1.000	1.002	1.003	1.003	1.021	1.002	1.002	1.002	1.000	1.002	1.007	1.001			

Dev Factor Selection																																
Industry 1	1.954	1.133	1.050	1.027	1.015	1.012	1.011																									
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	*2.018*	*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*	
Selected	2.125	1.265	1.127	1.049	1.038	1.035	1.019	1.015	1.013	1.004	1.004	1.003	1.004	1.004	1.003	1.002	1.001	1.001	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.001	1.001	1.001	1.007
FacToUlt	3.784	1.781	1.407	1.249	1.190	1.147	1.108	1.088	1.072	1.058	1.054	1.049	1.046	1.042	1.038	1.035	1.033	1.032	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	1.007
Percent of Ult	26.4%	56.2%	71.0%	80.0%	84.0%	87.2%	90.2%	91.9%	93.3%	94.5%	94.9%	95.3%	95.6%	95.9%	96.3%	96.6%	96.8%	96.9%	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%	99.3%

Department of Developmental Services - 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 6/13		As of 6/14		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	1,212,653	1,218,313	1,211,690	1,213,782	(963)	-0.1%	(4,531)	-0.4%
6/30/82-83	263,579	271,000	263,579	271,000	0	0.0%	0	0.0%
6/30/83-84	1,418,682	1,460,000	1,424,565	1,465,000	5,883	0.4%	5,000	0.3%
6/30/84-85	771,555	779,194	771,803	779,444	248	0.0%	250	0.0%
6/30/85-86	1,621,000	1,622,000	1,619,000	1,620,000	(2,000)	-0.1%	(2,000)	-0.1%
6/30/86-87	1,915,316	1,934,280	1,920,000	1,922,000	4,684	0.2%	(12,280)	-0.6%
6/30/87-88	2,523,000	2,526,000	2,519,000	2,522,000	(4,000)	-0.2%	(4,000)	-0.2%
6/30/88-89	3,953,000	3,954,000	3,966,000	3,967,000	13,000	0.3%	13,000	0.3%
6/30/89-90	3,718,608	3,755,426	3,722,328	3,759,183	3,720	0.1%	3,757	0.1%
6/30/90-91	2,961,000	2,961,000	2,931,390	2,961,000	(29,610)	-1.0%	0	0.0%
6/30/91-92	2,469,000	2,470,000	2,619,540	2,647,000	150,540	6.1%	177,000	7.2%
6/30/92-93	1,800,000	1,801,000	1,780,020	1,799,000	(19,980)	-1.1%	(2,000)	-0.1%
6/30/93-94	1,304,000	1,305,000	1,289,970	1,304,000	(14,030)	-1.1%	(1,000)	-0.1%
6/30/94-95	956,000	956,000	945,450	955,000	(10,550)	-1.1%	(1,000)	-0.1%
6/30/95-96	1,037,000	1,037,000	1,035,000	1,035,000	(2,000)	-0.2%	(2,000)	-0.2%
6/30/96-97	913,000	913,000	911,000	911,000	(2,000)	-0.2%	(2,000)	-0.2%
6/30/97-98	780,000	796,000	786,000	802,000	6,000	0.8%	6,000	0.8%
6/30/98-99	658,000	671,000	657,000	671,000	(1,000)	-0.2%	0	0.0%
6/30/99-00	799,000	815,000	809,000	826,000	10,000	1.3%	11,000	1.3%
6/30/00-01	1,360,000	1,390,000	1,414,000	1,444,000	54,000	4.0%	54,000	3.9%
6/30/01-02	880,000	897,000	901,000	920,000	21,000	2.4%	23,000	2.6%
6/30/02-03	888,000	906,000	894,000	913,000	6,000	0.7%	7,000	0.8%
6/30/03-04	896,000	914,000	908,000	927,000	12,000	1.3%	13,000	1.4%
6/30/04-05	1,027,000	1,081,000	1,052,000	1,109,000	25,000	2.4%	28,000	2.6%
6/30/05-06	1,180,000	1,242,000	1,179,000	1,241,000	(1,000)	-0.1%	(1,000)	-0.1%
6/30/06-07	1,177,000	1,239,000	1,167,000	1,231,000	(10,000)	-0.8%	(8,000)	-0.6%
6/30/07-08	945,000	1,032,000	999,000	1,081,000	54,000	5.7%	49,000	4.7%
6/30/08-09	1,189,000	1,387,000	1,174,000	1,372,000	(15,000)	-1.3%	(15,000)	-1.1%
6/30/09-10	1,276,000	1,489,000	1,266,000	1,477,000	(10,000)	-0.8%	(12,000)	-0.8%
6/30/10-11	1,138,000	1,358,000	1,072,000	1,281,000	(66,000)	-5.8%	(77,000)	-5.7%
6/30/11-12	1,443,000	1,684,000	1,248,000	1,457,000	(195,000)	-13.5%	(227,000)	-13.5%
6/30/12-13	1,029,000	1,466,000	1,254,000	1,468,000	225,000	21.9%	2,000	0.1%
6/30/13-14								
Total	45,502,393	47,330,212	45,710,335	47,351,409	207,942	0.5%	21,196	0.0%

NOTES:

(2), (3) From Aon analysis as of June 30, 2013

(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 Developmental Services - 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%
396	100.0%	0.7%	0.0%	0.2%	0.1%	1.000	1.000
384	99.3%	0.1%	0.7%	0.0%	0.0%	0.981	0.971
372	99.2%	0.1%	0.8%	0.0%	0.0%	0.947	0.923
360	99.1%	0.1%	0.9%	0.0%	0.0%	0.919	0.882
348	99.0%	0.2%	1.0%	0.1%	0.0%	0.893	0.845
336	98.8%	0.2%	1.2%	0.1%	0.0%	0.878	0.826
324	98.6%	0.2%	1.4%	0.1%	0.0%	0.864	0.806
312	98.4%	0.2%	1.6%	0.1%	0.0%	0.849	0.786
300	98.2%	0.2%	1.8%	0.1%	0.0%	0.834	0.767
288	98.0%	0.2%	2.0%	0.1%	0.0%	0.820	0.748
276	97.8%	0.2%	2.2%	0.1%	0.1%	0.805	0.729
264	97.6%	0.2%	2.4%	0.1%	0.1%	0.791	0.711
252	97.4%	0.2%	2.6%	0.1%	0.1%	0.777	0.694
240	97.2%	0.2%	2.8%	0.1%	0.1%	0.767	0.680
228	97.0%	0.1%	3.0%	0.1%	0.0%	0.754	0.664
216	96.9%	0.1%	3.1%	0.0%	0.0%	0.734	0.640
204	96.8%	0.2%	3.2%	0.1%	0.1%	0.713	0.613
192	96.6%	0.3%	3.4%	0.1%	0.1%	0.702	0.600
180	96.3%	0.4%	3.7%	0.2%	0.2%	0.697	0.595
168	95.9%	0.4%	4.1%	0.2%	0.2%	0.699	0.600
156	95.6%	0.3%	4.4%	0.2%	0.1%	0.699	0.601
144	95.3%	0.4%	4.7%	0.2%	0.2%	0.690	0.590
132	94.9%	0.4%	5.1%	0.3%	0.2%	0.687	0.588
120	94.5%	1.3%	5.5%	0.9%	0.7%	0.683	0.583
108	93.3%	1.4%	6.7%	1.0%	0.8%	0.717	0.629
96	91.9%	1.7%	8.1%	1.3%	1.1%	0.739	0.658
84	90.2%	3.1%	9.8%	2.4%	2.1%	0.757	0.681
72	87.2%	3.2%	12.8%	2.5%	2.3%	0.788	0.721
60	84.0%	4.0%	16.0%	3.3%	3.0%	0.802	0.737
48	80.0%	9.0%	20.0%	7.8%	7.3%	0.813	0.750
36	71.0%	14.9%	29.0%	13.5%	12.9%	0.843	0.790
24	56.2%	29.7%	43.8%	28.0%	27.2%	0.868	0.822
12	26.4%	26.4%	73.6%	25.9%	25.7%	0.894	0.855
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
Reserve Analysis at June 30, 2014

Department of Developmental Services - 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	1,178	3,270		1,030	2,860
6/30/82-83	2,610	10,031	0.981	2,559	9,836
6/30/83-84	14,105	54,539	0.947	13,364	51,674
6/30/84-85	7,642	15,283	0.919	7,019	14,039
6/30/85-86	16,835	17,835	0.893	15,029	15,922
6/30/86-87	23,647	25,647	0.878	20,772	22,528
6/30/87-88	35,319	38,319	0.864	30,504	33,095
6/30/88-89	63,665	64,665	0.849	54,044	54,893
6/30/89-90	36,855	73,709	0.834	30,743	61,486
6/30/90-91	29,346	58,956	0.820	24,052	48,321
6/30/91-92	30,914	58,374	0.805	24,894	47,007
6/30/92-93	24,227	43,207	0.791	19,168	34,184
6/30/93-94	19,787	33,817	0.777	15,382	26,288
6/30/94-95	17,290	26,840	0.767	13,255	20,577
6/30/95-96	30,978	30,978	0.754	23,345	23,345
6/30/96-97	28,337	28,337	0.734	20,809	20,809
6/30/97-98	25,429	41,429	0.713	18,129	29,535
6/30/98-99	22,507	36,507	0.702	15,798	25,624
6/30/99-00	29,510	46,510	0.697	20,563	32,410
6/30/00-01	55,370	85,370	0.699	38,728	59,712
6/30/01-02	39,787	58,787	0.699	27,815	41,098
6/30/02-03	42,065	61,065	0.690	29,019	42,126
6/30/03-04	46,324	65,324	0.687	31,825	44,879
6/30/04-05	5,144	62,144	0.683	3,512	42,429
6/30/05-06	21,463	83,463	0.717	15,390	59,846
6/30/06-07	38,480	102,480	0.739	28,438	75,737
6/30/07-08	50,089	132,089	0.757	37,919	99,995
6/30/08-09	37,400	235,400	0.788	29,482	185,563
6/30/09-10	84,329	295,329	0.802	67,617	236,802
6/30/10-11	118,565	327,565	0.813	96,344	266,174
6/30/11-12	262,440	471,440	0.843	221,298	397,533
6/30/12-13	471,431	685,431	0.868	409,418	595,267
6/30/13-14	826,499	1,143,499	0.894	738,785	1,022,142
Total	2,559,566	4,517,640		2,146,047	3,743,734
			(7) Total Discount Factor:	0.838	0.829

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	1,178	3,270
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	168	467
(11) Discounted Value at 4%:	1,030	2,860

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)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

Department of Developmental Services - 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	1,178	3,270		968	2,686
6/30/82-83	2,610	10,031	0.971	2,535	9,743
6/30/83-84	14,105	54,539	0.923	13,019	50,340
6/30/84-85	7,642	15,283	0.882	6,737	13,475
6/30/85-86	16,835	17,835	0.845	14,232	15,078
6/30/86-87	23,647	25,647	0.826	19,532	21,183
6/30/87-88	35,319	38,319	0.806	28,472	30,890
6/30/88-89	63,665	64,665	0.786	50,064	50,851
6/30/89-90	36,855	73,709	0.767	28,264	56,527
6/30/90-91	29,346	58,956	0.748	21,945	44,088
6/30/91-92	30,914	58,374	0.729	22,543	42,568
6/30/92-93	24,227	43,207	0.711	17,228	30,725
6/30/93-94	19,787	33,817	0.694	13,724	23,454
6/30/94-95	17,290	26,840	0.680	11,764	18,262
6/30/95-96	30,978	30,978	0.664	20,573	20,573
6/30/96-97	28,337	28,337	0.640	18,125	18,125
6/30/97-98	25,429	41,429	0.613	15,577	25,378
6/30/98-99	22,507	36,507	0.600	13,499	21,896
6/30/99-00	29,510	46,510	0.595	17,556	27,669
6/30/00-01	55,370	85,370	0.600	33,226	51,228
6/30/01-02	39,787	58,787	0.601	23,913	35,333
6/30/02-03	42,065	61,065	0.590	24,825	36,037
6/30/03-04	46,324	65,324	0.588	27,225	38,391
6/30/04-05	5,144	62,144	0.583	3,000	36,248
6/30/05-06	21,463	83,463	0.629	13,499	52,493
6/30/06-07	38,480	102,480	0.658	25,309	67,401
6/30/07-08	50,089	132,089	0.681	34,100	89,925
6/30/08-09	37,400	235,400	0.721	26,961	169,695
6/30/09-10	84,329	295,329	0.737	62,188	217,788
6/30/10-11	118,565	327,565	0.750	88,971	245,804
6/30/11-12	262,440	471,440	0.790	207,259	372,315
6/30/12-13	471,431	685,431	0.822	387,456	563,336
6/30/13-14	826,499	1,143,499	0.855	706,279	977,169
Total	2,559,566	4,517,640		2,000,566	3,476,674
			(7) Total Discount Factor:	0.782	0.770

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	1,178	3,270
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	168	467
(11) Discounted Value at 6%:	968	2,686

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, 2014

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		19,734,350			23,331,188	24,658,738	3,596,838	4,924,388		
6/30/82-83		2,622,627	2,677,888		2,651,109	2,744,835	28,481	122,207		
6/30/83-84		2,655,007	2,843,663		2,772,572	2,914,755	117,565	259,748		
6/30/84-85	142,561	4,179,676	4,712,745	4,300,522	4,301,000	4,713,000	121,324	533,324	3.017	3.306
6/30/85-86	153,298	4,634,091	4,848,980	4,840,847	4,680,000	4,849,000	45,909	214,909	3.053	3.163
6/30/86-87	176,136	6,208,413	6,550,519	6,561,704	6,270,000	6,562,000	61,587	353,587	3.560	3.726
6/30/87-88	206,319	11,531,529	12,273,785	12,206,994	12,247,069	12,274,000	715,540	742,471	5.936	5.949
6/30/88-89	222,806	12,161,289	13,040,176	12,975,523	13,014,315	13,040,000	853,026	878,711	5.841	5.853
6/30/89-90	223,751	11,580,032	12,508,602	12,454,493	12,454,000	12,509,000	873,968	928,968	5.566	5.591
6/30/90-91	210,162	7,806,283	8,473,265	8,462,420	7,962,000	8,040,472	155,717	234,189	3.789	3.826
6/30/91-92	205,241	4,260,079	4,644,310	4,640,366	4,303,000	4,412,000	42,921	151,921	2.097	2.150
6/30/92-93	176,705	3,572,102	3,936,642	3,927,598	3,928,000	3,937,000	355,898	364,898	2.223	2.228
6/30/93-94	173,075	2,428,814	2,722,875	2,715,697	2,716,000	2,723,000	287,186	294,186	1.569	1.573
6/30/94-95	178,317	2,817,853	3,177,786	3,166,926	3,167,000	3,178,000	349,147	360,147	1.776	1.782
6/30/95-96	175,996	1,924,351	2,162,569	2,160,454	1,963,000	2,249,000	38,649	324,649	1.115	1.278
6/30/96-97	190,083	1,571,537	1,759,466	1,763,007	1,759,000	1,763,000	187,463	191,463	0.925	0.927
6/30/97-98	177,278	2,912,109	3,304,532	3,292,890	3,293,000	3,305,000	380,891	392,891	1.858	1.864
6/30/98-99	189,080	1,674,660	1,912,313	1,915,075	1,912,000	1,915,000	237,340	240,340	1.011	1.013
6/30/99-00	194,494	2,313,702	2,629,437	2,627,211	2,627,000	2,629,000	313,298	315,298	1.351	1.352
6/30/00-01	201,568	3,299,797	3,788,137	3,771,960	3,772,000	3,788,000	472,203	488,203	1.871	1.879
6/30/01-02	203,105	2,606,204	3,029,753	3,022,271	3,022,000	3,030,000	415,796	423,796	1.488	1.492
6/30/02-03	202,515	1,794,452	2,070,818	2,079,515	2,071,000	2,080,000	276,548	285,548	1.023	1.027
6/30/03-04	189,588	3,243,734	3,875,860	3,852,730	3,853,000	3,876,000	609,266	632,266	2.032	2.044
6/30/04-05	186,990	2,718,828	3,307,517	3,184,239	3,184,000	3,308,000	465,172	589,172	1.703	1.769
6/30/05-06	193,254	1,857,339	2,283,768	2,373,472	2,284,000	2,373,000	426,661	515,661	1.182	1.228
6/30/06-07	203,359	2,221,812	2,830,667	2,829,172	2,829,000	2,831,000	607,188	609,188	1.391	1.392
6/30/07-08	212,083	1,575,619	2,084,123	2,289,720	1,979,800	2,175,500	404,181	599,881	0.934	1.026
6/30/08-09	204,679	1,805,042	2,500,823	2,602,340	2,501,000	2,602,000	695,958	796,958	1.222	1.271
6/30/09-10	184,688	1,226,921	1,768,337	2,006,449	1,888,000	2,006,000	661,079	779,079	1.022	1.086
6/30/10-11	169,689	1,746,802	2,784,918	2,687,189	2,687,000	2,924,000	940,198	1,177,198	1.583	1.723
6/30/11-12	177,399	1,480,452	2,735,551	2,728,170	2,728,000	2,872,000	1,247,548	1,391,548	1.538	1.619
6/30/12-13	189,252	1,328,353	3,183,664	3,157,920	3,158,000	3,343,000	1,829,647	2,014,647	1.669	1.766
6/30/13-14	199,876	737,949	3,416,866	3,317,987	3,318,000	3,588,000	2,580,051	2,850,051	1.660	1.795
Total	5,713,348	134,231,808	133,840,354	127,914,860	154,626,052	159,213,300	20,394,244	24,981,492		
Tot 6/30/84-14	5,713,348	109,219,824	128,318,803	127,914,860	125,871,184	128,894,972	16,651,359	19,675,148	2.203	2.256

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, 2014

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 7/1/12-13	Paid Counts 7/1/13-14	Average Outstanding Claim	Average Age
All Prior Yrs		19,068,670							10	9		85
6/30/82-83		2,528,627	1.022	1.000	2,583,653	94,235	2,677,888		1	1	55,025	88
6/30/83-84		2,245,006	1.032	1.050	2,432,637	411,026	2,843,663		0	0		
6/30/84-85	142,561	3,628,593	1.042	1.100	4,160,284	552,461	4,712,745	3.306	2	2	265,846	70
6/30/85-86	153,298	4,048,163	1.053	1.000	4,261,587	587,393	4,848,980	3.163	0	0		
6/30/86-87	176,136	5,376,022	1.063	1.000	5,716,047	834,472	6,550,519	3.719	0	0		
6/30/87-88	206,319	9,846,507	1.074	1.001	10,584,551	1,689,235	12,273,785	5.949	2	2	369,022	74
6/30/88-89	222,806	10,185,647	1.085	1.001	11,058,602	1,981,574	13,040,176	5.853	3	3	290,985	77
6/30/89-90	223,751	9,542,392	1.095	1.001	10,463,819	2,044,783	12,508,602	5.590	2	2	460,714	74
6/30/90-91	210,162	6,140,819	1.106	1.001	6,801,124	1,672,141	8,473,265	4.032	1	1	660,305	86
6/30/91-92	205,241	3,230,938	1.117	1.000	3,610,525	1,033,786	4,644,310	2.263	0	0		
6/30/92-93	176,705	2,778,023	1.129	1.001	3,138,579	798,063	3,936,642	2.228	2	1	360,555	63
6/30/93-94	173,075	2,070,230	1.140	1.001	2,362,311	360,564	2,722,875	1.573	1	2	146,041	64
6/30/94-95	178,317	2,341,429	1.151	1.001	2,698,491	479,296	3,177,786	1.782	1	1	357,061	70
6/30/95-96	175,996	1,440,291	1.163	1.000	1,674,856	487,713	2,162,569	1.229	1	0		
6/30/96-97	190,083	1,057,037	1.172	1.000	1,239,019	520,447	1,759,466	0.926	0	0		
6/30/97-98	177,278	2,101,308	1.180	1.000	2,479,667	824,865	3,304,532	1.864	0	0		
6/30/98-99	189,080	1,254,410	1.182	1.000	1,483,239	429,074	1,912,313	1.011	0	0		
6/30/99-00	194,494	1,634,502	1.185	1.000	1,936,531	692,905	2,629,437	1.352	0	0		
6/30/00-01	201,568	2,503,297	1.187	1.000	2,971,797	816,339	3,788,137	1.879	1	2	234,250	69
6/30/01-02	203,105	2,097,298	1.193	1.000	2,502,039	527,714	3,029,753	1.492	0	0		
6/30/02-03	202,515	1,297,452	1.197	1.000	1,552,735	518,083	2,070,818	1.023	1	2	127,642	44
6/30/03-04	189,588	2,662,734	1.223	1.000	3,256,466	619,394	3,875,860	2.044	0	1	593,732	49
6/30/04-05	186,990	2,083,828	1.256	1.000	2,617,286	690,231	3,307,517	1.769	0	0		
6/30/05-06	193,254	1,354,589	1.277	1.000	1,730,068	553,699	2,283,768	1.182	1	1	375,479	51
6/30/06-07	203,359	1,791,061	1.302	1.000	2,332,329	498,338	2,830,667	1.392	2	2	270,634	58
6/30/07-08	212,083	1,259,889	1.335	1.000	1,681,697	402,426	2,084,123	0.983	6	1	421,807	48
6/30/08-09	204,679	1,535,542	1.384	1.000	2,125,186	375,637	2,500,823	1.222	4	3	196,548	53
6/30/09-10	184,688	1,055,921	1.430	1.000	1,509,975	258,362	1,768,337	0.957	8	3	151,352	59
6/30/10-11	169,689	1,565,671	1.552	1.000	2,429,231	355,687	2,784,918	1.641	12	9	95,951	55
6/30/11-12	177,399	1,349,652	1.726	1.000	2,330,085	405,466	2,735,551	1.542	45	14	70,031	55
6/30/12-13	189,252	1,253,353	2.062	1.000	2,583,963	599,701	3,183,664	1.682	156	38	35,016	52
6/30/13-14	199,876	737,949	3.898	1.000	2,876,397	540,469	3,416,866	1.709	0	185	11,559	46
Total	5,713,348	113,066,850			111,184,776	22,655,578	133,840,354		262	285		

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, 2014

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	3,628,593	1.042	3,748,062	552,461	4,300,522	3.017	2.629
6/30/85-86	153,298	2.674	4,048,163	1.053	4,253,454	587,393	4,840,847	3.158	2.775
6/30/86-87	176,136	3.352	5,376,022	1.063	5,727,232	834,472	6,561,704	3.725	3.252
6/30/87-88	206,319	4.729	9,846,507	1.074	10,517,760	1,689,235	12,206,994	5.917	5.098
6/30/88-89	222,806	4.650	10,185,647	1.085	10,993,949	1,981,574	12,975,523	5.824	4.934
6/30/89-90	223,751	4.448	9,542,392	1.095	10,409,710	2,044,783	12,454,493	5.566	4.652
6/30/90-91	210,162	3.213	6,140,819	1.106	6,790,279	1,672,141	8,462,420	4.027	3.231
6/30/91-92	205,241	1.741	3,230,938	1.117	3,606,580	1,033,786	4,640,366	2.261	1.757
6/30/92-93	176,705	1.745	2,778,023	1.129	3,129,535	798,063	3,927,598	2.223	1.771
6/30/93-94	173,075	1.341	2,070,230	1.140	2,355,133	360,564	2,715,697	1.569	1.361
6/30/94-95	178,317	1.477	2,341,429	1.151	2,687,630	479,296	3,166,926	1.776	1.507
6/30/95-96	175,996	0.943	1,440,291	1.163	1,672,741	487,713	2,160,454	1.228	0.950
6/30/96-97	190,083	0.665	1,057,037	1.172	1,242,560	520,447	1,763,007	0.927	0.654
6/30/97-98	177,278	1.356	2,101,308	1.180	2,468,025	824,865	3,292,890	1.857	1.392
6/30/98-99	189,080	0.794	1,254,410	1.182	1,486,001	429,074	1,915,075	1.013	0.786
6/30/99-00	194,494	0.988	1,634,502	1.185	1,934,306	692,905	2,627,211	1.351	0.995
6/30/00-01	201,568	1.423	2,503,297	1.187	2,955,620	816,339	3,771,960	1.871	1.466
6/30/01-02	203,105	1.209	2,097,298	1.193	2,494,557	527,714	3,022,271	1.488	1.228
6/30/02-03	202,515	0.793	1,297,452	1.197	1,561,432	518,083	2,079,515	1.027	0.771
6/30/03-04	189,588	1.651	2,662,734	1.223	3,233,335	619,394	3,852,730	2.032	1.705
6/30/04-05	186,990	1.076	2,083,828	1.256	2,494,008	690,231	3,184,239	1.703	1.334
6/30/05-06	193,254	1.109	1,354,589	1.277	1,819,773	553,699	2,373,472	1.228	0.942
6/30/06-07	203,359	1.144	1,791,061	1.302	2,330,834	498,338	2,829,172	1.391	1.146
6/30/07-08	212,083	1.179	1,259,889	1.335	1,887,293	402,426	2,289,720	1.080	0.890
6/30/08-09	204,679	1.217	1,535,542	1.384	2,226,703	375,637	2,602,340	1.271	1.088
6/30/09-10	184,688	1.246	1,055,921	1.430	1,748,087	258,362	2,006,449	1.086	0.947
6/30/10-11	169,689	1.270	1,565,671	1.552	2,331,502	355,687	2,687,189	1.584	1.374
6/30/11-12	177,399	1.304	1,349,652	1.726	2,322,704	405,466	2,728,170	1.538	1.309
6/30/12-13	189,252	1.339	1,253,353	2.062	2,558,220	599,701	3,157,920	1.669	1.352
6/30/13-14	199,876	1.373	737,949	3.898	2,777,518	540,469	3,317,987	1.660	1.390
Total	5,713,348		89,224,548		105,764,543	22,150,317	127,914,860		

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, 2014

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	6,801,124	3.236	0.957	3.098	1.608	4.984	0.909	3.389	3.213
6/30/91-92	205,241	3,610,525	1.759	1.050	1.848	1.577	2.914	0.845	1.762	1.741
6/30/92-93	176,705	3,138,579	1.776	1.225	2.176	1.546	3.363	0.739	1.737	1.745
6/30/93-94	173,075	2,362,311	1.365	1.209	1.650	1.516	2.501	0.764	1.332	1.341
6/30/94-95	178,317	2,698,491	1.513	1.198	1.813	1.486	2.694	0.786	1.567	1.477
6/30/95-96	175,996	1,674,856	0.952	1.188	1.131	1.457	1.648	0.809	0.958	0.943
6/30/96-97	190,083	1,239,019	0.652	1.177	0.767	1.428	1.095	0.833	0.679	0.665
6/30/97-98	177,278	2,479,667	1.399	1.162	1.625	1.400	2.275	0.861	1.368	1.356
6/30/98-99	189,080	1,483,239	0.784	1.146	0.899	1.373	1.234	0.890	0.807	0.794
6/30/99-00	194,494	1,936,531	0.996	1.128	1.123	1.346	1.511	0.922	1.014	0.988
6/30/00-01	201,568	2,971,797	1.474	1.099	1.621	1.319	2.138	0.965	1.452	1.423
6/30/01-02	203,105	2,502,039	1.232	1.078	1.328	1.294	1.718	1.004	1.237	1.209
6/30/02-03	202,515	1,552,735	0.767	1.074	0.823	1.268	1.044	1.028	0.887	0.793
6/30/03-04	189,588	3,256,466	1.718	1.074	1.845	1.243	2.294	1.048	1.723	1.651
6/30/04-05	186,990	2,617,286	1.400	1.067	1.494	1.219	1.821	1.076	1.162	1.076
6/30/05-06	193,254	1,730,068	0.895	1.056	0.946	1.195	1.130	1.109	1.186	1.109
6/30/06-07	203,359	2,332,329	1.147	1.045	1.198	1.172	1.404	1.144	1.211	1.144
6/30/07-08	212,083	1,681,697	0.793	1.033	0.819	1.149	0.941	1.179	1.237	1.179
6/30/08-09	204,679	2,125,186	1.038	1.021	1.061	1.126	1.194	1.217	1.264	1.217
6/30/09-10	184,688	1,509,975	0.818	1.017	0.832	1.104	0.918	1.246	1.282	1.246
6/30/10-11	169,689	2,429,231	1.432	1.019	1.458	1.082	1.579	1.270	1.293	1.270
6/30/11-12	177,399	2,330,085	1.313	1.012	1.329	1.061	1.411	1.304	1.314	1.304
6/30/12-13	189,252	2,583,963	1.365	1.005	1.372	1.040	1.428	1.339	1.337	1.339
6/30/13-14	199,876	2,876,397	1.439	1.000	1.439	1.020	1.468	1.373		1.373
Total	4,588,478	59,923,595								

Trend Last 4 (ex 13-14):	15.1%	Avg 3 (x13-14):	1.472
Trend Last 8 (ex 13-14):	5.6%	Avg 5 (x13-14):	1.306
Trend Last 12 (ex 13-14):	0.0%	Avg 10 (x13-14):	1.412
Prior Selected Trend:	1.0%	Prior Sel Avg:	1.350
Selected Trend:	2.0%	Sel. Loss Cost:	1.400

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, 2013
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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 2014	352,103		352,103
(7)	Estimated Reserve	4,677,945		8,450,482
(8)	Paid to Date (82 & Prior)	19,068,670		19,068,670
(9)	Est Ult Paid for 1982 & Prior	23,746,615		27,519,151

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	358,915	365,374
(11)	Projected Number of Years	7	8
(12)	Estimated Reserve	2,512,403	2,922,989
(13)	Paid to Date (82 & Prior)	19,068,670	18,716,566
(14)	Est Ult Paid for 1982 & Prior	21,581,073	21,639,555
(14a)	Paid Counts During Fiscal Year	9	10
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	22,663,844	23,991,394
(16)	Lump Sum Ultimates	667,344	667,344
(17)	Ult Loss Including Lump Sums	**23,331,188**	**24,658,738**
(18)	Implied Tail	1.189	1.258
(19)	Ult Loss Inc Lump Sums @ 6/13	23,021,097	24,399,262

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, 2013

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 =	23
2001	10	614,002	13.328	0.981	S(x) =	46,069
2002	11	594,569	13.296	0.968	S(x-sq) =	92,277,219
2003	12	551,328	13.220	0.927	S(xy) =	607,620
2004	13	536,825	13.193	0.974	S(y) =	303
2005	14	518,060	13.158	0.965	D =	23,276
2006	15	465,230	13.050	0.898	slope =	-0.040
2007	16	463,442	13.046	0.996	Avg Trend =	0.960
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		
2014	23	352,103	12.772	0.951		
					Selected Trend:	**0.960**

NOTES:

(3) 2014 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2013

(4) LN [(3)]

(5) Eg. 2014: 0.951 = 352103 / 354524

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
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	2,528,627
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	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	3,628,593		
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	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	9,846,507					
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	10,185,647						
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	9,542,392							
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	6,140,819								
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	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	2,778,023										
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	2,070,230											
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	2,341,429												
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	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	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	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	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	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	2,503,297																		
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	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	1,297,452																				
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	2,662,734																					
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	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	1,354,589																							
June-07	589,461	977,401	1,280,907	1,496,099	1,629,703	1,702,117	1,772,404	1,791,061																								
June-08	619,287	959,312	1,100,546	1,186,728	1,222,576	1,245,348	1,259,889																									
June-09	633,064	1,071,264	1,269,944	1,347,802	1,449,944	1,535,542																										
June-10	415,006	709,896	895,282	1,025,770	1,055,921																											
June-11	652,304	1,099,134	1,404,624	1,565,671																												
June-12	603,523	1,201,631	1,349,652																													
June-13	652,867	1,253,353																														
June-14	737,949																															

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
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	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	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	1.022	1.022	1.023	1.023	1.024	1.024	1.024	1.024	1.024	1.024	1.016		
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	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	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	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	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	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	1.012										
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	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	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	1.000													
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	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	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	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	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	1.004																		
June-02	1.925	1.225	1.113	1.074	1.095	1.048	1.019	1.018	1.004	1.000	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	0.924																				
June-04	1.940	1.311	1.154	1.082	1.043	1.024	1.018	1.000	1.000	1.000																					
June-05	1.915	1.286	1.119	1.062	1.029	1.025	1.014	1.000	1.000																						
June-06	1.733	1.162	1.069	1.027	1.015	1.002	1.001	1.000																							
June-07	1.658	1.311	1.168	1.089	1.044	1.041	1.011																								
June-08	1.549	1.147	1.078	1.030	1.019	1.012																									
June-09	1.692	1.185	1.061	1.076	1.059																										
June-10	1.711	1.261	1.146	1.029																											
June-11	1.685	1.278	1.115																												
June-12	1.991	1.123																													
June-13	1.920																														

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	2.007	1.327	1.165	1.112	1.075	1.054	1.040	1.037	1.029	1.020	1.019	1.019	1.017	1.014	1.016	1.014	1.014	1.013	1.013	1.011	1.011	1.012	1.012	1.012	1.012	1.012	1.010	1.012	1.014	1.012	1.025	
Latest 5	1.800	1.199	1.114	1.050	1.033	1.021	1.010	1.005	1.004	1.002	0.988	1.008	1.005	1.000	1.000	1.004	1.006	1.006	1.007	1.009	1.008	1.007	1.007	1.006	1.008	1.009	1.010					
Latest 3	1.865	1.221	1.107	1.045	1.041	1.018	1.008	1.000	1.002	1.000	0.979	1.003	1.001	1.000	1.000	1.000	1.000	1.005	1.009	1.010	1.006	1.005	1.010	1.010	1.006	1.003	1.008	1.008	1.014			
Volume Wtd																																
All Yrs	2.019	1.344	1.180	1.118	1.074	1.051	1.039	1.034	1.030	1.022	1.022	1.020	1.018	1.016	1.017	1.015	1.013	1.012	1.011	1.010	1.010	1.010	1.010	1.010	1.009	1.009	1.008	1.012	1.014	1.013	1.025	
Latest 5	1.804	1.194	1.113	1.053	1.034	1.022	1.011	1.005	1.004	1.002	0.992	1.009	1.006	1.000	1.000	1.004	1.007	1.005	1.006	1.009	1.009	1.009	1.008	1.007	1.008	1.007	1.008					
Latest 3	1.862	1.212	1.103	1.047	1.042	1.020	1.009	1.000	1.001	1.000	0.987	1.004	1.002	1.000	1.000	1.000	1.000	1.005	1.009	1.008	1.005	1.007	1.010	1.010	1.007	1.004	1.006	1.009	1.014			

Dev Factor Selection

Industry 1	2.861	1.511	1.198	1.090	1.035	1.020	1.016																									
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	*1.844*	*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*	
Selected	1.891	1.194	1.113	1.085	1.033	1.037	1.025	1.020	1.017	1.027	1.022	1.003	1.005	1.002	1.002	1.002	1.007	1.008	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.022
FacToUlt	3.898	2.062	1.726	1.552	1.430	1.384	1.335	1.302	1.277	1.256	1.223	1.197	1.193	1.187	1.185	1.182	1.180	1.172	1.163	1.151	1.140	1.129	1.117	1.106	1.095	1.085	1.074	1.063	1.053	1.042	1.032	1.022
Percent of Ult	25.7%	48.5%	57.9%	64.5%	69.9%	72.3%	74.9%	76.8%	78.3%	79.6%	81.8%	83.6%	83.8%	84.2%	84.4%	84.6%	84.7%	85.3%	86.0%	86.9%	87.7%	88.6%	89.5%	90.4%	91.3%	92.2%	93.1%	94.1%	95.0%	95.9%	96.9%	97.9%

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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 6/13		As of 6/14		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	23,021,097	24,399,262	23,331,188	24,658,738	310,091	1.3%	259,476	1.1%
6/30/82-83	2,575,912	2,708,010	2,651,109	2,744,835	75,196	2.9%	36,824	1.4%
6/30/83-84	2,798,806	2,942,334	2,772,572	2,914,755	(26,234)	-0.9%	(27,579)	-0.9%
6/30/84-85	4,274,000	4,691,000	4,301,000	4,713,000	27,000	0.6%	22,000	0.5%
6/30/85-86	4,883,000	4,895,000	4,680,000	4,849,000	(203,000)	-4.2%	(46,000)	-0.9%
6/30/86-87	6,333,000	6,457,000	6,270,000	6,562,000	(63,000)	-1.0%	105,000	1.6%
6/30/87-88	12,590,835	12,829,000	12,247,069	12,274,000	(343,766)	-2.7%	(555,000)	-4.3%
6/30/88-89	13,346,941	13,592,000	13,014,315	13,040,000	(332,626)	-2.5%	(552,000)	-4.1%
6/30/89-90	12,444,000	13,013,000	12,454,000	12,509,000	10,000	0.1%	(504,000)	-3.9%
6/30/90-91	8,009,000	8,164,000	7,962,000	8,040,472	(47,000)	-0.6%	(123,528)	-1.5%
6/30/91-92	4,388,000	4,473,000	4,303,000	4,412,000	(85,000)	-1.9%	(61,000)	-1.4%
6/30/92-93	3,910,000	3,916,000	3,928,000	3,937,000	18,000	0.5%	21,000	0.5%
6/30/93-94	2,692,000	2,696,000	2,716,000	2,723,000	24,000	0.9%	27,000	1.0%
6/30/94-95	3,208,000	3,333,000	3,167,000	3,178,000	(41,000)	-1.3%	(155,000)	-4.7%
6/30/95-96	1,963,000	2,002,000	1,963,000	2,249,000	0	0.0%	247,000	12.3%
6/30/96-97	1,774,000	1,780,000	1,759,000	1,763,000	(15,000)	-0.8%	(17,000)	-1.0%
6/30/97-98	3,306,000	3,315,000	3,293,000	3,305,000	(13,000)	-0.4%	(10,000)	-0.3%
6/30/98-99	1,919,000	1,925,000	1,912,000	1,915,000	(7,000)	-0.4%	(10,000)	-0.5%
6/30/99-00	2,665,000	2,666,000	2,627,000	2,629,000	(38,000)	-1.4%	(37,000)	-1.4%
6/30/00-01	3,826,000	3,840,000	3,772,000	3,788,000	(54,000)	-1.4%	(52,000)	-1.4%
6/30/01-02	3,075,000	3,079,000	3,022,000	3,030,000	(53,000)	-1.7%	(49,000)	-1.6%
6/30/02-03	2,273,000	2,283,000	2,071,000	2,080,000	(202,000)	-8.9%	(203,000)	-8.9%
6/30/03-04	4,011,000	4,038,000	3,853,000	3,876,000	(158,000)	-3.9%	(162,000)	-4.0%
6/30/04-05	3,291,000	3,411,000	3,184,000	3,308,000	(107,000)	-3.3%	(103,000)	-3.0%
6/30/05-06	2,371,000	2,494,000	2,284,000	2,373,000	(87,000)	-3.7%	(121,000)	-4.9%
6/30/06-07	2,772,000	2,787,000	2,829,000	2,831,000	57,000	2.1%	44,000	1.6%
6/30/07-08	2,130,000	2,382,000	1,979,800	2,175,500	(150,200)	-7.1%	(206,500)	-8.7%
6/30/08-09	2,505,000	2,655,000	2,501,000	2,602,000	(4,000)	-0.2%	(53,000)	-2.0%
6/30/09-10	2,029,000	2,165,000	1,888,000	2,006,000	(141,000)	-6.9%	(159,000)	-7.3%
6/30/10-11	2,619,000	2,860,000	2,687,000	2,924,000	68,000	2.6%	64,000	2.2%
6/30/11-12	2,672,000	2,945,000	2,728,000	2,872,000	56,000	2.1%	(73,000)	-2.5%
6/30/12-13	3,008,000	3,201,000	3,158,000	3,343,000	150,000	5.0%	142,000	4.4%
6/30/13-14								
Total	152,683,591	157,936,607	151,308,052	155,625,300	(1,375,539)	-0.9%	(2,311,307)	-1.5%

NOTES:

(2), (3) From Aon analysis as of June 30, 2013

(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, 2014

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	19,068,670	1.223	23,327,619	0.0%	0.0%	0	665,680	665,680	2.9%	1.005	669,008	667,344	670,673
6/30/82-83	2,528,627	1.022	2,583,653	0.0%	0.0%	0	94,000	94,000	3.6%	1.005	94,470	94,235	94,705
6/30/83-84	2,245,006	1.084	2,432,637	0.0%	0.0%	0	410,001	410,001	16.9%	1.005	412,051	411,026	413,076
6/30/84-85	3,628,593	1.147	4,160,284	0.0%	0.0%	0	551,083	551,083	13.2%	1.005	553,838	552,461	555,216
6/30/85-86	4,048,163	1.053	4,261,587	0.0%	0.0%	0	585,928	585,928	13.7%	1.005	588,858	587,393	590,322
6/30/86-87	5,376,022	1.063	5,716,047	0.0%	0.0%	0	832,391	832,391	14.6%	1.005	836,553	834,472	838,634
6/30/87-88	9,846,507	1.075	10,584,551	0.0%	0.0%	0	1,685,022	1,685,022	15.9%	1.005	1,693,447	1,689,235	1,697,660
6/30/88-89	10,185,647	1.086	11,058,602	0.0%	0.0%	0	1,975,642	1,975,642	17.9%	1.006	1,987,506	1,981,574	1,990,459
6/30/89-90	9,542,392	1.097	10,463,819	0.0%	0.0%	0	2,037,640	2,037,640	19.5%	1.007	2,051,926	2,044,783	2,052,922
6/30/90-91	6,140,819	1.108	6,801,124	0.0%	0.0%	0	1,665,464	1,665,464	24.5%	1.008	1,678,818	1,672,141	1,677,955
6/30/91-92	3,230,938	1.117	3,610,525	0.0%	0.0%	0	1,029,141	1,029,141	28.5%	1.009	1,038,430	1,033,786	1,036,860
6/30/92-93	2,778,023	1.130	3,138,579	0.0%	0.0%	0	794,079	794,079	25.3%	1.010	802,048	798,063	800,035
6/30/93-94	2,070,230	1.141	2,362,311	0.0%	0.0%	0	358,584	358,584	15.2%	1.011	362,545	360,564	361,273
6/30/94-95	2,341,429	1.152	2,698,491	0.0%	0.0%	0	476,424	476,424	17.7%	1.012	482,168	479,296	480,020
6/30/95-96	1,440,291	1.163	1,674,856	0.0%	0.0%	0	484,060	484,060	28.9%	1.015	491,366	487,713	491,520
6/30/96-97	1,057,037	1.172	1,239,019	0.1%	0.1%	995	514,500	515,495	41.6%	1.021	525,399	520,447	525,666
6/30/97-98	2,101,308	1.180	2,479,667	0.2%	0.2%	5,986	810,801	816,787	32.9%	1.027	832,944	824,865	832,359
6/30/98-99	1,254,410	1.182	1,483,239	0.0%	0.2%	3,581	420,250	423,831	28.6%	1.033	434,317	429,074	431,989
6/30/99-00	1,634,502	1.185	1,936,531	0.0%	0.2%	4,675	679,200	683,875	35.3%	1.033	701,935	692,905	700,582
6/30/00-01	2,503,297	1.187	2,971,797	0.2%	0.4%	13,017	796,500	809,517	27.2%	1.033	823,162	816,339	831,836
6/30/01-02	2,097,298	1.193	2,502,039	0.1%	0.6%	14,269	508,906	523,175	20.9%	1.046	532,253	527,714	540,291
6/30/02-03	1,297,452	1.197	1,552,735	0.0%	0.6%	8,855	497,000	505,855	32.6%	1.067	530,311	518,083	531,097
6/30/03-04	2,662,734	1.223	3,256,466	0.2%	0.7%	24,209	581,000	605,209	18.6%	1.090	633,579	619,394	648,161
6/30/04-05	2,083,828	1.256	2,617,286	0.6%	1.4%	35,684	635,000	670,684	25.6%	1.118	709,778	690,231	710,997
6/30/05-06	1,354,589	1.277	1,730,068	0.0%	1.4%	23,588	502,750	526,338	30.4%	1.156	581,061	553,699	578,602
6/30/06-07	1,791,061	1.302	2,332,329	0.5%	1.9%	43,186	430,751	473,937	20.3%	1.214	522,739	498,338	364,462
6/30/07-08	1,259,889	1.335	1,681,697	1.6%	3.5%	58,333	315,730	374,063	22.2%	1.364	430,789	402,426	374,318
6/30/08-09	1,535,542	1.384	2,125,186	1.3%	4.8%	101,858	269,500	371,358	17.5%	1.410	379,915	375,637	400,198
6/30/09-10	1,055,921	1.430	1,509,975	0.9%	5.7%	86,373	171,000	257,373	17.0%	1.517	259,350	258,362	274,968
6/30/10-11	1,565,671	1.552	2,429,231	2.8%	8.5%	207,324	181,130	388,455	16.0%	1.783	322,918	355,687	282,836
6/30/11-12	1,349,652	1.726	2,330,085	4.7%	13.3%	308,870	130,800	439,670	18.9%	2.838	371,261	405,466	225,207
6/30/12-13	1,253,353	2.062	2,583,963	2.8%	16.1%	415,514	75,000	490,514	19.0%	9.452	708,888	599,701	464,554
6/30/13-14	737,949	3.898	2,876,397	2.7%	18.8%	540,469	0	540,469	18.8%	44.187	0	540,469	
Total	113,066,850		134,512,395			1,896,787	21,164,958	23,061,745	17.1%		23,043,630	23,322,922	22,469,455

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, 2013

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	384-396
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	0																			
Jun-02	0	75,000	68,000	62,100	52,950	32,000	144,721	35,000	20,135	19,000	0	0	0																				
Jun-03	20,000	30,000	107,000	142,500	137,500	0	0	0	0	60,000	0	0																					
Jun-04	0	28,000	54,000	106,000	132,000	215,000	0	46,000	0	0	0																						
Jun-05	0	50,787	151,713	171,500	107,000	25,000	39,000	90,000	0	0																							
Jun-06	0	18,000	261,750	170,500	32,500	20,000	0	0	0																								
Jun-07	10,000	58,500	66,250	51,001	95,000	0	0	150,000																									
Jun-08	17,730	170,000	22,500	34,500	40,000	0	31,000																										
Jun-09	35,000	85,000	124,500	25,000	0	0																											
Jun-10	0	30,000	6,000	110,000	25,000																												
Jun-11	8,500	28,530	28,000	116,100																													
Jun-12	0	5,500	125,300																														
Jun-13	0	75,000																															
Jun-14	0																																

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	396
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	497,000																					
Jun-04	0	28,000	82,000	188,000	320,000	535,000	535,000	581,000	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	635,000																							
Jun-06	0	18,000	279,750	450,250	482,750	502,750	502,750	502,750	502,750																								
Jun-07	10,000	68,500	134,750	185,751	280,751	280,751	280,751	430,751																									
Jun-08	17,730	187,730	210,230	244,730	284,730	284,730	315,730																										
Jun-09	35,000	120,000	244,500	269,500	269,500	269,500																											
Jun-10	0	30,000	36,000	146,000	171,000																												
Jun-11	8,500	37,030	65,030	181,130																													
Jun-12	0	5,500	130,800																														
Jun-13	0	75,000																															
Jun-14	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	384-396
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	0.008	0.000	0.000	0.000	0.001	0.001	0.001	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	0.008	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	0.000	
Jun-84	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.017	0.000	0.029	0.016	0.004	0.020	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	0.062	0.000	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	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	0.000				
Jun-87	0.000	0.000	0.003	0.003	0.002	0.010	0.045	0.015	0.019	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	0.000					
Jun-88	0.000	0.002	0.002	0.003	0.022	0.026	0.023	0.011	0.009	0.002	0.005	0.008	0.021	0.000	0.002	0.000	0.003	0.002	0.005	0.000	0.000	0.014	0.000	0.000	0.000	0.000	0.000						
Jun-89	0.000	0.007	0.004	0.010	0.038	0.060	0.030	0.015	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	0.000							
Jun-90	0.000	0.004	0.018	0.046	0.032	0.023	0.015	0.006	0.006	0.000	0.012	0.010	0.001	0.003	0.003	0.000	0.000	0.005	0.012	0.000	0.000	0.000	0.000	0.000	0.000								
Jun-91	0.000	0.003	0.096	0.054	0.027	0.020	0.014	0.001	0.000	0.011	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	0.000									
Jun-92	0.000	0.094	0.023	0.056	0.024	0.006	0.035	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	0.000										
Jun-93	0.007	0.035	0.045	0.038	0.027	0.051	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	0.000											
Jun-94	0.002	0.036	0.019	0.012	0.016	0.000	0.019	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	0.000												
Jun-95	0.004	0.013	0.017	0.053	0.025	0.006	0.015	0.000	0.019	0.009	0.000	0.000	0.000	0.000	0.016	0.000	0.000	0.000	0.000	0.000													
Jun-96	0.000	0.054	0.086	0.006	0.046	0.016	0.000	0.060	0.000	0.009	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000														
Jun-97	0.000	0.062	0.100	0.174	0.000	0.000	0.000	0.012	0.000	0.000	0.068	0.000	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	0.000																
Jun-99	0.032	0.035	0.078	0.088	0.000	0.005	0.025	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																	
Jun-00	0.011	0.132	0.065	0.042	0.034	0.014	0.032	0.013	0.008	0.000	0.000	0.000	0.000	0.000	0.000																		
Jun-01	0.015	0.075	0.057	0.045	0.023	0.026	0.004	0.007	0.017	0.000	0.000	0.000	0.000	0.000																			
Jun-02	0.000	0.030	0.027	0.025	0.021	0.013	0.058	0.014	0.008	0.008	0.000	0.000	0.000																				
Jun-03	0.013	0.019	0.069	0.092	0.089	0.000	0.000	0.000	0.000	0.039	0.000	0.000																					
Jun-04	0.000	0.009	0.017	0.033	0.041	0.066	0.000	0.014	0.000	0.000	0.000																						
Jun-05	0.000	0.019	0.058	0.066	0.041	0.010	0.015	0.034	0.000	0.000																							
Jun-06	0.000	0.010	0.151	0.099	0.019	0.012	0.000	0.000	0.000																								
Jun-07	0.004	0.025	0.028	0.022	0.041	0.000	0.000	0.064																									
Jun-08	0.011	0.101	0.013	0.021	0.024	0.000	0.018																										
Jun-09	0.016	0.040	0.059	0.012	0.000	0.000																											
Jun-10	0.000	0.020	0.004	0.073	0.017																												
Jun-11	0.003	0.012	0.012	0.048																													
Jun-12	0.000	0.002	0.054																														
Jun-13	0.000	0.029																															
Jun-14	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	384-396
Simple Avg																																	
All Yrs (ex P)	0.004	0.030	0.041	0.039	0.023	0.016	0.014	0.016	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	0.010	0.000	0.000	0.000	0.000	0.000	
Latest 5	0.001	0.021	0.028	0.035	0.020	0.004	0.007	0.023	0.002	0.009	0.000	0.000	0.004	0.004	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.000					
Latest 3	0.000	0.014	0.023	0.044	0.013	0.000	0.006	0.033	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			
Olympic Avg																																	
All Yrs (ex P)	0.004	0.027	0.039	0.036	0.021	0.014	0.013	0.015	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	0.021	0.039	0.047	0.028	0.009	0.012	0.014	0.002	0.002	0.001	0.000	0.000	0.001	0.002	0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000									
Latest 5	0.000	0.020	0.026	0.030	0.020	0.003	0.005	0.016	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	0.000	0.000	0.000	0.000	0.000	0.000					

Dev Factor Selection																																	
Prior	NA	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	
Selected	NA	0.027	0.028	0.047	0.028	0.009	0.013	0.016	0.005	0.000	0.006	0.002	0.000	0.001	0.002	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	0.000	0.000	0.000	0.000
FacToUlt	NA	0.188	0.161	0.133	0.085	0.057	0.048	0.035	0.019	0.014	0.014	0.007	0.006	0.006	0.004	0.002	0.002	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

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	396
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	497,000																					
Jun-04	0	28,000	82,000	188,000	320,000	535,000	535,000	581,000	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	635,000																							
Jun-06	0	18,000	279,750	450,250	482,750	502,750	502,750	502,750	502,750																								
Jun-07	10,000	68,500	134,750	185,751	280,751	280,751	280,751	430,751																									
Jun-08	17,730	187,730	210,230	244,730	284,730	284,730	315,730																										
Jun-09	35,000	120,000	244,500	269,500	269,500	269,500																											
Jun-10	0	30,000	36,000	146,000	171,000																												
Jun-11	8,500	37,030	65,030	181,130																													
Jun-12	0	5,500	130,800																														
Jun-13	0	75,000																															
Jun-14	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	384-396	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	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	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	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	1.344	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	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	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	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	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	1.021	1.000	1.000	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	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	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	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	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	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	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	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	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	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	1.000																				
Jun-02		1.907	1.434	1.258	1.124	1.499	1.081	1.043	1.039	1.000	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	1.000																						
Jun-04		2.929	2.293	1.702	1.672	1.000	1.086	1.000	1.000	1.000																							
Jun-05		3.987	1.847	1.286	1.052	1.077	1.165	1.000	1.000																								
Jun-06		15.542	1.609	1.072	1.041	1.000	1.000	1.000																									
Jun-07	6.850	1.967	1.378	1.511	1.000	1.000	1.534																										
Jun-08	10.588	1.120	1.164	1.163	1.000	1.109																											
Jun-09	3.429	2.038	1.102	1.000	1.000																												
Jun-10		1.200	4.056	1.171																													
Jun-11	4.357	1.756	2.785																														
Jun-12		23.782																															
Jun-13																																	

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	384-396	To Ult
Simple Avg																																	
All Yrs (ex P)	6.679	4.700	1.814	1.436	1.268	1.212	1.164	1.084	1.185	1.106	1.043	1.031	1.018	1.031	1.007	1.006	1.010	1.008	1.000	1.000	1.009	1.000	1.038	1.000	1.000	1.096	1.000	1.000	1.000	1.000	1.000		
Latest 5	5.545	5.979	2.097	1.184	1.019	1.037	1.157	1.009	1.035	1.000	1.000	1.014	1.013	1.000	1.000	1.000	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.115	1.000						
Latest 3	6.124	8.913	2.648	1.112	1.000	1.036	1.233	1.000	1.046	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	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)	8.390	2.346	1.562	1.279	1.203	1.135	1.093	1.053	1.029	1.048	1.019	1.024	1.017	1.019	1.004	1.005	1.013	1.016	1.000	1.000	1.013	1.000	1.016	1.000	1.000	1.037	1.000	1.000	1.000	1.000	1.000		
Latest 5		1.806	1.487	1.149	1.025	1.033	1.124	1.008	1.027	1.000	1.000	1.016	1.016	1.000	1.000	1.000	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.038	1.000						
Latest 3		3.196	1.727	1.098	1.000	1.029	1.181	1.000	1.036	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	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	1.548	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	1.015		
Selected	4.675	3.330	1.592	1.175	1.076	1.033	1.124	1.050	1.034	1.025	1.022	1.020	1.012	1.000	1.000	1.006	1.006	1.006	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	1.005
FacToUlt	44.187	9.452	2.838	1.783	1.517	1.410	1.364	1.214	1.156	1.118	1.090	1.067	1.046	1.033	1.033	1.033	1.027	1.021	1.015	1.012	1.011	1.010	1.009	1.008	1.007	1.006	1.005	1.005	1.005	1.005	1.005	1.005	1.005
Percent of Ult	2.3%	10.6%	35.2%	56.1%	65.9%	70.9%	73.3%	82.4%	86.5%	89.5%	91.7%	93.7%	95.6%	96.8%	96.8%	96.8%	97.3%	97.9%	98.5%	98.8%	98.9%	99.0%	99.1%	99.2%	99.3%	99.4%	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%

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%
396	100.0%	2.1%	0.0%	0.6%	0.3%	1.000	1.000
384	97.9%	1.0%	2.1%	0.3%	0.2%	0.981	0.971
372	96.9%	1.0%	3.1%	0.3%	0.2%	0.955	0.933
360	95.9%	0.9%	4.1%	0.3%	0.2%	0.933	0.902
348	95.0%	0.9%	5.0%	0.3%	0.2%	0.913	0.874
336	94.1%	0.9%	5.9%	0.3%	0.2%	0.894	0.848
324	93.1%	0.9%	6.9%	0.3%	0.2%	0.876	0.823
312	92.2%	0.9%	7.8%	0.3%	0.2%	0.859	0.799
300	91.3%	0.9%	8.7%	0.3%	0.2%	0.842	0.777
288	90.4%	0.9%	9.6%	0.4%	0.2%	0.826	0.755
276	89.5%	0.9%	10.5%	0.4%	0.2%	0.810	0.735
264	88.6%	0.9%	11.4%	0.4%	0.3%	0.794	0.715
252	87.7%	0.9%	12.3%	0.4%	0.3%	0.779	0.695
240	86.9%	0.9%	13.1%	0.4%	0.3%	0.764	0.677
228	86.0%	0.7%	14.0%	0.3%	0.2%	0.750	0.659
216	85.3%	0.6%	14.7%	0.3%	0.2%	0.733	0.638
204	84.7%	0.2%	15.3%	0.1%	0.1%	0.715	0.616
192	84.6%	0.2%	15.4%	0.1%	0.1%	0.691	0.585
180	84.4%	0.2%	15.6%	0.1%	0.1%	0.668	0.556
168	84.2%	0.4%	15.8%	0.2%	0.2%	0.646	0.530
156	83.8%	0.3%	16.2%	0.2%	0.1%	0.630	0.512
144	83.6%	1.8%	16.4%	1.1%	0.9%	0.612	0.491
132	81.8%	2.1%	18.2%	1.4%	1.2%	0.627	0.513
120	79.6%	1.3%	20.4%	0.9%	0.8%	0.643	0.535
108	78.3%	1.5%	21.7%	1.1%	0.9%	0.640	0.533
96	76.8%	1.9%	23.2%	1.4%	1.2%	0.639	0.533
84	74.9%	2.7%	25.1%	2.1%	1.8%	0.642	0.538
72	72.3%	2.3%	27.7%	1.9%	1.7%	0.652	0.552
60	69.9%	5.5%	30.1%	4.6%	4.2%	0.654	0.556
48	64.5%	6.5%	35.5%	5.7%	5.3%	0.683	0.593
36	57.9%	9.4%	42.1%	8.5%	8.1%	0.707	0.624
24	48.5%	22.8%	51.5%	21.5%	20.9%	0.735	0.658
12	25.7%	25.7%	74.3%	25.2%	24.9%	0.791	0.729
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, 2014

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	3,596,838	4,924,388		3,145,741	4,306,796
6/30/82-83	28,481	122,207	0.981	27,928	119,834
6/30/83-84	117,565	259,748	0.955	112,235	247,971
6/30/84-85	121,324	533,324	0.933	113,165	497,458
6/30/85-86	45,909	214,909	0.913	41,904	196,159
6/30/86-87	61,587	353,587	0.894	55,054	316,079
6/30/87-88	715,540	742,471	0.876	626,758	650,347
6/30/88-89	853,026	878,711	0.859	732,393	754,446
6/30/89-90	873,968	928,968	0.842	735,706	782,004
6/30/90-91	155,717	234,189	0.826	128,545	193,324
6/30/91-92	42,921	151,921	0.810	34,751	123,004
6/30/92-93	355,898	364,898	0.794	282,662	289,810
6/30/93-94	287,186	294,186	0.779	223,768	229,222
6/30/94-95	349,147	360,147	0.764	266,920	275,330
6/30/95-96	38,649	324,649	0.750	28,993	243,540
6/30/96-97	187,463	191,463	0.733	137,478	140,411
6/30/97-98	380,891	392,891	0.715	272,512	281,097
6/30/98-99	237,340	240,340	0.691	164,037	166,110
6/30/99-00	313,298	315,298	0.668	209,279	210,615
6/30/00-01	472,203	488,203	0.646	305,001	315,335
6/30/01-02	415,796	423,796	0.630	262,040	267,082
6/30/02-03	276,548	285,548	0.612	169,248	174,756
6/30/03-04	609,266	632,266	0.627	382,005	396,425
6/30/04-05	465,172	589,172	0.643	298,972	378,668
6/30/05-06	426,661	515,661	0.640	273,090	330,056
6/30/06-07	607,188	609,188	0.639	388,060	389,338
6/30/07-08	404,181	599,881	0.642	259,441	385,059
6/30/08-09	695,958	796,958	0.652	453,824	519,684
6/30/09-10	661,079	779,079	0.654	432,571	509,783
6/30/10-11	940,198	1,177,198	0.683	642,464	804,413
6/30/11-12	1,247,548	1,391,548	0.707	882,321	984,165
6/30/12-13	1,829,647	2,014,647	0.735	1,344,804	1,480,781
6/30/13-14	2,580,051	2,850,051	0.791	2,040,571	2,254,114
Total	20,394,244	24,981,492		15,474,239	19,213,219
			(7) Total Discount Factor:	0.759	0.769

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	3,596,838	4,924,388
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	513,834	703,484
(11) Discounted Value at 4%:	3,145,741	4,306,796

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, 2014

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	3,596,838	4,924,388		2,954,470	4,044,930
6/30/82-83	28,481	122,207	0.971	27,664	118,698
6/30/83-84	117,565	259,748	0.933	109,747	242,475
6/30/84-85	121,324	533,324	0.902	109,444	481,104
6/30/85-86	45,909	214,909	0.874	40,117	187,795
6/30/86-87	61,587	353,587	0.848	52,201	299,701
6/30/87-88	715,540	742,471	0.823	588,788	610,948
6/30/88-89	853,026	878,711	0.799	681,846	702,377
6/30/89-90	873,968	928,968	0.777	678,928	721,654
6/30/90-91	155,717	234,189	0.755	117,607	176,874
6/30/91-92	42,921	151,921	0.735	31,527	111,592
6/30/92-93	355,898	364,898	0.715	254,323	260,754
6/30/93-94	287,186	294,186	0.695	199,703	204,571
6/30/94-95	349,147	360,147	0.677	236,320	243,765
6/30/95-96	38,649	324,649	0.659	25,468	213,933
6/30/96-97	187,463	191,463	0.638	119,585	122,137
6/30/97-98	380,891	392,891	0.616	234,488	241,876
6/30/98-99	237,340	240,340	0.585	138,859	140,614
6/30/99-00	313,298	315,298	0.556	174,346	175,459
6/30/00-01	472,203	488,203	0.530	250,153	258,629
6/30/01-02	415,796	423,796	0.512	212,790	216,885
6/30/02-03	276,548	285,548	0.491	135,690	140,106
6/30/03-04	609,266	632,266	0.513	312,455	324,250
6/30/04-05	465,172	589,172	0.535	248,971	315,339
6/30/05-06	426,661	515,661	0.533	227,545	275,010
6/30/06-07	607,188	609,188	0.533	323,915	324,982
6/30/07-08	404,181	599,881	0.538	217,554	322,891
6/30/08-09	695,958	796,958	0.552	384,365	440,145
6/30/09-10	661,079	779,079	0.556	367,449	433,037
6/30/10-11	940,198	1,177,198	0.593	557,766	698,365
6/30/11-12	1,247,548	1,391,548	0.624	777,882	867,670
6/30/12-13	1,829,647	2,014,647	0.658	1,204,438	1,326,222
6/30/13-14	2,580,051	2,850,051	0.729	1,880,030	2,076,774
Total	20,394,244	24,981,492		13,876,433	17,321,559
			(7) Total Discount Factor:	0.680	0.693

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	3,596,838	4,924,388
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	513,834	703,484
(11) Discounted Value at 6%:	2,954,470	4,044,930

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, 2014

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

Calculation of Fiscal Year 7/1/14 - 15 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Cumulative	Incremental Paid		Estimated Payments from		FY 7/1/14 - 6/30/15	
Accident	Est Ult Losses	Est Ult Losses	Paid Losses	Reserves	Reserves	Percent	as a % of	as a % of	7/1/14 - 6/30/15		as a % of Reserves	
Year	(Low)	(High)	to Date	(Low)	(High)	Paid	Ultimates	Reserves	(Low)	(High)	(Low)	(High)
All Prior Yrs	24,143,900	25,480,696	20,547,062	3,596,838	4,933,634				338,019	371,821	9.4%	7.5%
6/30/82-83	2,790,689	2,885,811	2,760,526	30,163	125,285	97.3%	1.0%	36.5%	11,015	45,750	36.5%	36.5%
6/30/83-84	2,984,373	3,128,674	2,864,047	120,326	264,628	93.7%	1.0%	15.9%	19,108	42,023	15.9%	15.9%
6/30/84-85	4,800,000	5,212,000	4,671,795	128,205	540,205	93.3%	1.0%	15.0%	19,204	80,916	15.0%	15.0%
6/30/85-86	4,942,000	5,111,000	4,891,866	50,134	219,134	97.3%	1.0%	37.3%	18,717	81,813	37.3%	37.3%
6/30/86-87	6,985,000	7,277,000	6,911,248	73,752	365,752	96.9%	1.0%	32.5%	23,933	118,687	32.5%	32.5%
6/30/87-88	14,031,069	14,063,000	13,284,893	746,176	778,107	94.6%	1.0%	18.4%	137,528	143,413	18.4%	18.4%
6/30/88-89	15,111,315	15,137,000	14,210,383	900,931	926,617	94.0%	1.0%	16.6%	149,116	153,367	16.6%	16.6%
6/30/89-90	14,431,000	14,505,000	13,518,110	912,890	986,890	93.4%	1.0%	15.2%	139,044	150,316	15.2%	15.2%
6/30/90-91	9,758,000	9,836,472	9,551,159	206,841	285,313	97.5%	1.0%	39.8%	82,351	113,594	39.8%	39.8%
6/30/91-92	5,589,000	5,710,000	5,520,691	68,309	189,309	97.7%	1.0%	43.9%	29,960	83,030	43.9%	43.9%
6/30/92-93	5,045,000	5,055,000	4,651,088	393,912	403,912	92.1%	2.0%	25.3%	99,734	102,266	25.3%	25.3%
6/30/93-94	3,388,000	3,395,000	3,074,901	313,099	320,099	90.7%	2.0%	21.4%	67,080	68,580	21.4%	21.4%
6/30/94-95	4,049,000	4,061,000	3,662,386	386,614	398,614	90.3%	2.0%	20.7%	79,861	82,339	20.7%	20.7%
6/30/95-96	2,804,000	3,091,000	2,725,742	78,258	365,258	92.5%	2.0%	26.6%	20,803	97,097	26.6%	26.6%
6/30/96-97	2,323,000	2,327,000	2,105,462	217,538	221,538	90.6%	3.0%	31.8%	69,115	70,385	31.8%	31.8%
6/30/97-98	3,830,000	3,843,000	3,418,425	411,575	424,575	89.1%	3.0%	27.5%	113,306	116,884	27.5%	27.5%
6/30/98-99	2,641,000	2,644,000	2,357,864	283,136	286,136	89.2%	3.0%	27.9%	78,857	79,693	27.9%	27.9%
6/30/99-00	3,276,000	3,279,000	2,915,507	360,493	363,493	89.0%	3.0%	27.2%	97,918	98,732	27.2%	27.2%
6/30/00-01	4,576,580	4,609,000	4,053,774	522,806	555,226	88.3%	3.0%	25.6%	133,640	141,927	25.6%	25.6%
6/30/01-02	3,701,000	3,710,000	3,222,835	478,165	487,165	87.0%	2.0%	15.4%	73,419	74,801	15.4%	15.4%
6/30/02-03	2,857,000	2,867,000	2,500,679	356,321	366,321	87.4%	2.0%	15.8%	56,448	58,032	15.8%	15.8%
6/30/03-04	5,283,000	5,313,000	4,518,833	764,167	794,167	85.3%	2.1%	14.2%	108,183	112,430	14.2%	14.2%
6/30/04-05	4,193,000	4,340,000	3,620,598	572,402	719,402	84.9%	2.0%	13.2%	75,620	95,040	13.2%	13.2%
6/30/05-06	3,207,000	3,299,000	2,652,565	554,435	646,435	81.5%	3.3%	18.0%	99,694	116,237	18.0%	18.0%
6/30/06-07	3,626,000	3,655,000	2,891,120	734,880	763,880	79.4%	2.1%	10.3%	75,923	78,919	10.3%	10.3%
6/30/07-08	2,790,800	3,024,500	2,239,529	551,271	784,971	77.0%	2.4%	10.4%	57,423	81,767	10.4%	10.4%
6/30/08-09	3,337,000	3,472,000	2,467,337	869,663	1,004,663	72.5%	6.0%	21.8%	189,557	218,983	21.8%	21.8%
6/30/09-10	2,535,000	2,725,000	1,717,459	817,541	1,007,541	65.3%	7.0%	20.2%	164,934	203,266	20.2%	20.2%
6/30/10-11	3,628,000	3,890,000	2,440,446	1,187,554	1,449,554	64.9%	8.0%	22.8%	270,843	330,597	22.8%	22.8%
6/30/11-12	3,508,000	3,706,000	1,985,216	1,522,784	1,720,784	55.0%	9.9%	22.0%	334,783	378,313	22.0%	22.0%
6/30/12-13	4,035,000	4,279,000	1,820,243	2,214,757	2,458,757	43.8%	11.3%	20.0%	443,264	492,099	20.0%	20.0%
6/30/13-14	4,151,000	4,606,000	955,554	3,195,446	3,650,446	21.8%	22.0%	28.1%	897,762	1,025,595	28.1%	28.1%
Total	184,350,726	189,537,154	160,729,343	23,621,384	28,807,811				4,576,161	5,508,711	19.4%	19.1%

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, 2014

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			812,712	821,958	0	9,246		
6/30/82-83		137,899	139,581		139,581	140,977	1,682	3,078		
6/30/83-84		209,040	211,801		211,801	213,919	2,761	4,879		
6/30/84-85	142,561	492,119	499,118	499,315	499,000	499,000	6,881	6,881	0.350	0.350
6/30/85-86	153,298	257,775	261,702	261,755	262,000	262,000	4,225	4,225	0.171	0.171
6/30/86-87	176,136	702,835	714,971	715,302	715,000	715,000	12,165	12,165	0.406	0.406
6/30/87-88	206,319	1,753,364	1,788,989	1,783,644	1,784,000	1,789,000	30,636	35,636	0.865	0.867
6/30/88-89	222,806	2,049,094	2,097,000	2,097,348	2,097,000	2,097,000	47,906	47,906	0.941	0.941
6/30/89-90	223,751	1,938,078	1,989,339	1,990,141	1,977,000	1,996,000	38,922	57,922	0.884	0.892
6/30/90-91	210,162	1,744,875	1,796,399	1,796,078	1,796,000	1,796,000	51,125	51,125	0.855	0.855
6/30/91-92	205,241	1,260,611	1,301,729	1,301,333	1,286,000	1,298,000	25,389	37,389	0.627	0.632
6/30/92-93	176,705	1,078,986	1,117,522	1,116,975	1,117,000	1,118,000	38,014	39,014	0.632	0.633
6/30/93-94	173,075	646,088	671,839	671,715	672,000	672,000	25,912	25,912	0.388	0.388
6/30/94-95	178,317	844,533	882,585	882,024	882,000	883,000	37,467	38,467	0.495	0.495
6/30/95-96	175,996	801,390	841,686	841,082	841,000	842,000	39,610	40,610	0.478	0.478
6/30/96-97	190,083	533,925	563,575	564,091	564,000	564,000	30,075	30,075	0.297	0.297
6/30/97-98	177,278	506,317	537,107	537,702	537,000	538,000	30,683	31,683	0.303	0.303
6/30/98-99	189,080	683,204	729,223	729,182	729,000	729,000	45,796	45,796	0.386	0.386
6/30/99-00	194,494	601,805	648,954	649,716	649,000	650,000	47,195	48,195	0.334	0.334
6/30/00-01	201,568	753,977	820,916	820,839	804,580	821,000	50,603	67,023	0.399	0.407
6/30/01-02	203,105	616,631	678,837	680,279	679,000	680,000	62,369	63,369	0.334	0.335
6/30/02-03	202,515	706,227	786,308	787,142	786,000	787,000	79,773	80,773	0.388	0.389
6/30/03-04	189,588	1,275,099	1,436,984	1,430,326	1,430,000	1,437,000	154,901	161,901	0.754	0.758
6/30/04-05	186,990	901,770	1,031,501	1,009,395	1,009,000	1,032,000	107,230	130,230	0.540	0.552
6/30/05-06	193,254	795,227	926,219	922,621	923,000	926,000	127,773	130,773	0.478	0.479
6/30/06-07	203,359	669,308	797,223	823,677	797,000	824,000	127,692	154,692	0.392	0.405
6/30/07-08	212,083	663,910	811,415	849,045	811,000	849,000	147,090	185,090	0.382	0.400
6/30/08-09	204,679	662,294	835,735	870,433	836,000	870,000	173,706	207,706	0.408	0.425
6/30/09-10	184,688	490,538	647,275	718,863	647,000	719,000	156,462	228,462	0.350	0.389
6/30/10-11	169,689	693,645	965,710	941,375	941,000	966,000	247,355	272,355	0.555	0.569
6/30/11-12	177,399	504,764	780,481	834,387	780,000	834,000	275,236	329,236	0.440	0.470
6/30/12-13	189,252	491,890	877,318	935,761	877,000	936,000	385,110	444,110	0.463	0.495
6/30/13-14	199,876	217,605	833,307	1,017,850	833,000	1,018,000	615,395	800,395	0.417	0.509
Total	5,713,348	26,497,535	29,022,349	29,079,396	29,724,674	30,323,854	3,227,139	3,826,319		
Tot 6/30/84-14	5,713,348	25,337,884	28,670,967	29,079,396	28,560,580	29,147,000	3,222,696	3,809,116	0.500	0.510

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, 2014

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 7/1/12-13	Paid Counts 7/1/13-14	Average Outstanding Claim
All Prior Yrs		812,712							0	0	
6/30/82-83		137,899	1.012	1.000	139,581	N/A	139,581		1	1	1,682
6/30/83-84		209,040	1.013	1.000	211,801	N/A	211,801		0	0	
6/30/84-85	142,561	492,119	1.014	1.000	499,118	N/A	499,118	0.350	1	1	6,999
6/30/85-86	153,298	257,775	1.015	1.000	261,702	N/A	261,702	0.171	0	0	
6/30/86-87	176,136	702,835	1.017	1.000	714,971	N/A	714,971	0.406	0	0	
6/30/87-88	206,319	1,753,364	1.020	1.000	1,788,989	N/A	1,788,989	0.867	2	2	17,813
6/30/88-89	222,806	2,049,094	1.023	1.000	2,097,000	N/A	2,097,000	0.941	2	1	47,906
6/30/89-90	223,751	1,938,078	1.026	1.000	1,989,339	N/A	1,989,339	0.889	0	0	
6/30/90-91	210,162	1,744,875	1.030	1.000	1,796,399	N/A	1,796,399	0.855	1	2	25,762
6/30/91-92	205,241	1,260,611	1.033	1.000	1,301,729	N/A	1,301,729	0.634	1	1	41,118
6/30/92-93	176,705	1,078,986	1.036	1.000	1,117,522	N/A	1,117,522	0.632	3	3	12,845
6/30/93-94	173,075	646,088	1.040	1.000	671,839	N/A	671,839	0.388	1	1	25,752
6/30/94-95	178,317	844,533	1.045	1.000	882,585	N/A	882,585	0.495	2	2	19,026
6/30/95-96	175,996	801,390	1.050	1.000	841,686	N/A	841,686	0.478	1	1	40,296
6/30/96-97	190,083	533,925	1.056	1.000	563,575	N/A	563,575	0.296	3	3	9,884
6/30/97-98	177,278	506,317	1.061	1.000	537,107	N/A	537,107	0.303	1	1	30,790
6/30/98-99	189,080	683,204	1.067	1.000	729,223	N/A	729,223	0.386	1	1	46,019
6/30/99-00	194,494	601,805	1.078	1.000	648,954	N/A	648,954	0.334	2	1	47,149
6/30/00-01	201,568	753,977	1.089	1.000	820,916	N/A	820,916	0.407	2	1	66,939
6/30/01-02	203,105	616,631	1.101	1.000	678,837	N/A	678,837	0.334	3	1	62,207
6/30/02-03	202,515	706,227	1.113	1.000	786,308	N/A	786,308	0.388	3	3	26,694
6/30/03-04	189,588	1,275,099	1.127	1.000	1,436,984	N/A	1,436,984	0.758	4	4	40,471
6/30/04-05	186,990	901,770	1.144	1.000	1,031,501	N/A	1,031,501	0.552	7	6	21,622
6/30/05-06	193,254	795,227	1.165	1.000	926,219	N/A	926,219	0.479	2	3	43,664
6/30/06-07	203,359	669,308	1.191	1.000	797,223	N/A	797,223	0.392	3	2	63,957
6/30/07-08	212,083	663,910	1.222	1.000	811,415	N/A	811,415	0.383	6	5	29,501
6/30/08-09	204,679	662,294	1.262	1.000	835,735	N/A	835,735	0.408	5	4	43,360
6/30/09-10	184,688	490,538	1.320	1.000	647,275	N/A	647,275	0.350	10	3	52,246
6/30/10-11	169,689	693,645	1.392	1.000	965,710	N/A	965,710	0.569	15	10	27,207
6/30/11-12	177,399	504,764	1.546	1.000	780,481	N/A	780,481	0.440	117	29	9,507
6/30/12-13	189,252	491,890	1.784	1.000	877,318	N/A	877,318	0.464	198	126	3,059
6/30/13-14	199,876	217,605	3.829	1.000	833,307	N/A	833,307	0.417		241	2,555
Total	5,713,348	26,497,535			29,022,349		29,022,349		397	459	

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, 2014

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	492,119	1.014	499,315	N/A	499,315	0.350	0.350
6/30/85-86	153,298	0.173	257,775	1.015	261,755	N/A	261,755	0.171	0.171
6/30/86-87	176,136	0.417	702,835	1.017	715,302	N/A	715,302	0.406	0.406
6/30/87-88	206,319	0.737	1,753,364	1.020	1,783,644	N/A	1,783,644	0.865	0.865
6/30/88-89	222,806	0.948	2,049,094	1.023	2,097,348	N/A	2,097,348	0.941	0.941
6/30/89-90	223,751	0.903	1,938,078	1.026	1,990,141	N/A	1,990,141	0.889	0.889
6/30/90-91	210,162	0.849	1,744,875	1.030	1,796,078	N/A	1,796,078	0.855	0.855
6/30/91-92	205,241	0.628	1,260,611	1.033	1,301,333	N/A	1,301,333	0.634	0.634
6/30/92-93	176,705	0.623	1,078,986	1.036	1,116,975	N/A	1,116,975	0.632	0.632
6/30/93-94	173,075	0.386	646,088	1.040	671,715	N/A	671,715	0.388	0.388
6/30/94-95	178,317	0.488	844,533	1.045	882,024	N/A	882,024	0.495	0.495
6/30/95-96	175,996	0.471	801,390	1.050	841,082	N/A	841,082	0.478	0.478
6/30/96-97	190,083	0.302	533,925	1.056	564,091	N/A	564,091	0.297	0.297
6/30/97-98	177,278	0.309	506,317	1.061	537,702	N/A	537,702	0.303	0.303
6/30/98-99	189,080	0.385	683,204	1.067	729,182	N/A	729,182	0.386	0.386
6/30/99-00	194,494	0.339	601,805	1.078	649,716	N/A	649,716	0.334	0.334
6/30/00-01	201,568	0.407	753,977	1.089	820,839	N/A	820,839	0.407	0.407
6/30/01-02	203,105	0.342	616,631	1.101	680,279	N/A	680,279	0.335	0.335
6/30/02-03	202,515	0.392	706,227	1.113	787,142	N/A	787,142	0.389	0.389
6/30/03-04	189,588	0.727	1,275,099	1.127	1,430,326	N/A	1,430,326	0.754	0.754
6/30/04-05	186,990	0.458	901,770	1.144	1,009,395	N/A	1,009,395	0.540	0.540
6/30/05-06	193,254	0.466	795,227	1.165	922,621	N/A	922,621	0.477	0.477
6/30/06-07	203,359	0.473	669,308	1.191	823,677	N/A	823,677	0.405	0.405
6/30/07-08	212,083	0.480	663,910	1.222	849,045	N/A	849,045	0.400	0.400
6/30/08-09	204,679	0.490	662,294	1.262	870,433	N/A	870,433	0.425	0.425
6/30/09-10	184,688	0.511	490,538	1.320	718,863	N/A	718,863	0.389	0.389
6/30/10-11	169,689	0.518	693,645	1.392	941,375	N/A	941,375	0.555	0.555
6/30/11-12	177,399	0.526	504,764	1.546	834,387	N/A	834,387	0.470	0.470
6/30/12-13	189,252	0.534	491,890	1.784	935,761	N/A	935,761	0.494	0.494
6/30/13-14	199,876	0.542	217,605	3.829	1,017,850	N/A	1,017,850	0.509	0.509
Total	5,713,348		25,337,884		29,079,396		29,079,396		

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, 2014

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	1,796,399	0.855	1.194	1.021	1.430	1.459	0.322	0.855	0.849
6/30/91-92	205,241	1,301,729	0.634	1.189	0.754	1.408	1.062	0.329	0.633	0.628
6/30/92-93	176,705	1,117,522	0.632	1.189	0.752	1.388	1.044	0.333	0.618	0.623
6/30/93-94	173,075	671,839	0.388	1.178	0.457	1.367	0.625	0.341	0.390	0.386
6/30/94-95	178,317	882,585	0.495	1.170	0.579	1.347	0.780	0.349	0.488	0.488
6/30/95-96	175,996	841,686	0.478	1.155	0.553	1.327	0.733	0.359	0.474	0.471
6/30/96-97	190,083	563,575	0.296	1.137	0.337	1.307	0.441	0.370	0.299	0.302
6/30/97-98	177,278	537,107	0.303	1.135	0.344	1.288	0.443	0.376	0.312	0.309
6/30/98-99	189,080	729,223	0.386	1.135	0.438	1.269	0.555	0.382	0.376	0.385
6/30/99-00	194,494	648,954	0.334	1.135	0.379	1.250	0.473	0.388	0.342	0.339
6/30/00-01	201,568	820,916	0.407	1.109	0.452	1.232	0.556	0.403	0.413	0.407
6/30/01-02	203,105	678,837	0.334	1.101	0.368	1.214	0.447	0.412	0.347	0.342
6/30/02-03	202,515	786,308	0.388	1.073	0.417	1.196	0.498	0.429	0.388	0.392
6/30/03-04	189,588	1,436,984	0.758	1.046	0.793	1.178	0.934	0.446	0.724	0.727
6/30/04-05	186,990	1,031,501	0.552	1.036	0.571	1.161	0.663	0.458	0.465	0.458
6/30/05-06	193,254	926,219	0.479	1.032	0.495	1.143	0.566	0.466	0.473	0.466
6/30/06-07	203,359	797,223	0.392	1.032	0.405	1.126	0.456	0.473	0.480	0.473
6/30/07-08	212,083	811,415	0.383	1.032	0.395	1.110	0.438	0.480	0.487	0.480
6/30/08-09	204,679	835,735	0.408	1.027	0.419	1.093	0.458	0.490	0.497	0.490
6/30/09-10	184,688	647,275	0.350	1.000	0.350	1.077	0.378	0.511	0.518	0.511
6/30/10-11	169,689	965,710	0.569	1.000	0.569	1.061	0.604	0.518	0.526	0.518
6/30/11-12	177,399	780,481	0.440	1.000	0.440	1.046	0.460	0.526	0.534	0.526
6/30/12-13	189,252	877,318	0.464	1.000	0.464	1.030	0.478	0.534	0.542	0.534
6/30/13-14	199,876	833,307	0.417	1.000	0.417	1.015	0.423	0.542		0.542
Total	4,588,478	21,319,848								

Trend Last 4 (ex 13-14):	6.0%	Avg 3 (x13-14):	0.514
Trend Last 8 (ex 13-14):	1.1%	Avg 5 (x13-14):	0.476
Trend Last 12 (ex 13-14):	-0.8%	Avg 10 (x13-14):	0.543
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, 2013
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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 2014	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)	0	2,642
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	0	18,493
(13)	Paid to Date (82 & Prior)	812,712	812,712
(14)	Est Ult Paid for 1982 & Prior	812,712	831,205
(14a)	Paid Counts During Fiscal Year	0	0
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	812,712	821,958
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	**812,712**	**821,958**
(18)	Implied Tail	1.000	1.011
(19)	Ult Loss Inc Lump Sums @ 6/13	821,958	842,591

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, 2013

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				
2014	23	0				
					Selected Trend:	**0.950**

NOTES:

(3) 2014 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2013

(4) LN [(3)]

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

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
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	137,899
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	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	492,119		
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	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	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	1,753,364					
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	2,049,094						
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	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	1,744,875								
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	1,260,611									
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	1,078,986										
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	646,088											
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	844,533												
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	801,390													
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	533,925														
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	506,317															
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	683,204																
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	601,805																	
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	753,977																		
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	616,631																			
June-03	106,077	382,205	468,554	496,191	560,019	574,291	585,592	637,875	657,335	673,709	685,713	706,227																				
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	1,275,099																					
June-05	223,896	627,798	728,574	772,233	797,587	811,216	848,381	866,048	884,416	901,770																						
June-06	251,300	520,856	684,007	715,286	737,612	754,221	768,311	780,173	795,227																							
June-07	266,977	578,217	638,599	652,141	659,793	664,093	666,803	669,308																								
June-08	278,965	550,541	604,168	629,658	649,695	656,991	663,910																									
June-09	302,300	569,565	595,188	605,449	639,872	662,294																										
June-10	216,046	447,208	465,324	474,345	490,538																											
June-11	336,085	580,670	657,420	693,645																												
June-12	227,796	448,648	504,764																													
June-13	232,201	491,890																														
June-14	217,605																															

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
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	1.000
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	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	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	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	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	1.012						
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	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	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	1.002									
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	1.000										
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	1.019											
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	1.001												
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	1.009													
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	1.004														
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	1.017															
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	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	1.043																	
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	1.006																		
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	1.001																			
June-02	2.111	1.257	1.085	1.026	1.014	1.008	1.087	1.015	1.007	1.051	1.003	1.001																				
June-03	3.603	1.226	1.059	1.129	1.025	1.020	1.089	1.031	1.025	1.018	1.030																					
June-04	2.575	1.287	1.194	1.048	1.039	1.044	1.026	1.025	1.019	1.023																						
June-05	2.804	1.161	1.060	1.033	1.017	1.046	1.021	1.021	1.020																							
June-06	2.073	1.313	1.046	1.031	1.023	1.019	1.015	1.019																								
June-07	2.166	1.104	1.021	1.012	1.007	1.004	1.004																									
June-08	1.974	1.097	1.042	1.032	1.011	1.011																										
June-09	1.884	1.045	1.017	1.057	1.035																											
June-10	2.070	1.041	1.019	1.034																												
June-11	1.728	1.132	1.055																													
June-12	1.970	1.125																														
June-13	2.118																															

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	2.414	1.246	1.127	1.091	1.060	1.056	1.055	1.034	1.029	1.028	1.014	1.012	1.010	1.008	1.007	1.005	1.012	1.005	1.006	1.006	1.004	1.003	1.005	1.004	1.003	1.004	1.002	1.002	1.000	1.000	1.000	
Latest 5	1.954	1.088	1.031	1.033	1.018	1.025	1.031	1.022	1.016	1.020	1.009	1.011	1.013	1.011	1.014	1.006	1.010	1.006	1.006	1.003	1.004	1.004	1.004	1.004	1.002	1.003	1.002					
Latest 3	1.939	1.099	1.031	1.041	1.018	1.011	1.013	1.022	1.021	1.031	1.012	1.007	1.019	1.011	1.018	1.002	1.009	1.006	1.010	1.005	1.007	1.000	1.001	1.006	1.003	1.004	1.000	1.000	1.000			
Volume Wtd																																
All Yrs	2.363	1.218	1.108	1.075	1.046	1.038	1.036	1.020	1.018	1.019	1.012	1.011	1.009	1.008	1.006	1.005	1.016	1.006	1.007	1.007	1.005	1.003	1.004	1.004	1.003	1.006	1.001	1.001	1.000	1.000	1.000	
Latest 5	1.931	1.089	1.032	1.033	1.018	1.027	1.028	1.023	1.017	1.020	1.010	1.012	1.013	1.011	1.014	1.007	1.010	1.006	1.005	1.003	1.003	1.004	1.004	1.005	1.003	1.006	1.001					
Latest 3	1.911	1.102	1.032	1.041	1.017	1.011	1.014	1.022	1.021	1.028	1.012	1.008	1.017	1.012	1.020	1.002	1.008	1.006	1.011	1.005	1.006	1.000	1.001	1.005	1.003	1.008	1.000	1.000	1.000			

Dev Factor Selection																																
Industry 1	1.954	1.133	1.050	1.027	1.015	1.012	1.011																									
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	*2.140*	*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*	
Selected	2.147	1.153	1.111	1.055	1.046	1.032	1.026	1.023	1.018	1.015	1.012	1.011	1.011	1.010	1.010	1.006	1.005	1.005	1.005	1.005	1.004	1.003	1.003	1.003	1.003	1.003	1.003	1.002	1.001	1.001	1.001	1.012
FacToUlt	3.829	1.784	1.546	1.392	1.320	1.262	1.222	1.191	1.165	1.144	1.127	1.113	1.101	1.089	1.078	1.067	1.061	1.056	1.050	1.045	1.040	1.036	1.033	1.030	1.026	1.023	1.020	1.017	1.015	1.014	1.013	1.012
Percent of Ult	26.1%	56.1%	64.7%	71.8%	75.8%	79.2%	81.8%	84.0%	85.9%	87.4%	88.7%	89.8%	90.8%	91.8%	92.7%	93.7%	94.3%	94.7%	95.2%	95.7%	96.2%	96.6%	96.8%	97.1%	97.4%	97.7%	98.0%	98.3%	98.5%	98.6%	98.7%	98.8%

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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 6/13		As of 6/14		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	821,958	842,591	812,712	821,958	(9,246)	-1.1%	(20,633)	-2.4%
6/30/82-83	139,615	141,011	139,581	140,977	(34)	0.0%	(35)	0.0%
6/30/83-84	212,378	214,502	211,801	213,919	(577)	-0.3%	(582)	-0.3%
6/30/84-85	501,000	502,000	499,000	499,000	(2,000)	-0.4%	(3,000)	-0.6%
6/30/85-86	263,000	264,000	262,000	262,000	(1,000)	-0.4%	(2,000)	-0.8%
6/30/86-87	721,000	721,000	715,000	715,000	(6,000)	-0.8%	(6,000)	-0.8%
6/30/87-88	1,775,000	1,782,000	1,784,000	1,789,000	9,000	0.5%	7,000	0.4%
6/30/88-89	2,112,000	2,112,000	2,097,000	2,097,000	(15,000)	-0.7%	(15,000)	-0.7%
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	1,807,000	1,796,000	1,796,000	(11,000)	-0.6%	(11,000)	-0.6%
6/30/91-92	1,286,000	1,298,000	1,286,000	1,298,000	0	0.0%	0	0.0%
6/30/92-93	1,106,000	1,107,000	1,117,000	1,118,000	11,000	1.0%	11,000	1.0%
6/30/93-94	677,000	677,000	672,000	672,000	(5,000)	-0.7%	(5,000)	-0.7%
6/30/94-95	882,000	882,000	882,000	883,000	0	0.0%	1,000	0.1%
6/30/95-96	845,000	846,000	841,000	842,000	(4,000)	-0.5%	(4,000)	-0.5%
6/30/96-97	558,000	558,000	564,000	564,000	6,000	1.1%	6,000	1.1%
6/30/97-98	543,000	543,000	537,000	538,000	(6,000)	-1.1%	(5,000)	-0.9%
6/30/98-99	708,000	708,000	729,000	729,000	21,000	3.0%	21,000	3.0%
6/30/99-00	655,000	656,000	649,000	650,000	(6,000)	-0.9%	(6,000)	-0.9%
6/30/00-01	749,700	833,000	804,580	821,000	54,880	7.3%	(12,000)	-1.4%
6/30/01-02	689,000	690,000	679,000	680,000	(10,000)	-1.5%	(10,000)	-1.4%
6/30/02-03	775,000	776,000	786,000	787,000	11,000	1.4%	11,000	1.4%
6/30/03-04	1,422,000	1,430,000	1,430,000	1,437,000	8,000	0.6%	7,000	0.5%
6/30/04-05	1,005,000	1,027,000	1,009,000	1,032,000	4,000	0.4%	5,000	0.5%
6/30/05-06	930,000	933,000	923,000	926,000	(7,000)	-0.8%	(7,000)	-0.8%
6/30/06-07	839,000	867,000	797,000	824,000	(42,000)	-5.0%	(43,000)	-5.0%
6/30/07-08	867,000	908,000	811,000	849,000	(56,000)	-6.5%	(59,000)	-6.5%
6/30/08-09	883,000	921,000	836,000	870,000	(47,000)	-5.3%	(51,000)	-5.5%
6/30/09-10	691,000	774,000	647,000	719,000	(44,000)	-6.4%	(55,000)	-7.1%
6/30/10-11	998,000	1,064,000	941,000	966,000	(57,000)	-5.7%	(98,000)	-9.2%
6/30/11-12	837,000	888,000	780,000	834,000	(57,000)	-6.8%	(54,000)	-6.1%
6/30/12-13	927,000	1,001,000	877,000	936,000	(50,000)	-5.4%	(65,000)	-6.5%
6/30/13-14								
Total	29,202,651	29,769,104	28,891,674	29,305,854	(310,977)	-1.1%	(463,250)	-1.6%

NOTES:

(2), (3) From Aon analysis as of June 30, 2013

(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%
396	100.0%	1.2%	0.0%	0.3%	0.2%	1.000	1.000
384	98.8%	0.1%	1.2%	0.0%	0.0%	0.981	0.971
372	98.7%	0.1%	1.3%	0.0%	0.0%	0.946	0.920
360	98.6%	0.1%	1.4%	0.0%	0.0%	0.914	0.876
348	98.5%	0.2%	1.5%	0.1%	0.0%	0.886	0.836
336	98.3%	0.3%	1.7%	0.1%	0.1%	0.867	0.809
324	98.0%	0.3%	2.0%	0.1%	0.1%	0.855	0.794
312	97.7%	0.3%	2.3%	0.1%	0.1%	0.843	0.778
300	97.4%	0.3%	2.6%	0.1%	0.1%	0.829	0.761
288	97.1%	0.3%	2.9%	0.1%	0.1%	0.816	0.743
276	96.8%	0.3%	3.2%	0.1%	0.1%	0.803	0.726
264	96.6%	0.4%	3.4%	0.2%	0.1%	0.789	0.709
252	96.2%	0.5%	3.8%	0.2%	0.1%	0.781	0.699
240	95.7%	0.5%	4.3%	0.2%	0.2%	0.777	0.694
228	95.2%	0.5%	4.8%	0.2%	0.2%	0.770	0.686
216	94.7%	0.5%	5.3%	0.2%	0.2%	0.762	0.677
204	94.3%	0.6%	5.7%	0.3%	0.2%	0.753	0.666
192	93.7%	1.0%	6.3%	0.5%	0.4%	0.748	0.660
180	92.7%	0.9%	7.3%	0.5%	0.4%	0.753	0.668
168	91.8%	1.0%	8.2%	0.6%	0.5%	0.752	0.667
156	90.8%	1.0%	9.2%	0.6%	0.5%	0.752	0.667
144	89.8%	1.1%	10.2%	0.7%	0.6%	0.749	0.664
132	88.7%	1.3%	11.3%	0.9%	0.7%	0.745	0.659
120	87.4%	1.6%	12.6%	1.1%	0.9%	0.744	0.658
108	85.9%	1.9%	14.1%	1.4%	1.2%	0.745	0.660
96	84.0%	2.1%	16.0%	1.6%	1.4%	0.747	0.664
84	81.8%	2.6%	18.2%	2.0%	1.8%	0.749	0.667
72	79.2%	3.5%	20.8%	2.8%	2.5%	0.753	0.672
60	75.8%	4.0%	24.2%	3.3%	3.0%	0.760	0.682
48	71.8%	7.2%	28.2%	6.2%	5.8%	0.766	0.689
36	64.7%	8.6%	35.3%	7.8%	7.4%	0.786	0.715
24	56.1%	30.0%	43.9%	28.2%	27.4%	0.800	0.733
12	26.1%	26.1%	73.9%	25.6%	25.4%	0.855	0.805
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
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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	0	9,246		0	8,087
6/30/82-83	1,682	3,078	0.981	1,649	3,018
6/30/83-84	2,761	4,879	0.946	2,611	4,614
6/30/84-85	6,881	6,881	0.914	6,292	6,292
6/30/85-86	4,225	4,225	0.886	3,743	3,743
6/30/86-87	12,165	12,165	0.867	10,543	10,543
6/30/87-88	30,636	35,636	0.855	26,197	30,472
6/30/88-89	47,906	47,906	0.843	40,362	40,362
6/30/89-90	38,922	57,922	0.829	32,284	48,044
6/30/90-91	51,125	51,125	0.816	41,726	41,726
6/30/91-92	25,389	37,389	0.803	20,381	30,015
6/30/92-93	38,014	39,014	0.789	30,009	30,799
6/30/93-94	25,912	25,912	0.781	20,245	20,245
6/30/94-95	37,467	38,467	0.777	29,100	29,877
6/30/95-96	39,610	40,610	0.770	30,502	31,272
6/30/96-97	30,075	30,075	0.762	22,920	22,920
6/30/97-98	30,683	31,683	0.753	23,109	23,862
6/30/98-99	45,796	45,796	0.748	34,240	34,240
6/30/99-00	47,195	48,195	0.753	35,551	36,304
6/30/00-01	50,603	67,023	0.752	38,066	50,418
6/30/01-02	62,369	63,369	0.752	46,880	47,632
6/30/02-03	79,773	80,773	0.749	59,717	60,466
6/30/03-04	154,901	161,901	0.745	115,374	120,588
6/30/04-05	107,230	130,230	0.744	79,752	96,858
6/30/05-06	127,773	130,773	0.745	95,131	97,364
6/30/06-07	127,692	154,692	0.747	95,421	115,597
6/30/07-08	147,090	185,090	0.749	110,213	138,686
6/30/08-09	173,706	207,706	0.753	130,755	156,348
6/30/09-10	156,462	228,462	0.760	118,989	173,745
6/30/10-11	247,355	272,355	0.766	189,542	208,699
6/30/11-12	275,236	329,236	0.786	216,382	258,835
6/30/12-13	385,110	444,110	0.800	308,065	355,261
6/30/13-14	615,395	800,395	0.855	526,088	684,240
Total	3,227,139	3,826,319		2,541,837	3,021,169
			(7) Total Discount Factor:	0.788	0.790

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	0	9,246
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	0	1,321
(11) Discounted Value at 4%:	0	8,087

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
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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	0	9,246		0	7,595
6/30/82-83	1,682	3,078	0.971	1,634	2,989
6/30/83-84	2,761	4,879	0.920	2,541	4,491
6/30/84-85	6,881	6,881	0.876	6,025	6,025
6/30/85-86	4,225	4,225	0.836	3,530	3,530
6/30/86-87	12,165	12,165	0.809	9,847	9,847
6/30/87-88	30,636	35,636	0.794	24,335	28,306
6/30/88-89	47,906	47,906	0.778	37,262	37,262
6/30/89-90	38,922	57,922	0.761	29,609	44,063
6/30/90-91	51,125	51,125	0.743	38,009	38,009
6/30/91-92	25,389	37,389	0.726	18,437	27,151
6/30/92-93	38,014	39,014	0.709	26,957	27,666
6/30/93-94	25,912	25,912	0.699	18,121	18,121
6/30/94-95	37,467	38,467	0.694	26,014	26,708
6/30/95-96	39,610	40,610	0.686	27,190	27,877
6/30/96-97	30,075	30,075	0.677	20,353	20,353
6/30/97-98	30,683	31,683	0.666	20,429	21,095
6/30/98-99	45,796	45,796	0.660	30,205	30,205
6/30/99-00	47,195	48,195	0.668	31,530	32,198
6/30/00-01	50,603	67,023	0.667	33,775	44,734
6/30/01-02	62,369	63,369	0.667	41,619	42,287
6/30/02-03	79,773	80,773	0.664	52,952	53,616
6/30/03-04	154,901	161,901	0.659	102,130	106,746
6/30/04-05	107,230	130,230	0.658	70,603	85,747
6/30/05-06	127,773	130,773	0.660	84,320	86,300
6/30/06-07	127,692	154,692	0.664	84,776	102,701
6/30/07-08	147,090	185,090	0.667	98,083	123,422
6/30/08-09	173,706	207,706	0.672	116,648	139,479
6/30/09-10	156,462	228,462	0.682	106,676	155,766
6/30/10-11	247,355	272,355	0.689	170,501	187,734
6/30/11-12	275,236	329,236	0.715	196,873	235,498
6/30/12-13	385,110	444,110	0.733	282,239	325,479
6/30/13-14	615,395	800,395	0.805	495,310	644,210
Total	3,227,139	3,826,319		2,308,533	2,747,210
			(7) Total Discount Factor:	0.715	0.718

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	0	9,246
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	0	1,321
(11) Discounted Value at 6%:	0	7,595

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, 2014

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		3,900,737			4,543,917	5,067,310	643,180	1,166,573		
6/30/82-83		2,747,816	2,816,504		2,788,339	2,817,000	40,523	69,184		
6/30/83-84		1,405,260	1,443,795		1,407,700	1,444,000	2,440	38,740		
6/30/84-85	115,258	3,935,273	4,433,964	4,020,944	4,016,081	4,227,000	80,808	291,727	3.484	3.667
6/30/85-86	123,937	6,399,508	6,599,328	6,565,272	6,450,654	6,582,000	51,146	182,492	5.205	5.311
6/30/86-87	142,396	3,884,640	4,016,007	4,023,830	4,016,000	4,024,000	131,360	139,360	2.820	2.826
6/30/87-88	166,792	6,097,875	6,319,636	6,340,296	6,320,000	6,340,000	222,125	242,125	3.789	3.801
6/30/88-89	180,117	7,229,525	8,219,465	7,489,960	7,490,000	8,219,000	260,475	989,475	4.158	4.563
6/30/89-90	180,883	9,216,934	9,661,478	9,655,306	9,655,000	9,661,000	438,066	444,066	5.338	5.341
6/30/90-91	169,902	9,728,016	13,074,011	10,433,632	10,434,000	12,943,260	705,984	3,215,244	6.141	7.618
6/30/91-92	165,926	4,279,392	4,576,358	4,576,013	4,576,000	4,576,000	296,608	296,608	2.758	2.758
6/30/92-93	174,198	3,157,115	3,394,184	3,396,245	3,394,000	3,396,000	236,885	238,885	1.948	1.950
6/30/93-94	185,946	4,958,342	5,426,010	5,422,995	5,423,000	5,426,000	464,658	467,658	2.916	2.918
6/30/94-95	194,051	6,149,952	6,850,767	6,838,919	6,839,000	6,851,000	689,048	701,048	3.524	3.531
6/30/95-96	205,262	5,257,373	5,917,411	5,909,512	5,910,000	5,917,000	652,627	659,627	2.879	2.883
6/30/96-97	234,073	6,002,962	6,785,017	6,775,614	6,776,000	6,785,000	773,038	782,038	2.895	2.899
6/30/97-98	221,865	8,089,166	9,279,715	9,236,295	9,236,000	9,280,000	1,146,834	1,190,834	4.163	4.183
6/30/98-99	256,071	7,577,541	8,850,625	8,810,357	8,810,000	8,851,000	1,232,459	1,273,459	3.440	3.456
6/30/99-00	268,486	8,170,937	9,657,107	9,603,686	9,148,877	9,657,000	977,940	1,486,063	3.408	3.597
6/30/00-01	279,182	10,537,905	12,609,395	12,511,935	11,932,632	12,561,000	1,394,727	2,023,095	4.274	4.499
6/30/01-02	283,070	8,942,757	10,844,605	10,774,561	10,775,000	10,845,000	1,832,243	1,902,243	3.806	3.831
6/30/02-03	289,846	8,724,903	10,688,919	10,622,755	10,123,045	10,689,000	1,398,142	1,964,097	3.493	3.688
6/30/03-04	293,771	7,881,126	9,729,490	9,680,941	9,219,954	9,729,000	1,338,829	1,847,874	3.138	3.312
6/30/04-05	291,382	8,238,136	10,313,440	9,673,644	9,674,000	10,313,000	1,435,864	2,074,864	3.320	3.539
6/30/05-06	294,709	5,823,600	7,381,005	7,359,728	7,360,000	7,381,000	1,536,401	1,557,401	2.497	2.505
6/30/06-07	289,603	4,771,877	6,208,729	6,438,232	6,323,000	6,438,000	1,551,123	1,666,123	2.183	2.223
6/30/07-08	354,668	4,665,257	6,250,162	6,908,332	6,579,000	6,908,000	1,913,743	2,242,743	1.855	1.948
6/30/08-09	332,413	3,803,053	5,322,624	6,189,815	5,756,000	6,499,000	1,952,947	2,695,947	1.732	1.955
6/30/09-10	336,338	2,304,703	3,396,678	5,002,157	4,199,000	5,252,000	1,894,297	2,947,297	1.248	1.562
6/30/10-11	333,783	3,143,543	5,038,096	6,297,036	5,668,000	6,612,000	2,524,457	3,468,457	1.698	1.981
6/30/11-12	348,187	1,816,172	3,471,706	5,919,109	4,695,000	6,215,000	2,878,828	4,398,828	1.348	1.785
6/30/12-13	368,022	1,434,375	3,703,875	7,077,238	5,391,000	7,431,000	3,956,625	5,996,625	1.465	2.019
6/30/13-14	390,528	832,638	4,739,445	9,019,286	6,879,000	9,470,000	6,046,362	8,637,362	1.761	2.425
Total	7,470,666	181,108,408	217,019,554	222,573,645	221,809,200	238,406,570	40,700,791	57,298,162		
Tot 6/30/84-14	7,470,666	173,054,595	212,759,255	222,573,645	213,069,244	229,078,260	40,014,648	56,023,665	2.852	3.066

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, 2014

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 7/1/12-13	Paid Counts 7/1/13-14	Average Outstanding Claim	Average Age
All Prior Yrs		3,740,737							2	2		66
6/30/82-83		2,566,735	1.027	1.000	2,635,423	181,081	2,816,504		0	0		
6/30/83-84		1,386,759	1.028	1.000	1,425,294	18,501	1,443,795		0	0		
6/30/84-85	115,258	3,754,423	1.030	1.100	4,253,114	180,850	4,433,964	3.847	1	1	498,691	70
6/30/85-86	123,937	6,067,508	1.033	1.000	6,267,328	332,000	6,599,328	5.325	0	0		
6/30/86-87	142,396	3,544,280	1.037	1.000	3,675,647	340,360	4,016,007	2.820	0	0		
6/30/87-88	166,792	5,380,873	1.041	1.000	5,602,634	717,002	6,319,636	3.789	0	0		
6/30/88-89	180,117	6,603,324	1.045	1.100	7,593,264	626,201	8,219,465	4.563	2	2	494,970	60
6/30/89-90	180,883	8,272,034	1.054	1.000	8,716,578	944,900	9,661,478	5.341	1	2	222,272	66
6/30/90-91	169,902	8,786,248	1.062	1.300	12,132,243	941,768	13,074,011	7.695	5	4	836,499	62
6/30/91-92	165,926	3,896,141	1.076	1.000	4,193,107	383,251	4,576,358	2.758	4	2	148,483	66
6/30/92-93	174,198	2,519,814	1.094	1.000	2,756,883	637,301	3,394,184	1.948	2	0		
6/30/93-94	185,946	4,115,667	1.114	1.000	4,583,335	842,675	5,426,010	2.918	4	5	93,534	56
6/30/94-95	194,051	5,417,339	1.129	1.000	6,118,154	732,613	6,850,767	3.530	0	2	350,407	55
6/30/95-96	205,262	4,733,649	1.139	1.000	5,393,687	523,725	5,917,411	2.883	4	2	330,019	53
6/30/96-97	234,073	5,235,361	1.148	1.000	6,012,491	772,526	6,785,017	2.899	1	1	777,130	60
6/30/97-98	221,865	7,657,448	1.154	1.000	8,838,080	441,635	9,279,715	4.183	3	4	295,158	56
6/30/98-99	256,071	7,401,488	1.170	1.000	8,661,140	189,485	8,850,625	3.456	3	2	629,826	64
6/30/99-00	268,486	7,894,835	1.186	1.000	9,361,338	295,768	9,657,107	3.597	2	1	1,466,504	50
6/30/00-01	279,182	10,122,622	1.201	1.000	12,161,896	447,499	12,609,395	4.517	4	2	1,019,637	54
6/30/01-02	283,070	8,638,876	1.216	1.000	10,506,486	338,119	10,844,605	3.831	6	3	622,537	54
6/30/02-03	289,846	8,361,400	1.230	1.000	10,285,077	403,842	10,688,919	3.688	1	3	641,226	55
6/30/03-04	293,771	7,552,695	1.239	1.000	9,356,820	372,670	9,729,490	3.312	1	3	601,375	50
6/30/04-05	291,382	7,960,585	1.254	1.000	9,983,621	329,820	10,313,440	3.539	5	2	1,011,518	47
6/30/05-06	294,709	5,563,096	1.272	1.000	7,075,142	305,864	7,381,005	2.505	7	2	756,023	40
6/30/06-07	289,603	4,564,874	1.301	1.000	5,937,197	271,533	6,208,729	2.144	6	5	274,464	51
6/30/07-08	354,668	4,466,756	1.339	1.000	5,981,684	268,478	6,250,162	1.762	8	5	302,986	47
6/30/08-09	332,413	3,641,036	1.398	1.000	5,090,870	231,754	5,322,624	1.601	12	13	111,526	48
6/30/09-10	336,338	2,204,203	1.469	1.000	3,238,855	157,823	3,396,678	1.010	9	7	147,807	50
6/30/10-11	333,783	3,017,762	1.590	1.000	4,798,596	239,501	5,038,096	1.509	36	20	89,042	50
6/30/11-12	348,187	1,786,119	1.869	1.000	3,339,146	132,560	3,471,706	0.997	48	19	81,738	41
6/30/12-13	368,022	1,413,063	2.502	1.000	3,535,399	168,476	3,703,875	1.006	102	57	37,234	45
6/30/13-14	390,528	832,638	5.424	1.000	4,515,832	223,612	4,739,445	1.214		134	27,487	41
Total	7,470,666	169,100,388			204,026,361	12,993,192	217,019,554		279	305		

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, 2014

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	3,754,423	1.030	3,840,094	180,850	4,020,944	3.489	3.332
6/30/85-86	123,937	4.195	6,067,508	1.033	6,233,272	332,000	6,565,272	5.297	5.029
6/30/86-87	142,396	2.735	3,544,280	1.037	3,683,470	340,360	4,023,830	2.826	2.587
6/30/87-88	166,792	3.672	5,380,873	1.041	5,623,294	717,002	6,340,296	3.801	3.371
6/30/88-89	180,117	3.331	6,603,324	1.045	6,863,759	626,201	7,489,960	4.158	3.811
6/30/89-90	180,883	4.752	8,272,034	1.054	8,710,406	944,900	9,655,306	5.338	4.816
6/30/90-91	169,902	7.095	8,786,248	1.062	9,491,864	941,768	10,433,632	6.141	5.587
6/30/91-92	165,926	2.524	3,896,141	1.076	4,192,762	383,251	4,576,013	2.758	2.527
6/30/92-93	174,198	1.596	2,519,814	1.094	2,758,944	637,301	3,396,245	1.950	1.584
6/30/93-94	185,946	2.449	4,115,667	1.114	4,580,320	842,675	5,422,995	2.916	2.463
6/30/94-95	194,051	3.100	5,417,339	1.129	6,106,306	732,613	6,838,919	3.524	3.147
6/30/95-96	205,262	2.596	4,733,649	1.139	5,385,788	523,725	5,909,512	2.879	2.624
6/30/96-97	234,073	2.538	5,235,361	1.148	6,003,087	772,526	6,775,614	2.895	2.565
6/30/97-98	221,865	3.837	7,657,448	1.154	8,794,660	441,635	9,236,295	4.163	3.964
6/30/98-99	256,071	3.274	7,401,488	1.170	8,620,872	189,485	8,810,357	3.441	3.367
6/30/99-00	268,486	3.360	7,894,835	1.186	9,307,918	295,768	9,603,686	3.577	3.467
6/30/00-01	279,182	4.148	10,122,622	1.201	12,064,436	447,499	12,511,935	4.482	4.321
6/30/01-02	283,070	3.572	8,638,876	1.216	10,436,442	338,119	10,774,561	3.806	3.687
6/30/02-03	289,846	3.426	8,361,400	1.230	10,218,913	403,842	10,622,755	3.665	3.526
6/30/03-04	293,771	3.099	7,552,695	1.239	9,308,271	372,670	9,680,941	3.295	3.169
6/30/04-05	291,382	2.343	7,960,585	1.254	9,343,825	329,820	9,673,644	3.320	3.207
6/30/05-06	294,709	2.367	5,563,096	1.272	7,053,864	305,864	7,359,728	2.497	2.393
6/30/06-07	289,603	2.393	4,564,874	1.301	6,166,699	271,533	6,438,232	2.223	2.129
6/30/07-08	354,668	2.419	4,466,756	1.339	6,639,854	268,478	6,908,332	1.948	1.872
6/30/08-09	332,413	2.448	3,641,036	1.398	5,958,061	231,754	6,189,815	1.862	1.792
6/30/09-10	336,338	2.457	2,204,203	1.469	4,844,334	157,823	5,002,157	1.487	1.440
6/30/10-11	333,783	2.454	3,017,762	1.590	6,057,535	239,501	6,297,036	1.887	1.815
6/30/11-12	348,187	2.470	1,786,119	1.869	5,786,549	132,560	5,919,109	1.700	1.662
6/30/12-13	368,022	2.488	1,413,063	2.502	6,908,762	168,476	7,077,238	1.923	1.877
6/30/13-14	390,528	2.500	832,638	5.424	8,795,674	223,612	9,019,286	2.310	2.252
Total	7,470,666		161,406,157		209,780,035	12,793,610	222,573,645		

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, 2014

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	12,132,243	7.141	0.957	6.837	1.000	6.837	2.611	7.611	7.095
6/30/91-92	165,926	4,193,107	2.527	1.050	2.654	1.000	2.654	2.380	2.533	2.524
6/30/92-93	174,198	2,756,883	1.583	1.225	1.938	1.000	1.938	2.041	1.629	1.596
6/30/93-94	185,946	4,583,335	2.465	1.209	2.980	1.000	2.980	2.068	2.459	2.449
6/30/94-95	194,051	6,118,154	3.153	1.198	3.777	1.000	3.777	2.087	3.137	3.100
6/30/95-96	205,262	5,393,687	2.628	1.188	3.123	1.000	3.123	2.104	2.598	2.596
6/30/96-97	234,073	6,012,491	2.569	1.177	3.022	1.000	3.022	2.125	2.576	2.538
6/30/97-98	221,865	8,838,080	3.984	1.162	4.627	1.000	4.627	2.152	3.877	3.837
6/30/98-99	256,071	8,661,140	3.382	1.146	3.877	1.000	3.877	2.181	3.341	3.274
6/30/99-00	268,486	9,361,338	3.487	1.128	3.933	1.000	3.933	2.217	3.448	3.360
6/30/00-01	279,182	12,161,896	4.356	1.099	4.788	1.000	4.788	2.274	4.250	4.148
6/30/01-02	283,070	10,506,486	3.712	1.078	4.000	1.000	4.000	2.320	3.669	3.572
6/30/02-03	289,846	10,285,077	3.548	1.074	3.811	1.000	3.811	2.328	3.502	3.426
6/30/03-04	293,771	9,356,820	3.185	1.074	3.420	1.000	3.420	2.328	3.200	3.099
6/30/04-05	291,382	9,983,621	3.426	1.067	3.656	1.000	3.656	2.343	2.825	2.343
6/30/05-06	294,709	7,075,142	2.401	1.056	2.536	1.000	2.536	2.367	2.855	2.367
6/30/06-07	289,603	5,937,197	2.050	1.045	2.142	1.000	2.142	2.393	2.886	2.393
6/30/07-08	354,668	5,981,684	1.687	1.033	1.743	1.000	1.743	2.419	2.918	2.419
6/30/08-09	332,413	5,090,870	1.531	1.021	1.564	1.000	1.564	2.448	2.952	2.448
6/30/09-10	336,338	3,238,855	0.963	1.017	0.980	1.000	0.980	2.457	2.963	2.457
6/30/10-11	333,783	4,798,596	1.438	1.019	1.465	1.000	1.465	2.454	2.959	2.454
6/30/11-12	348,187	3,339,146	0.959	1.012	0.971	1.000	0.971	2.470	2.979	2.470
6/30/12-13	368,022	3,535,399	0.961	1.005	0.965	1.000	0.965	2.488	3.000	2.488
6/30/13-14	390,528	4,515,832	1.156	1.000	1.156	1.000	1.156	2.500		2.500
Total	6,561,282	163,857,079								

Trend Last 4 (ex 13-14):	-4.5%	Avg 3 (x13-14):	1.134
Trend Last 8 (ex 13-14):	-13.0%	Avg 5 (x13-14):	1.189
Trend Last 12 (ex 13-14):	-13.7%	Avg 10 (x13-14):	1.944
Prior Selected Trend:	0.0%	Prior Sel Avg:	3.000
Selected Trend:	0.0%	Sel. Loss Cost:	2.500

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, 2013
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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 2014	94,260	94,260
(7)	Estimated Reserve	1,728,385	4,060,539
(8)	Paid to Date (82 & Prior)	3,740,737	3,740,737
(9)	Est Ult Paid for 1982 & Prior	5,469,122	7,801,276

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	93,815	98,726
(11)	Projected Number of Years	3	3
(12)	Estimated Reserve	281,445	296,178
(13)	Paid to Date (82 & Prior)	3,740,737	3,646,476
(14)	Est Ult Paid for 1982 & Prior	4,022,182	3,942,655
(14a)	Paid Counts During Fiscal Year	2	2
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	4,383,917	4,907,310
(16)	Lump Sum Ultimates	160,000	160,000
(17)	Ult Loss Including Lump Sums	**4,543,917**	**5,067,310**
(18)	Implied Tail	1.172	1.312
(19)	Ult Loss Inc Lump Sums @ 6/13	4,479,104	5,026,457

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, 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 =	23
2001	10	66,717	11.108	0.908	S(x) =	46,069
2002	11	70,033	11.157	1.050	S(x-sq) =	92,277,219
2003	12	124,671	11.733	1.780	S(xy) =	531,107
2004	13	92,927	11.440	0.745	S(y) =	265
2005	14	283,599	12.555	3.052	D =	23,276
2006	15	99,838	11.511	0.352	slope =	0.001
2007	16	101,854	11.531	1.020	Avg Trend =	1.001
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		
2014	23	94,260	11.454	0.960		
					Selected Trend:	**1.000**

NOTES:

(3) 2014 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2013

(4) LN [(3)]

(5) Eg. 2014: 0.96 = 94260 / 98227

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	384
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	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	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	3,754,423		
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	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	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	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	6,603,324						
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	8,272,034							
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	8,786,248								
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	3,896,141									
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	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	4,115,667											
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	5,417,339												
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	4,733,649													
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	5,235,361														
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	7,657,448															
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	7,401,488																
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	7,894,835																	
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	10,122,622																		
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	8,638,876																			
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	8,361,400																				
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	7,552,695																					
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	7,960,585																						
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	5,563,096																							
June-07	1,380,680	2,815,182	3,556,899	4,026,861	4,280,218	4,409,792	4,495,865	4,564,874																								
June-08	1,238,290	2,624,403	3,322,948	3,832,582	4,162,771	4,361,974	4,466,756																									
June-09	1,050,261	2,223,832	2,862,597	3,295,878	3,498,318	3,641,036																										
June-10	907,606	1,619,359	1,983,041	2,120,199	2,204,203																											
June-11	985,007	2,210,801	2,754,241	3,017,762																												
June-12	628,004	1,365,683	1,786,119																													
June-13	594,769	1,413,063																														
June-14	832,638																															

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
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	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	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	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	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	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	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	1.010						
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	1.008							
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	1.016	1.013								
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	1.012									
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	1.000										
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	1.012											
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	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	1.016													
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	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	1.012															
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	1.005																
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	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	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	1.000																			
June-03	1.986	1.296	1.129	1.082	1.025	1.013	1.002	1.000	1.002	1.004	1.003																				
June-04	2.096	1.303	1.142	1.066	1.033	1.019	1.003	1.001	1.000	1.000																					
June-05	2.058	1.299	1.158	1.059	1.040	1.028	1.011	1.002	1.001																						
June-06	2.408	1.403	1.167	1.062	1.032	1.022	1.007	1.001																							
June-07	2.039	1.263	1.132	1.063	1.030	1.020	1.015																								
June-08	2.119	1.266	1.153	1.086	1.048	1.024																									
June-09	2.117	1.287	1.151	1.061	1.041																										
June-10	1.784	1.225	1.069	1.040																											
June-11	2.244	1.246	1.096																												
June-12	2.175	1.308																													
June-13	2.376																														

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	2.158	1.338	1.185	1.112	1.078	1.056	1.043	1.033	1.026	1.022	1.020	1.013	1.014	1.015	1.013	1.013	1.011	1.013	1.010	1.011	1.011	1.012	1.012	1.008	1.006	1.002	1.003	1.003	1.005	1.000	1.000	
Latest 5	2.139	1.266	1.120	1.063	1.038	1.022	1.008	1.002	1.002	1.003	1.004	1.004	1.004	1.005	1.005	1.006	1.004	1.008	1.007	1.009	1.010	1.010	1.009	1.006	1.007	1.003	1.003					
Latest 3	2.265	1.259	1.105	1.062	1.040	1.022	1.011	1.001	1.001	1.003	1.003	1.001	1.002	1.006	1.005	1.007	1.003	1.009	1.003	1.008	1.008	1.012	1.013	1.006	1.003	1.000	1.004	1.005	1.005			
Volume Wtd																																
All Yrs	2.123	1.329	1.176	1.100	1.064	1.044	1.030	1.022	1.018	1.016	1.015	1.011	1.012	1.013	1.013	1.014	1.011	1.014	1.011	1.011	1.011	1.012	1.012	1.008	1.007	1.002	1.003	1.004	1.007	1.000	1.000	
Latest 5	2.120	1.265	1.125	1.065	1.038	1.023	1.007	1.002	1.002	1.003	1.004	1.004	1.004	1.005	1.005	1.006	1.003	1.008	1.009	1.009	1.011	1.011	1.010	1.007	1.007	1.002	1.003					
Latest 3	2.260	1.256	1.110	1.067	1.039	1.022	1.011	1.001	1.001	1.003	1.003	1.001	1.002	1.006	1.006	1.007	1.003	1.008	1.003	1.009	1.010	1.012	1.013	1.006	1.004	1.000	1.004	1.005	1.007			

Dev Factor Selection																																
Industry 1	2.861	1.511	1.198	1.090	1.035	1.020	1.016																									
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	*2.150*	*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*	
Selected	2.168	1.338	1.176	1.082	1.051	1.044	1.030	1.023	1.014	1.012	1.007	1.011	1.012	1.013	1.013	1.014	1.005	1.008	1.009	1.014	1.018	1.017	1.013	1.008	1.008	1.004	1.004	1.004	1.003	1.002	1.001	1.027
FacToUlt	5.424	2.502	1.869	1.590	1.469	1.398	1.339	1.301	1.272	1.254	1.239	1.230	1.216	1.201	1.186	1.170	1.154	1.148	1.139	1.129	1.114	1.094	1.076	1.062	1.054	1.045	1.041	1.037	1.033	1.030	1.028	1.027
Percent of Ult	18.4%	40.0%	53.5%	62.9%	68.1%	71.5%	74.7%	76.9%	78.6%	79.7%	80.7%	81.3%	82.2%	83.2%	84.3%	85.5%	86.6%	87.1%	87.8%	88.5%	89.8%	91.4%	92.9%	94.1%	94.9%	95.7%	96.0%	96.4%	96.8%	97.1%	97.3%	97.4%

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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 6/13		As of 6/14		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	4,479,104	5,026,457	4,543,917	5,067,310	64,813	1.4%	40,853	0.8%
6/30/82-83	3,004,257	3,081,000	2,788,339	2,817,000	(215,918)	-7.2%	(264,000)	-8.6%
6/30/83-84	1,412,462	1,449,000	1,407,700	1,444,000	(4,762)	-0.3%	(5,000)	-0.3%
6/30/84-85	4,347,091	4,576,000	4,016,081	4,227,000	(331,009)	-7.6%	(349,000)	-7.6%
6/30/85-86	7,486,066	7,880,000	6,450,654	6,582,000	(1,035,412)	-13.8%	(1,298,000)	-16.5%
6/30/86-87	4,040,000	4,048,000	4,016,000	4,024,000	(24,000)	-0.6%	(24,000)	-0.6%
6/30/87-88	6,378,000	6,638,000	6,320,000	6,340,000	(58,000)	-0.9%	(298,000)	-4.5%
6/30/88-89	7,459,000	8,190,000	7,490,000	8,219,000	31,000	0.4%	29,000	0.4%
6/30/89-90	9,644,000	9,650,000	9,655,000	9,661,000	11,000	0.1%	11,000	0.1%
6/30/90-91	10,475,000	13,950,000	10,434,000	12,943,260	(41,000)	-0.4%	(1,006,740)	-7.2%
6/30/91-92	4,575,000	4,576,000	4,576,000	4,576,000	1,000	0.0%	0	0.0%
6/30/92-93	3,430,000	3,435,000	3,394,000	3,396,000	(36,000)	-1.0%	(39,000)	-1.1%
6/30/93-94	5,413,000	5,413,000	5,423,000	5,426,000	10,000	0.2%	13,000	0.2%
6/30/94-95	6,875,000	6,883,000	6,839,000	6,851,000	(36,000)	-0.5%	(32,000)	-0.5%
6/30/95-96	5,793,000	5,794,000	5,910,000	5,917,000	117,000	2.0%	123,000	2.1%
6/30/96-97	6,800,000	6,800,000	6,776,000	6,785,000	(24,000)	-0.4%	(15,000)	-0.2%
6/30/97-98	9,245,000	9,281,000	9,236,000	9,280,000	(9,000)	-0.1%	(1,000)	0.0%
6/30/98-99	8,883,000	8,911,000	8,810,000	8,851,000	(73,000)	-0.8%	(60,000)	-0.7%
6/30/99-00	9,730,000	9,769,000	9,148,877	9,657,000	(581,123)	-6.0%	(112,000)	-1.1%
6/30/00-01	12,093,863	12,772,000	11,932,632	12,561,000	(161,231)	-1.3%	(211,000)	-1.7%
6/30/01-02	10,955,000	11,007,000	10,775,000	10,845,000	(180,000)	-1.6%	(162,000)	-1.5%
6/30/02-03	10,238,782	10,800,000	10,123,045	10,689,000	(115,737)	-1.1%	(111,000)	-1.0%
6/30/03-04	9,421,694	9,931,000	9,219,954	9,729,000	(201,739)	-2.1%	(202,000)	-2.0%
6/30/04-05	10,152,000	10,583,000	9,674,000	10,313,000	(478,000)	-4.7%	(270,000)	-2.6%
6/30/05-06	7,638,000	7,905,000	7,360,000	7,381,000	(278,000)	-3.6%	(524,000)	-6.6%
6/30/06-07	6,663,000	6,959,000	6,323,000	6,438,000	(340,000)	-5.1%	(521,000)	-7.5%
6/30/07-08	7,047,000	7,657,000	6,579,000	6,908,000	(468,000)	-6.6%	(749,000)	-9.8%
6/30/08-09	6,195,000	7,295,000	5,756,000	6,499,000	(439,000)	-7.1%	(796,000)	-10.9%
6/30/09-10	4,821,000	6,361,000	4,199,000	5,252,000	(622,000)	-12.9%	(1,109,000)	-17.4%
6/30/10-11	6,542,000	8,024,000	5,668,000	6,612,000	(874,000)	-13.4%	(1,412,000)	-17.6%
6/30/11-12	5,717,000	8,199,000	4,695,000	6,215,000	(1,022,000)	-17.9%	(1,984,000)	-24.2%
6/30/12-13	6,598,000	10,272,000	5,391,000	7,431,000	(1,207,000)	-18.3%	(2,841,000)	-27.7%
6/30/13-14								
Total	223,551,318	243,115,457	214,930,200	228,936,570	(8,621,119)	-3.9%	(14,178,887)	-5.8%

NOTES:

(2), (3) From Aon analysis as of June 30, 2013

(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, 2014

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	3,740,737	1.242	4,645,613	0.0%	0.0%	0	160,000	160,000	3.4%	1.000	160,000	160,000	160,000
6/30/82-83	2,566,735	1.027	2,635,423	0.0%	0.0%	0	181,081	181,081	6.9%	1.000	181,081	181,081	181,081
6/30/83-84	1,386,759	1.028	1,425,294	0.0%	0.0%	0	18,501	18,501	1.3%	1.000	18,501	18,501	18,501
6/30/84-85	3,754,423	1.133	4,253,114	0.0%	0.0%	0	180,850	180,850	4.3%	1.000	180,850	180,850	180,850
6/30/85-86	6,067,508	1.033	6,267,328	0.0%	0.0%	0	332,000	332,000	5.3%	1.000	332,000	332,000	332,000
6/30/86-87	3,544,280	1.037	3,675,647	0.0%	0.0%	0	340,360	340,360	9.3%	1.000	340,360	340,360	340,360
6/30/87-88	5,380,873	1.041	5,602,634	0.0%	0.0%	0	717,002	717,002	12.8%	1.000	717,002	717,002	717,002
6/30/88-89	6,603,324	1.150	7,593,264	0.0%	0.0%	0	626,201	626,201	8.2%	1.000	626,201	626,201	626,200
6/30/89-90	8,272,034	1.054	8,716,578	0.0%	0.0%	0	944,900	944,900	10.8%	1.000	944,900	944,900	944,900
6/30/90-91	8,786,248	1.381	12,132,243	0.0%	0.0%	0	941,768	941,768	7.8%	1.000	941,768	941,768	941,768
6/30/91-92	3,896,141	1.076	4,193,107	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	1.094	2,756,883	0.0%	0.0%	0	637,301	637,301	23.1%	1.000	637,301	637,301	637,301
6/30/93-94	4,115,667	1.114	4,583,335	0.0%	0.0%	0	842,675	842,675	18.4%	1.000	842,675	842,675	842,675
6/30/94-95	5,417,339	1.129	6,118,154	0.0%	0.0%	0	732,613	732,613	12.0%	1.000	732,613	732,613	732,613
6/30/95-96	4,733,649	1.139	5,393,687	0.0%	0.0%	0	523,725	523,725	9.7%	1.000	523,725	523,725	452,000
6/30/96-97	5,235,361	1.148	6,012,491	0.1%	0.1%	6,012	767,601	773,613	12.9%	1.005	771,439	772,526	767,601
6/30/97-98	7,657,448	1.154	8,838,080	0.1%	0.2%	17,676	431,718	449,394	5.1%	1.005	433,877	441,635	431,718
6/30/98-99	7,401,488	1.170	8,661,140	0.1%	0.3%	25,983	176,053	202,036	2.3%	1.005	176,933	189,485	176,224
6/30/99-00	7,894,835	1.186	9,361,338	0.1%	0.4%	37,445	276,102	313,547	3.3%	1.007	277,990	295,768	281,388
6/30/00-01	10,122,622	1.201	12,161,896	0.1%	0.5%	60,809	415,283	476,092	3.9%	1.009	418,905	447,499	439,948
6/30/01-02	8,638,876	1.216	10,506,486	0.1%	0.6%	63,039	303,881	366,920	3.5%	1.018	309,317	338,119	346,524
6/30/02-03	8,361,400	1.230	10,285,077	0.1%	0.7%	69,988	363,503	433,491	4.2%	1.029	374,194	403,842	425,746
6/30/03-04	7,552,695	1.239	9,356,820	0.1%	0.8%	73,627	328,431	402,058	4.3%	1.045	343,282	372,670	401,381
6/30/04-05	7,960,585	1.254	9,983,621	0.1%	0.9%	88,542	277,550	366,093	3.7%	1.058	293,547	329,820	387,259
6/30/05-06	5,563,096	1.272	7,075,142	0.1%	1.0%	69,823	260,504	330,327	4.7%	1.080	281,400	305,864	353,453
6/30/06-07	4,564,874	1.301	5,937,197	0.1%	1.1%	64,530	207,003	271,533	4.6%	1.101	228,011	271,533	296,588
6/30/07-08	4,466,756	1.339	5,981,684	0.1%	1.2%	69,977	198,501	268,478	4.5%	1.129	224,179	268,478	283,621
6/30/08-09	3,641,036	1.398	5,090,870	0.2%	1.4%	69,737	162,017	231,754	4.6%	1.203	194,843	231,754	259,625
6/30/09-10	2,204,203	1.469	3,238,855	0.4%	1.8%	57,323	100,500	157,823	4.9%	1.323	133,011	157,823	181,552
6/30/10-11	3,017,762	1.590	4,798,596	0.6%	2.4%	113,720	125,781	239,501	5.0%	1.698	213,534	239,501	234,569
6/30/11-12	1,786,119	1.869	3,339,146	0.7%	3.1%	102,507	30,053	132,560	4.0%	2.969	89,235	132,560	166,686
6/30/12-13	1,413,063	2.502	3,535,399	1.1%	4.2%	147,164	21,312	168,476	4.8%	10.838	230,975	168,476	175,387
6/30/13-14	832,638	5.424	4,515,832	0.8%	5.0%	223,612	0	223,612	5.0%	55.273	0	223,612	
Total	169,100,388		208,671,975			1,361,516	12,008,021	13,369,536	6.4%		12,556,899	13,153,192	13,099,773

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, 2013

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	384-396
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	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	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	0				
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	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	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	10,000	0	1							
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	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	0									
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	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	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	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	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	71,725														
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	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	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	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	0																		
Jun-01	8,490	1	74,500	89,900	93,000	73,389	33,503	20,500	4,000	18,000	0	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	0																				
Jun-03	0	58,500	110,001	81,000	77,501	21,500	10,001	5,000	0	0	0	0																					
Jun-04	0	21,923	84,502	80,002	26,003	65,000	35,000	15,000	0	0	1,001																						
Jun-05	0	12,500	108,002	89,501	37,546	0	12,000	10,001	8,000	0																							
Jun-06	0	35,001	24,502	113,501	81,500	6,000	0	0	0																								
Jun-07	0	36,000	69,500	32,500	50,000	19,000	1	2																									
Jun-08	0	36,001	37,000	72,000	25,500	10,000	18,000																										
Jun-09	0	16,000	42,767	47,000	46,250	10,000																											
Jun-10	0	3,000	56,000	31,500	10,000																												
Jun-11	0	11,750	47,031	67,000																													
Jun-12	0	11,050	19,003																														
Jun-13	4,000	17,312																															
Jun-14	0																																

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	396
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	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	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	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	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	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	616,200	626,201								
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	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	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	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	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	842,675	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	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	452,000	523,725													
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	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	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	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	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	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	363,503																					
Jun-04	0	21,923	106,425	186,427	212,430	277,430	312,430	327,430	327,430	327,430	328,431																						
Jun-05	0	12,500	120,502	210,003	247,549	247,549	259,549	269,550	277,550	277,550																							
Jun-06	0	35,001	59,503	173,004	254,504	260,504	260,504	260,504	260,504																								
Jun-07	0	36,000	105,500	138,000	188,000	207,000	207,001	207,003																									
Jun-08	0	36,001	73,001	145,001	170,501	180,501	198,501																										
Jun-09	0	16,000	58,767	105,767	152,017	162,017																											
Jun-10	0	3,000	59,000	90,500	100,500																												
Jun-11	0	11,750	58,781	125,781																													
Jun-12	0	11,050	30,053																														
Jun-13	4,000	21,312																															
Jun-14	0																																

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	384-396
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	0.012	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	0.000
Jun-83	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.013	0.016	0.016	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	0.000	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	0.000		
Jun-85	0.000	0.000	0.000	0.003	0.000	0.000	0.005	0.000	0.016	0.000	0.010	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	0.000	0.000	0.000	0.000	0.000	0.000			
Jun-86	0.000	0.000	0.000	0.005	0.011	0.002	0.006	0.004	0.008	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	0.008	0.000	0.002	0.000				
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	0.000					
Jun-88	0.000	0.006	0.003	0.004	0.007	0.034	0.036	0.004	0.018	0.005	0.011	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	0.000						
Jun-89	0.000	0.001	0.009	0.001	0.016	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	0.000	0.000	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	0.000								
Jun-91	0.000	0.002	0.002	0.026	0.014	0.015	0.006	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	0.000									
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	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	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	0.000												
Jun-95	0.003	0.028	0.031	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	0.000													
Jun-96	0.000	0.006	0.006	0.062	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	0.013														
Jun-97	0.010	0.045	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	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	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	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	0.000																		
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	0.000																			
Jun-02	0.000	0.001	0.004	0.009	0.005	0.006	0.001	0.000	0.000	0.000	0.000	0.003	0.000																				
Jun-03	0.000	0.006	0.011	0.008	0.008	0.002	0.001	0.000	0.000	0.000	0.000	0.000																					
Jun-04	0.000	0.002	0.009	0.009	0.003	0.007	0.004	0.002	0.000	0.000	0.000																						
Jun-05	0.000	0.001	0.011	0.009	0.004	0.000	0.001	0.001	0.001	0.000																							
Jun-06	0.000	0.005	0.003	0.016	0.012	0.001	0.000	0.000	0.000																								
Jun-07	0.000	0.006	0.012	0.005	0.008	0.003	0.000	0.000																									
Jun-08	0.000	0.006	0.006	0.012	0.004	0.002	0.003																										
Jun-09	0.000	0.003	0.008	0.009	0.009	0.002																											
Jun-10	0.000	0.001	0.017	0.010	0.003																												
Jun-11	0.000	0.002	0.010	0.014																													
Jun-12	0.000	0.003	0.006																														
Jun-13	0.001	0.005																															
Jun-14	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	384-396
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	0.001	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	
Latest 5	0.000	0.003	0.009	0.010	0.007	0.002	0.002	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.001	0.000	0.000	0.002	0.000	0.000					
Latest 3	0.000	0.004	0.011	0.011	0.005	0.002	0.001	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.001	0.000	0.000			
Olympic Avg																																	
All Yrs (ex P)	0.001	0.007	0.010	0.013	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	0.000			
Latest 10	0.000	0.004	0.009	0.010	0.006	0.003	0.002	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	0.000	0.000									
Latest 5	0.000	0.003	0.008	0.010	0.007	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	0.000	0.000	0.000					

Dev Factor Selection																																	
Prior	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	
Selected	NA	0.008	0.011	0.007	0.006	0.004	0.002	0.001	0.001	0.001	0.001	0.001	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FacToUlt	NA	0.050	0.042	0.031	0.024	0.018	0.014	0.012	0.011	0.010	0.009	0.008	0.007	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	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	396
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	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	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	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	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	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	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	626,201							
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	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	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	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	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	842,675	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	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	523,725														
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	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	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	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	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	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	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	363,503																					
Jun-04	0	21,923	106,425	186,427	212,430	277,430	312,430	327,430	327,430	327,430	328,431																						
Jun-05	0	12,500	120,502	210,003	247,549	247,549	259,549	269,550	277,550	277,550																							
Jun-06	0	35,001	59,503	173,004	254,504	260,504	260,504	260,504	260,504																								
Jun-07	0	36,000	105,500	138,000	188,000	207,000	207,001	207,003																									
Jun-08	0	36,001	73,001	145,001	170,501	180,501	198,501																										
Jun-09	0	16,000	58,767	105,767	152,017	162,017																											
Jun-10	0	3,000	59,000	90,500	100,500																												
Jun-11	0	11,750	58,781	125,781																													
Jun-12	0	11,050	30,053																														
Jun-13	4,000	21,312																															
Jun-14	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	384-396	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	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	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	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	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	1.000	1.178	1.006	1.038	1.000				
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	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	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	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	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	1.000										
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	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	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	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	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	1.159															
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	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	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	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	1.000																			
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	1.000																				
Jun-02		5.388	2.847	1.310	1.329	1.026	1.000	1.000	1.000	1.011	1.098	1.000																					
Jun-03		2.880	1.481	1.311	1.066	1.029	1.014	1.000	1.000	1.000	1.000																						
Jun-04		4.854	1.752	1.139	1.306	1.126	1.048	1.000	1.000	1.003																							
Jun-05		9.640	1.743	1.179	1.000	1.048	1.039	1.030	1.000																								
Jun-06		1.700	2.907	1.471	1.024	1.000	1.000	1.000																									
Jun-07		2.931	1.308	1.362	1.101	1.000	1.000																										
Jun-08		2.028	1.986	1.176	1.059	1.100																											
Jun-09		3.673	1.800	1.437	1.066																												
Jun-10		19.667	1.534	1.110																													
Jun-11		5.003	2.140																														
Jun-12		2.720																															
Jun-13	5.328																																

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	384-396	To Ult
Simple Avg																																	
All Yrs (ex P)	5.005	4.596	2.179	1.575	1.222	1.209	1.046	1.135	1.131	1.074	1.037	1.033	1.005	1.002	1.002	1.000	1.003	1.013	1.001	1.000	1.000	1.007	1.002	1.000	1.025	1.001	1.008	1.000	1.000	1.000	1.000		
Latest 5	5.183	6.618	1.754	1.311	1.050	1.055	1.020	1.006	1.009	1.009	1.029	1.000	1.009	1.000	1.000	1.001	1.000	1.032	1.000	1.000	1.000	1.014	1.003	1.000	1.036	1.001	1.008						
Latest 3	3.390	9.130	1.824	1.241	1.075	1.033	1.013	1.010	1.000	1.005	1.033	1.000	1.015	1.000	1.000	1.000	1.000	1.053	1.000	1.000	1.000	1.023	1.005	1.000	1.000	1.002	1.013	1.000	1.000				
Volume Wtd																																	
All Yrs (ex P)	7.732	2.260	1.719	1.282	1.181	1.111	1.041	1.044	1.053	1.024	1.015	1.011	1.005	1.001	1.002	1.001	1.002	1.012	1.002	1.000	1.000	1.013	1.002	1.000	1.021	1.001	1.012	1.000	1.000	1.000	1.000		
Latest 5		3.594	1.704	1.327	1.044	1.055	1.021	1.005	1.011	1.007	1.024	1.000	1.006	1.000	1.000	1.002	1.000	1.024	1.000	1.000	1.000	1.017	1.003	1.000	1.022	1.001	1.012						
Latest 3		5.730	1.824	1.240	1.076	1.028	1.014	1.009	1.000	1.004	1.026	1.000	1.014	1.000	1.000	1.000	1.000	1.035	1.000	1.000	1.000	1.027	1.004	1.000	1.000	1.001	1.014	1.000	1.000				

Dev Factor Selection																																	
Prior	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	
Selected	5.100	3.650	1.749	1.283	1.101	1.065	1.025	1.020	1.021	1.012	1.015	1.011	1.009	1.002	1.002	1.000	1.000	1.005	1.000	1.000	1.000	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	55.273	10.838	2.969	1.698	1.323	1.203	1.129	1.101	1.080	1.058	1.045	1.029	1.018	1.009	1.007	1.005	1.005	1.005	1.000	1.000	1.000	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%	9.2%	33.7%	58.9%	75.6%	83.2%	88.5%	90.8%	92.6%	94.6%	95.7%	97.1%	98.2%	99.1%	99.3%	99.5%	99.5%	99.5%	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%
396	100.0%	2.6%	0.0%	0.7%	0.4%	1.000	1.000
384	97.4%	0.1%	2.6%	0.0%	0.0%	0.981	0.971
372	97.3%	0.2%	2.7%	0.1%	0.0%	0.944	0.918
360	97.1%	0.3%	2.9%	0.1%	0.1%	0.913	0.873
348	96.8%	0.4%	3.2%	0.1%	0.1%	0.887	0.837
336	96.4%	0.4%	3.6%	0.1%	0.1%	0.867	0.810
324	96.0%	0.4%	4.0%	0.1%	0.1%	0.848	0.784
312	95.7%	0.8%	4.3%	0.3%	0.2%	0.830	0.760
300	94.9%	0.8%	5.1%	0.3%	0.2%	0.825	0.755
288	94.1%	1.2%	5.9%	0.5%	0.3%	0.817	0.745
276	92.9%	1.5%	7.1%	0.6%	0.4%	0.820	0.750
264	91.4%	1.6%	8.6%	0.7%	0.5%	0.822	0.754
252	89.8%	1.3%	10.2%	0.6%	0.4%	0.820	0.752
240	88.5%	0.8%	11.5%	0.4%	0.3%	0.810	0.738
228	87.8%	0.7%	12.2%	0.3%	0.2%	0.792	0.714
216	87.1%	0.4%	12.9%	0.2%	0.2%	0.773	0.689
204	86.6%	1.2%	13.4%	0.6%	0.5%	0.751	0.661
192	85.5%	1.1%	14.5%	0.6%	0.5%	0.743	0.652
180	84.3%	1.1%	15.7%	0.6%	0.5%	0.733	0.640
168	83.2%	1.0%	16.8%	0.6%	0.5%	0.723	0.628
156	82.2%	0.9%	17.8%	0.6%	0.4%	0.712	0.614
144	81.3%	0.6%	18.7%	0.4%	0.3%	0.699	0.599
132	80.7%	1.0%	19.3%	0.7%	0.5%	0.681	0.577
120	79.7%	1.1%	20.3%	0.8%	0.6%	0.671	0.565
108	78.6%	1.7%	21.4%	1.2%	1.1%	0.663	0.556
96	76.9%	2.2%	23.1%	1.6%	1.4%	0.663	0.558
84	74.7%	3.2%	25.3%	2.4%	2.2%	0.667	0.565
72	71.5%	3.5%	28.5%	2.8%	2.5%	0.679	0.582
60	68.1%	5.2%	31.9%	4.3%	4.0%	0.689	0.595
48	62.9%	9.4%	37.1%	8.2%	7.7%	0.706	0.618
36	53.5%	13.5%	46.5%	12.3%	11.7%	0.740	0.662
24	40.0%	21.5%	60.0%	20.3%	19.7%	0.772	0.702
12	18.4%	18.4%	81.6%	18.1%	17.9%	0.805	0.744
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, 2014

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	643,180	1,166,573		606,860	1,100,698
6/30/82-83	40,523	69,184	0.981	39,736	67,840
6/30/83-84	2,440	38,740	0.944	2,304	36,579
6/30/84-85	80,808	291,727	0.913	73,760	266,282
6/30/85-86	51,146	182,492	0.887	45,369	161,879
6/30/86-87	131,360	139,360	0.867	113,850	120,784
6/30/87-88	222,125	242,125	0.848	188,286	205,239
6/30/88-89	260,475	989,475	0.830	216,102	820,914
6/30/89-90	438,066	444,066	0.825	361,385	366,335
6/30/90-91	705,984	3,215,244	0.817	577,025	2,627,930
6/30/91-92	296,608	296,608	0.820	243,125	243,125
6/30/92-93	236,885	238,885	0.822	194,744	196,388
6/30/93-94	464,658	467,658	0.820	381,194	383,655
6/30/94-95	689,048	701,048	0.810	557,967	567,684
6/30/95-96	652,627	659,627	0.792	516,577	522,118
6/30/96-97	773,038	782,038	0.773	597,384	604,339
6/30/97-98	1,146,834	1,190,834	0.751	860,992	894,026
6/30/98-99	1,232,459	1,273,459	0.743	915,673	946,134
6/30/99-00	977,940	1,486,063	0.733	717,270	1,089,954
6/30/00-01	1,394,727	2,023,095	0.723	1,008,861	1,463,385
6/30/01-02	1,832,243	1,902,243	0.712	1,303,979	1,353,797
6/30/02-03	1,398,142	1,964,097	0.699	977,314	1,372,921
6/30/03-04	1,338,829	1,847,874	0.681	912,234	1,259,081
6/30/04-05	1,435,864	2,074,864	0.671	963,370	1,392,096
6/30/05-06	1,536,401	1,557,401	0.663	1,017,889	1,031,802
6/30/06-07	1,551,123	1,666,123	0.663	1,028,296	1,104,534
6/30/07-08	1,913,743	2,242,743	0.667	1,277,254	1,496,832
6/30/08-09	1,952,947	2,695,947	0.679	1,326,549	1,831,236
6/30/09-10	1,894,297	2,947,297	0.689	1,304,521	2,029,677
6/30/10-11	2,524,457	3,468,457	0.706	1,783,525	2,450,459
6/30/11-12	2,878,828	4,398,828	0.740	2,130,907	3,256,010
6/30/12-13	3,956,625	5,996,625	0.772	3,055,646	4,631,109
6/30/13-14	6,046,362	8,637,362	0.805	4,869,798	6,956,614
Total	40,700,791	57,298,162		30,169,746	42,851,456
			(7) Total Discount Factor:	0.741	0.748

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	643,180	1,166,573
(9) Projected Number of Years:	3	3
(10) Projected Paid Loss per Year:	214,393	388,858
(11) Discounted Value at 4%:	606,860	1,100,698

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, 2014

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	643,180	1,166,573		590,268	1,070,604
6/30/82-83	40,523	69,184	0.971	39,360	67,197
6/30/83-84	2,440	38,740	0.918	2,241	35,574
6/30/84-85	80,808	291,727	0.873	70,573	254,778
6/30/85-86	51,146	182,492	0.837	42,826	152,807
6/30/86-87	131,360	139,360	0.810	106,337	112,813
6/30/87-88	222,125	242,125	0.784	174,110	189,786
6/30/88-89	260,475	989,475	0.760	197,935	751,904
6/30/89-90	438,066	444,066	0.755	330,635	335,163
6/30/90-91	705,984	3,215,244	0.745	526,238	2,396,633
6/30/91-92	296,608	296,608	0.750	222,375	222,375
6/30/92-93	236,885	238,885	0.754	178,578	180,086
6/30/93-94	464,658	467,658	0.752	349,464	351,720
6/30/94-95	689,048	701,048	0.738	508,590	517,448
6/30/95-96	652,627	659,627	0.714	465,917	470,914
6/30/96-97	773,038	782,038	0.689	532,895	539,099
6/30/97-98	1,146,834	1,190,834	0.661	757,759	786,831
6/30/98-99	1,232,459	1,273,459	0.652	803,189	829,908
6/30/99-00	977,940	1,486,063	0.640	626,209	951,578
6/30/00-01	1,394,727	2,023,095	0.628	876,204	1,270,962
6/30/01-02	1,832,243	1,902,243	0.614	1,125,249	1,168,239
6/30/02-03	1,398,142	1,964,097	0.599	837,230	1,176,133
6/30/03-04	1,338,829	1,847,874	0.577	772,636	1,066,405
6/30/04-05	1,435,864	2,074,864	0.565	811,438	1,172,551
6/30/05-06	1,536,401	1,557,401	0.556	853,999	865,671
6/30/06-07	1,551,123	1,666,123	0.558	865,645	929,824
6/30/07-08	1,913,743	2,242,743	0.565	1,081,913	1,267,910
6/30/08-09	1,952,947	2,695,947	0.582	1,136,272	1,568,568
6/30/09-10	1,894,297	2,947,297	0.595	1,126,575	1,752,814
6/30/10-11	2,524,457	3,468,457	0.618	1,560,536	2,144,085
6/30/11-12	2,878,828	4,398,828	0.662	1,904,635	2,910,269
6/30/12-13	3,956,625	5,996,625	0.702	2,778,895	4,211,669
6/30/13-14	6,046,362	8,637,362	0.744	4,498,953	6,426,855
Total	40,700,791	57,298,162		26,755,680	38,149,173
			(7) Total Discount Factor:	0.657	0.666

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	643,180	1,166,573
(9) Projected Number of Years:	3	3
(10) Projected Paid Loss per Year:	214,393	388,858
(11) Discounted Value at 6%:	590,268	1,070,604

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, 2014

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

Calculation of Fiscal Year 7/1/14 - 15 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Cumulative	Incremental Paid		Estimated Payments from		FY 7/1/14 - 6/30/15	
Accident	Est Ult Losses	Est Ult Losses	Paid Losses	Reserves	Reserves	Percent	as a % of	as a % of	7/1/14 - 6/30/15		as a % of Reserves	
Year	(Low)	(High)	to Date	(Low)	(High)	Paid	Ultimates	Reserves	(Low)	(High)	(Low)	(High)
All Prior Yrs	5,911,287	7,225,339	4,622,912	1,288,375	2,602,427				158,909	174,800	12.3%	6.7%
6/30/82-83	2,953,088	2,988,774	2,912,565	40,523	76,209	98.0%	0.5%	25.5%	10,313	19,396	25.5%	25.5%
6/30/83-84	2,138,114	2,206,321	2,135,674	2,440	70,647	98.3%	0.5%	29.7%	725	20,997	29.7%	29.7%
6/30/84-85	4,493,081	4,709,000	4,405,599	87,482	303,401	95.8%	1.0%	23.5%	20,595	71,426	23.5%	23.5%
6/30/85-86	7,027,654	7,162,000	6,962,840	64,814	199,160	98.1%	1.0%	53.8%	34,840	107,057	53.8%	53.8%
6/30/86-87	4,685,000	4,694,000	4,532,327	152,673	161,673	96.6%	1.0%	29.8%	45,552	48,238	29.8%	29.8%
6/30/87-88	7,509,000	7,532,000	7,243,775	265,225	288,225	96.3%	1.0%	27.2%	72,080	78,330	27.2%	27.2%
6/30/88-89	8,801,000	9,532,000	8,490,135	310,865	1,041,865	92.6%	1.0%	13.6%	42,130	141,200	13.6%	13.6%
6/30/89-90	11,601,000	11,608,000	11,078,111	522,889	529,889	95.5%	1.0%	22.0%	115,273	116,817	22.0%	22.0%
6/30/90-91	13,025,000	15,535,260	12,195,908	829,092	3,339,352	85.4%	1.0%	6.9%	56,806	228,797	6.9%	6.9%
6/30/91-92	6,662,000	6,663,000	6,257,059	404,941	405,941	93.9%	1.0%	16.4%	66,543	66,707	16.4%	16.4%
6/30/92-93	4,841,000	4,844,000	4,515,302	325,698	328,698	93.2%	1.0%	14.8%	48,203	48,647	14.8%	14.8%
6/30/93-94	7,048,000	7,053,000	6,454,640	593,360	598,360	91.5%	1.0%	11.8%	70,209	70,801	11.8%	11.8%
6/30/94-95	8,319,000	8,333,000	7,479,014	839,986	853,986	89.8%	1.0%	9.8%	82,572	83,948	9.8%	9.8%
6/30/95-96	7,567,000	7,577,000	6,726,632	840,368	850,368	88.8%	1.0%	9.0%	75,272	76,168	9.0%	9.0%
6/30/96-97	8,790,000	8,804,000	7,769,066	1,020,934	1,034,934	88.3%	1.0%	8.6%	87,371	88,569	8.6%	8.6%
6/30/97-98	11,552,000	11,605,000	10,112,088	1,439,912	1,492,912	87.3%	1.0%	7.9%	113,693	117,877	7.9%	7.9%
6/30/98-99	10,959,000	11,007,000	9,431,959	1,527,041	1,575,041	85.9%	1.0%	7.1%	108,131	111,529	7.1%	7.1%
6/30/99-00	11,556,877	12,075,000	10,220,201	1,336,676	1,854,799	86.5%	1.0%	7.4%	98,977	137,342	7.4%	7.4%
6/30/00-01	15,387,632	16,042,000	13,444,894	1,942,738	2,597,106	85.6%	1.0%	6.9%	134,497	179,799	6.9%	6.9%
6/30/01-02	13,049,000	13,126,000	10,814,489	2,234,511	2,311,511	82.6%	1.0%	5.8%	128,658	133,092	5.8%	5.8%
6/30/02-03	12,717,045	13,433,000	10,943,129	1,773,916	2,489,871	83.7%	1.0%	6.1%	108,795	152,705	6.1%	6.1%
6/30/03-04	11,631,954	12,277,000	9,893,537	1,738,418	2,383,463	82.8%	1.0%	5.8%	100,837	138,253	5.8%	5.8%
6/30/04-05	12,704,000	13,597,000	10,792,367	1,911,633	2,804,633	82.1%	1.0%	5.6%	106,605	156,405	5.6%	5.6%
6/30/05-06	9,970,000	10,124,000	7,916,054	2,053,946	2,207,946	78.8%	1.0%	4.7%	96,840	104,100	4.7%	4.7%
6/30/06-07	8,454,000	8,576,000	6,373,069	2,080,931	2,202,931	74.8%	3.9%	15.7%	326,351	345,485	15.7%	15.7%
6/30/07-08	8,642,000	9,134,000	6,163,435	2,478,565	2,970,565	69.3%	5.5%	17.9%	444,672	532,941	17.9%	17.9%
6/30/08-09	7,728,000	8,708,000	5,250,017	2,477,983	3,457,983	63.9%	5.5%	15.1%	374,707	522,898	15.1%	15.1%
6/30/09-10	5,556,000	6,997,000	3,157,565	2,398,435	3,839,435	50.3%	5.0%	10.1%	241,329	386,321	10.1%	10.1%
6/30/10-11	7,281,000	8,773,950	4,174,829	3,106,171	4,599,121	52.0%	5.0%	10.4%	323,605	479,143	10.4%	10.4%
6/30/11-12	6,107,000	8,305,550	2,539,995	3,567,005	5,765,555	35.2%	10.0%	15.4%	550,863	890,392	15.4%	15.4%
6/30/12-13	7,060,000	9,914,250	2,093,806	4,966,194	7,820,444	24.7%	15.0%	19.9%	988,893	1,557,245	19.9%	19.9%
6/30/13-14	8,754,000	12,507,650	1,123,358	7,630,642	11,384,292	10.6%	24.7%	27.6%	2,105,757	3,141,617	27.6%	27.6%
Total	280,480,732	302,669,093	228,226,351	52,254,381	74,442,742				7,340,605	10,529,041	14.0%	14.1%

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, 2014

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		722,175			1,367,370	2,158,029	645,195	1,435,854		
6/30/82-83		164,749	168,406		164,749	171,774	0	7,025		
6/30/83-84		730,414	747,373		730,414	762,321	0	31,907		
6/30/84-85	115,258	470,326	482,209	476,887	477,000	482,000	6,674	11,674	0.414	0.418
6/30/85-86	123,937	563,332	579,875	576,768	577,000	580,000	13,668	16,668	0.466	0.468
6/30/86-87	142,396	647,687	669,374	670,200	669,000	670,000	21,313	22,313	0.470	0.471
6/30/87-88	166,792	1,145,900	1,189,006	1,192,400	1,189,000	1,192,000	43,100	46,100	0.713	0.715
6/30/88-89	180,117	1,260,610	1,313,263	1,311,016	1,311,000	1,313,000	50,390	52,390	0.728	0.729
6/30/89-90	180,883	1,861,177	1,946,670	1,945,780	1,946,000	1,947,000	84,823	85,823	1.076	1.076
6/30/90-91	169,902	2,467,892	2,591,579	2,590,824	2,591,000	2,592,000	123,108	124,108	1.525	1.526
6/30/91-92	165,926	1,977,667	2,087,169	2,086,024	2,086,000	2,087,000	108,333	109,333	1.257	1.258
6/30/92-93	174,198	1,358,187	1,447,723	1,446,985	1,447,000	1,448,000	88,813	89,813	0.831	0.831
6/30/93-94	185,946	1,496,298	1,626,837	1,625,264	1,625,000	1,627,000	128,702	130,702	0.874	0.875
6/30/94-95	194,051	1,329,061	1,481,841	1,480,393	1,480,000	1,482,000	150,939	152,939	0.763	0.764
6/30/95-96	205,262	1,469,259	1,660,007	1,657,474	1,657,000	1,660,000	187,741	190,741	0.807	0.809
6/30/96-97	234,073	1,766,104	2,018,914	2,014,418	2,014,000	2,019,000	247,896	252,896	0.860	0.863
6/30/97-98	221,865	2,022,922	2,324,876	2,315,647	2,316,000	2,325,000	293,078	302,078	1.044	1.048
6/30/98-99	256,071	1,854,418	2,155,570	2,149,420	2,149,000	2,156,000	294,582	301,582	0.839	0.842
6/30/99-00	268,486	2,049,264	2,417,788	2,407,701	2,408,000	2,418,000	358,736	368,736	0.897	0.901
6/30/00-01	279,182	2,906,989	3,481,037	3,454,598	3,455,000	3,481,000	548,011	574,011	1.238	1.247
6/30/01-02	283,070	1,871,731	2,280,635	2,274,311	2,274,000	2,281,000	402,269	409,269	0.803	0.806
6/30/02-03	289,846	2,218,226	2,743,687	2,730,125	2,594,000	2,744,000	375,774	525,774	0.895	0.947
6/30/03-04	293,771	2,012,411	2,548,146	2,539,270	2,412,000	2,548,000	399,589	535,589	0.821	0.867
6/30/04-05	291,382	2,554,231	3,283,866	3,030,038	3,030,000	3,284,000	475,769	729,769	1.040	1.127
6/30/05-06	294,709	2,092,454	2,742,994	2,610,489	2,610,000	2,743,000	517,546	650,546	0.886	0.931
6/30/06-07	289,603	1,601,192	2,131,154	2,137,624	2,131,000	2,138,000	529,808	536,808	0.736	0.738
6/30/07-08	354,668	1,498,179	2,063,472	2,225,532	2,063,000	2,226,000	564,821	727,821	0.582	0.628
6/30/08-09	332,413	1,446,964	2,075,851	2,208,653	1,972,000	2,209,000	525,036	762,036	0.593	0.665
6/30/09-10	336,338	852,862	1,292,403	1,745,420	1,357,000	1,745,000	504,138	892,138	0.403	0.519
6/30/10-11	333,783	1,031,286	1,697,774	2,058,835	1,613,000	2,161,950	581,714	1,130,664	0.483	0.648
6/30/11-12	348,187	723,823	1,344,438	1,990,558	1,412,000	2,090,550	688,177	1,366,727	0.406	0.600
6/30/12-13	368,022	659,431	1,589,246	2,364,871	1,669,000	2,483,250	1,009,569	1,823,819	0.454	0.675
6/30/13-14	390,528	290,720	1,785,349	2,893,192	1,875,000	3,037,650	1,584,280	2,746,930	0.480	0.778
Total	7,470,666	47,117,943	57,968,531	60,210,718	58,671,533	64,262,523	11,553,589	17,144,580		
Tot 6/30/84-14	7,470,666	45,500,605	57,052,752	60,210,718	56,409,000	61,170,400	10,908,395	15,669,795	0.755	0.819

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, 2014

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 7/1/12-13	Paid Counts 7/1/13-14	Average Outstanding Claim
All Prior Yrs		722,175							2	1	
6/30/82-83		164,749	1.022	1.000	168,406	N/A	168,406		0	0	
6/30/83-84		730,414	1.023	1.000	747,373	N/A	747,373		0	0	
6/30/84-85	115,258	470,326	1.025	1.000	482,209	N/A	482,209	0.418	1	1	11,883
6/30/85-86	123,937	563,332	1.029	1.000	579,875	N/A	579,875	0.468	1	1	16,543
6/30/86-87	142,396	647,687	1.033	1.000	669,374	N/A	669,374	0.470	1	1	21,687
6/30/87-88	166,792	1,145,900	1.038	1.000	1,189,006	N/A	1,189,006	0.713	1	1	43,106
6/30/88-89	180,117	1,260,610	1.042	1.000	1,313,263	N/A	1,313,263	0.729	3	2	26,326
6/30/89-90	180,883	1,861,177	1.046	1.000	1,946,670	N/A	1,946,670	1.076	2	3	28,498
6/30/90-91	169,902	2,467,892	1.050	1.000	2,591,579	N/A	2,591,579	1.525	8	7	17,670
6/30/91-92	165,926	1,977,667	1.055	1.000	2,087,169	N/A	2,087,169	1.258	5	6	18,250
6/30/92-93	174,198	1,358,187	1.066	1.000	1,447,723	N/A	1,447,723	0.831	3	1	89,536
6/30/93-94	185,946	1,496,298	1.087	1.000	1,626,837	N/A	1,626,837	0.875	5	4	32,635
6/30/94-95	194,051	1,329,061	1.115	1.000	1,481,841	N/A	1,481,841	0.764	3	3	50,927
6/30/95-96	205,262	1,469,259	1.130	1.000	1,660,007	N/A	1,660,007	0.809	2	3	63,583
6/30/96-97	234,073	1,766,104	1.143	1.000	2,018,914	N/A	2,018,914	0.863	6	3	84,270
6/30/97-98	221,865	2,022,922	1.149	1.000	2,324,876	N/A	2,324,876	1.048	4	4	75,488
6/30/98-99	256,071	1,854,418	1.162	1.000	2,155,570	N/A	2,155,570	0.842	8	7	43,022
6/30/99-00	268,486	2,049,264	1.180	1.000	2,417,788	N/A	2,417,788	0.901	8	6	61,421
6/30/00-01	279,182	2,906,989	1.197	1.000	3,481,037	N/A	3,481,037	1.247	7	5	114,810
6/30/01-02	283,070	1,871,731	1.218	1.000	2,280,635	N/A	2,280,635	0.806	10	6	68,151
6/30/02-03	289,846	2,218,226	1.237	1.000	2,743,687	N/A	2,743,687	0.947	5	5	105,092
6/30/03-04	293,771	2,012,411	1.266	1.000	2,548,146	N/A	2,548,146	0.867	9	6	89,289
6/30/04-05	291,382	2,554,231	1.286	1.000	3,283,866	N/A	3,283,866	1.127	14	7	104,234
6/30/05-06	294,709	2,092,454	1.311	1.000	2,742,994	N/A	2,742,994	0.931	13	7	92,934
6/30/06-07	289,603	1,601,192	1.331	1.000	2,131,154	N/A	2,131,154	0.736	16	9	58,885
6/30/07-08	354,668	1,498,179	1.377	1.000	2,063,472	N/A	2,063,472	0.582	16	5	113,059
6/30/08-09	332,413	1,446,964	1.435	1.000	2,075,851	N/A	2,075,851	0.624	17	12	52,407
6/30/09-10	336,338	852,862	1.515	1.000	1,292,403	N/A	1,292,403	0.384	16	13	33,811
6/30/10-11	333,783	1,031,286	1.646	1.000	1,697,774	N/A	1,697,774	0.509	48	25	26,660
6/30/11-12	348,187	723,823	1.857	1.000	1,344,438	N/A	1,344,438	0.386	127	29	21,401
6/30/12-13	368,022	659,431	2.410	1.000	1,589,246	N/A	1,589,246	0.432	206	156	5,960
6/30/13-14	390,528	290,720	6.141	1.000	1,785,349	N/A	1,785,349	0.457		204	7,327
Total	7,470,666	47,117,943			57,968,531		57,968,531		567	543	

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, 2014

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	470,326	1.025	476,887	N/A	476,887	0.414	0.414
6/30/85-86	123,937	0.380	563,332	1.029	576,768	N/A	576,768	0.465	0.465
6/30/86-87	142,396	0.488	647,687	1.033	670,200	N/A	670,200	0.471	0.471
6/30/87-88	166,792	0.769	1,145,900	1.038	1,192,400	N/A	1,192,400	0.715	0.715
6/30/88-89	180,117	0.698	1,260,610	1.042	1,311,016	N/A	1,311,016	0.728	0.728
6/30/89-90	180,883	1.065	1,861,177	1.046	1,945,780	N/A	1,945,780	1.076	1.076
6/30/90-91	169,902	1.516	2,467,892	1.050	2,590,824	N/A	2,590,824	1.525	1.525
6/30/91-92	165,926	1.245	1,977,667	1.055	2,086,024	N/A	2,086,024	1.257	1.257
6/30/92-93	174,198	0.824	1,358,187	1.066	1,446,985	N/A	1,446,985	0.831	0.831
6/30/93-94	185,946	0.864	1,496,298	1.087	1,625,264	N/A	1,625,264	0.874	0.874
6/30/94-95	194,051	0.756	1,329,061	1.115	1,480,393	N/A	1,480,393	0.763	0.763
6/30/95-96	205,262	0.798	1,469,259	1.130	1,657,474	N/A	1,657,474	0.807	0.807
6/30/96-97	234,073	0.847	1,766,104	1.143	2,014,418	N/A	2,014,418	0.861	0.861
6/30/97-98	221,865	1.016	2,022,922	1.149	2,315,647	N/A	2,315,647	1.044	1.044
6/30/98-99	256,071	0.825	1,854,418	1.162	2,149,420	N/A	2,149,420	0.839	0.839
6/30/99-00	268,486	0.876	2,049,264	1.180	2,407,701	N/A	2,407,701	0.897	0.897
6/30/00-01	279,182	1.189	2,906,989	1.197	3,454,598	N/A	3,454,598	1.237	1.237
6/30/01-02	283,070	0.793	1,871,731	1.218	2,274,311	N/A	2,274,311	0.803	0.803
6/30/02-03	289,846	0.922	2,218,226	1.237	2,730,125	N/A	2,730,125	0.942	0.942
6/30/03-04	293,771	0.853	2,012,411	1.266	2,539,270	N/A	2,539,270	0.864	0.864
6/30/04-05	291,382	0.735	2,554,231	1.286	3,030,038	N/A	3,030,038	1.040	1.040
6/30/05-06	294,709	0.741	2,092,454	1.311	2,610,489	N/A	2,610,489	0.886	0.886
6/30/06-07	289,603	0.745	1,601,192	1.331	2,137,624	N/A	2,137,624	0.738	0.738
6/30/07-08	354,668	0.749	1,498,179	1.377	2,225,532	N/A	2,225,532	0.627	0.627
6/30/08-09	332,413	0.756	1,446,964	1.435	2,208,653	N/A	2,208,653	0.664	0.664
6/30/09-10	336,338	0.780	852,862	1.515	1,745,420	N/A	1,745,420	0.519	0.519
6/30/10-11	333,783	0.784	1,031,286	1.646	2,058,835	N/A	2,058,835	0.617	0.617
6/30/11-12	348,187	0.788	723,823	1.857	1,990,558	N/A	1,990,558	0.572	0.572
6/30/12-13	368,022	0.792	659,431	2.410	2,364,871	N/A	2,364,871	0.643	0.643
6/30/13-14	390,528	0.796	290,720	6.141	2,893,192	N/A	2,893,192	0.741	0.741
Total	7,470,666		45,500,605		60,210,718		60,210,718		

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, 2014

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	2,591,579	1.525	1.194	1.821	1.127	2.053	0.594	1.525	1.516
6/30/91-92	165,926	2,087,169	1.258	1.189	1.495	1.122	1.677	0.600	1.238	1.245
6/30/92-93	174,198	1,447,723	0.831	1.189	0.988	1.116	1.103	0.603	0.811	0.824
6/30/93-94	185,946	1,626,837	0.875	1.178	1.031	1.110	1.145	0.611	0.859	0.864
6/30/94-95	194,051	1,481,841	0.764	1.170	0.893	1.105	0.987	0.619	0.751	0.756
6/30/95-96	205,262	1,660,007	0.809	1.155	0.934	1.099	1.027	0.630	0.792	0.798
6/30/96-97	234,073	2,018,914	0.863	1.137	0.980	1.094	1.072	0.643	0.835	0.847
6/30/97-98	221,865	2,324,876	1.048	1.135	1.189	1.088	1.295	0.648	0.975	1.016
6/30/98-99	256,071	2,155,570	0.842	1.135	0.955	1.083	1.035	0.651	0.813	0.825
6/30/99-00	268,486	2,417,788	0.901	1.135	1.022	1.078	1.101	0.654	0.863	0.876
6/30/00-01	279,182	3,481,037	1.247	1.109	1.383	1.072	1.483	0.673	1.180	1.189
6/30/01-02	283,070	2,280,635	0.806	1.101	0.887	1.067	0.946	0.681	0.790	0.793
6/30/02-03	289,846	2,743,687	0.947	1.073	1.016	1.062	1.078	0.702	0.928	0.922
6/30/03-04	293,771	2,548,146	0.867	1.046	0.908	1.056	0.959	0.724	0.850	0.853
6/30/04-05	291,382	3,283,866	1.127	1.036	1.167	1.051	1.227	0.735	0.750	0.735
6/30/05-06	294,709	2,742,994	0.931	1.032	0.961	1.046	1.005	0.741	0.761	0.741
6/30/06-07	289,603	2,131,154	0.736	1.032	0.759	1.041	0.790	0.745	0.768	0.745
6/30/07-08	354,668	2,063,472	0.582	1.032	0.600	1.036	0.622	0.749	0.776	0.749
6/30/08-09	332,413	2,075,851	0.624	1.027	0.641	1.030	0.661	0.756	0.788	0.756
6/30/09-10	336,338	1,292,403	0.384	1.000	0.384	1.025	0.394	0.780	0.817	0.780
6/30/10-11	333,783	1,697,774	0.509	1.000	0.509	1.020	0.519	0.784	0.825	0.784
6/30/11-12	348,187	1,344,438	0.386	1.000	0.386	1.015	0.392	0.788	0.833	0.788
6/30/12-13	368,022	1,589,246	0.432	1.000	0.432	1.010	0.436	0.792	0.842	0.792
6/30/13-14	390,528	1,785,349	0.457	1.000	0.457	1.005	0.459	0.796		0.796
Total	6,561,282	50,872,356								

Trend Last 4 (ex 13-14):	0.7%	Avg 3 (x13-14):	0.449
Trend Last 8 (ex 13-14):	-11.2%	Avg 5 (x13-14):	0.480
Trend Last 12 (ex 13-14):	-9.2%	Avg 10 (x13-14):	0.700
Prior Selected Trend:	1.0%	Prior Sel Avg:	0.850
Selected Trend:	0.50%	Sel. Loss Cost:	0.800

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, 2013
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

Department of Corrections - Cluster 3
Medical

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend		0.950	
(2)	Credibility		40%	
(3)	Average Pmt Trend Statewide		0.950	
(4)	Credibility Weighted Trend		0.950	
		(Low)		(High)
(5)	Selected Range	0.941		0.955
(6)	Incremental Paid for 2014	68,052		68,052
(7)	Estimated Reserve	1,075,675		1,435,854
(8)	Paid to Date (82 & Prior)	722,175		722,175
(9)	Est Ult Paid for 1982 & Prior	1,797,850		2,158,029

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	71,571	79,352
(11)	Projected Number of Years	3	3
(12)	Estimated Reserve	214,714	238,055
(13)	Paid to Date (82 & Prior)	722,175	654,124
(14)	Est Ult Paid for 1982 & Prior	936,890	892,178
(14a)	Paid Counts During Fiscal Year	1	2
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	1,367,370	2,158,029
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	**1,367,370**	**2,158,029**
(18)	Implied Tail	1.893	2.988
(19)	Ult Loss Inc Lump Sums @ 6/13	1,341,032	2,356,422

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, 2013

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 =	23
2001	10	18,860	9.845	1.348	S(x) =	46,069
2002	11	1,907	7.553	0.101	S(x-sq) =	92,277,219
2003	12	725	6.586	0.380	S(xy) =	423,804
2004	13	1,808	7.500	2.494	S(y) =	212
2005	14	2,687	7.896	1.486	D =	23,276
2006	15	3,792	8.241	1.411	slope =	0.132
2007	16	10,343	9.244	2.728	Avg Trend =	1.132
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		
2014	23	68,052	11.128	0.947		
					Selected Trend:	**0.950**

NOTES:

(3) 2014 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2013

(4) LN [(3)]

(5) Eg. 2014: 0.947 = 68052 / 71853

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	384
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	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	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	470,326		
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	563,332			
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	647,687				
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	1,145,900					
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	1,260,610						
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	1,861,177								
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	2,467,892								
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	1,977,667										
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	1,358,187										
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	1,496,298											
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	1,329,061												
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	1,469,259													
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	1,766,104														
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	2,022,922															
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	1,854,418																
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	2,049,264																	
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	2,906,989																		
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	1,871,731																			
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	2,218,226																				
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	2,012,411																					
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	2,554,231																						
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	2,092,454																							
June-07	537,825	1,000,141	1,218,822	1,380,770	1,450,003	1,505,529	1,543,801	1,601,192																								
June-08	539,208	1,080,479	1,291,808	1,419,250	1,474,245	1,483,165	1,498,179																									
June-09	508,581	995,354	1,230,224	1,338,898	1,369,306	1,446,964																										
June-10	391,950	706,776	789,348	818,015	852,862																											
June-11	496,567	863,714	960,779	1,031,286																												
June-12	293,489	638,905	723,823																													
June-13	286,539	659,431																														
June-14	290,720																															

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
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	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	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	1.041			
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	1.001				
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	1.000					
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	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	1.011							
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	1.002								
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	1.006									
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	1.017										
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	1.023											
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	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	1.003													
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	1.003														
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	1.004															
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	1.033																
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	1.009																	
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	1.010																		
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	1.007																			
June-02	2.164	1.247	1.224	1.117	1.043	1.023	1.019	1.025	1.010	1.011	1.009	1.002																				
June-03	3.463	1.671	1.144	1.073	1.044	1.029	1.028	1.021	1.017	1.014	1.002																					
June-04	7.678	1.373	1.082	1.038	1.047	1.036	1.005	1.007	1.005	1.007																						
June-05	2.924	1.226	1.132	1.071	1.047	1.041	1.030	1.020	1.016																							
June-06	2.620	1.308	1.105	1.069	1.050	1.054	1.019	1.004																								
June-07	1.860	1.219	1.133	1.050	1.038	1.025	1.037																									
June-08	2.004	1.196	1.099	1.039	1.006	1.010																										
June-09	1.957	1.236	1.088	1.023	1.057																											
June-10	1.803	1.117	1.036	1.043																												
June-11	1.739	1.112	1.073																													
June-12	2.177	1.133																														
June-13	2.301																															

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	2.548	1.298	1.154	1.107	1.073	1.055	1.048	1.046	1.033	1.028	1.026	1.016	1.018	1.015	1.015	1.015	1.011	1.012	1.015	1.018	1.023	1.013	1.016	1.014	1.016	1.009	1.010	1.010	1.014	1.000	1.000	
Latest 5	1.996	1.159	1.086	1.045	1.040	1.034	1.024	1.015	1.020	1.015	1.019	1.018	1.020	1.017	1.015	1.011	1.005	1.006	1.016	1.024	1.028	1.008	1.004	1.005	1.017	1.011	1.010					
Latest 3	2.073	1.121	1.066	1.035	1.034	1.030	1.029	1.010	1.013	1.011	1.014	1.010	1.012	1.018	1.020	1.016	1.005	1.004	1.005	1.030	1.044	1.010	1.005	1.006	1.006	1.001	1.017	1.014	1.014			
Volume Wtd																																
All Yrs	2.370	1.268	1.128	1.086	1.056	1.042	1.035	1.027	1.026	1.022	1.024	1.015	1.017	1.015	1.016	1.014	1.009	1.012	1.013	1.020	1.025	1.010	1.006	1.007	1.010	1.006	1.009	1.009	1.014	1.000	1.000	
Latest 5	1.954	1.166	1.091	1.046	1.040	1.035	1.024	1.015	1.021	1.016	1.019	1.017	1.018	1.017	1.016	1.013	1.005	1.006	1.017	1.025	1.030	1.009	1.004	1.005	1.011	1.006	1.009					
Latest 3	2.008	1.120	1.070	1.034	1.033	1.032	1.028	1.011	1.013	1.011	1.015	1.010	1.011	1.018	1.020	1.017	1.005	1.004	1.005	1.033	1.045	1.010	1.005	1.006	1.006	1.000	1.014	1.010	1.014			

Dev Factor Selection																																
Industry 1	1.954	1.133	1.050	1.027	1.015	1.012	1.011																									
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	*2.556*	*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*	
Selected	2.548	1.298	1.128	1.086	1.056	1.042	1.035	1.015	1.020	1.015	1.024	1.015	1.018	1.015	1.015	1.011	1.005	1.012	1.013	1.025	1.020	1.010	1.005	1.004	1.004	1.004	1.004	1.004	1.004	1.002	1.001	1.022
FacToUlt	6.141	2.410	1.857	1.646	1.515	1.435	1.377	1.331	1.311	1.286	1.266	1.237	1.218	1.197	1.180	1.162	1.149	1.143	1.130	1.115	1.087	1.066	1.055	1.050	1.046	1.042	1.038	1.033	1.029	1.025	1.023	1.022
Percent of Ult	16.3%	41.5%	53.8%	60.7%	66.0%	69.7%	72.6%	75.1%	76.3%	77.8%	79.0%	80.8%	82.1%	83.5%	84.8%	86.0%	87.0%	87.5%	88.5%	89.7%	92.0%	93.8%	94.8%	95.2%	95.6%	96.0%	96.4%	96.8%	97.1%	97.5%	97.7%	97.8%

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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 6/13		As of 6/14		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	1,341,032	2,356,422	1,367,370	2,158,029	26,337	2.0%	(198,394)	-8.4%
6/30/82-83	164,749	172,737	164,749	171,774	0	0.0%	(963)	-0.6%
6/30/83-84	730,414	768,893	730,414	762,321	0	0.0%	(6,572)	-0.9%
6/30/84-85	461,000	468,000	477,000	482,000	16,000	3.5%	14,000	3.0%
6/30/85-86	581,000	586,000	577,000	580,000	(4,000)	-0.7%	(6,000)	-1.0%
6/30/86-87	676,000	677,000	669,000	670,000	(7,000)	-1.0%	(7,000)	-1.0%
6/30/87-88	1,202,000	1,205,000	1,189,000	1,192,000	(13,000)	-1.1%	(13,000)	-1.1%
6/30/88-89	1,309,000	1,312,000	1,311,000	1,313,000	2,000	0.2%	1,000	0.1%
6/30/89-90	1,962,000	1,964,000	1,946,000	1,947,000	(16,000)	-0.8%	(17,000)	-0.9%
6/30/90-91	2,606,000	2,607,000	2,591,000	2,592,000	(15,000)	-0.6%	(15,000)	-0.6%
6/30/91-92	2,076,000	2,077,000	2,086,000	2,087,000	10,000	0.5%	10,000	0.5%
6/30/92-93	1,424,000	1,425,000	1,447,000	1,448,000	23,000	1.6%	23,000	1.6%
6/30/93-94	1,616,000	1,618,000	1,625,000	1,627,000	9,000	0.6%	9,000	0.6%
6/30/94-95	1,471,000	1,473,000	1,480,000	1,482,000	9,000	0.6%	9,000	0.6%
6/30/95-96	1,647,000	1,649,000	1,657,000	1,660,000	10,000	0.6%	11,000	0.7%
6/30/96-97	1,987,000	1,992,000	2,014,000	2,019,000	27,000	1.4%	27,000	1.4%
6/30/97-98	2,221,000	2,229,000	2,316,000	2,325,000	95,000	4.3%	96,000	4.3%
6/30/98-99	2,118,000	2,124,000	2,149,000	2,156,000	31,000	1.5%	32,000	1.5%
6/30/99-00	2,370,000	2,380,000	2,408,000	2,418,000	38,000	1.6%	38,000	1.6%
6/30/00-01	3,426,000	3,452,000	3,455,000	3,481,000	29,000	0.8%	29,000	0.8%
6/30/01-02	2,264,000	2,269,000	2,274,000	2,281,000	10,000	0.4%	12,000	0.5%
6/30/02-03	2,608,000	2,759,000	2,594,000	2,744,000	(14,000)	-0.5%	(15,000)	-0.5%
6/30/03-04	2,399,000	2,533,000	2,412,000	2,548,000	13,000	0.5%	15,000	0.6%
6/30/04-05	3,013,000	3,257,000	3,030,000	3,284,000	17,000	0.6%	27,000	0.8%
6/30/05-06	2,629,000	2,754,000	2,610,000	2,743,000	(19,000)	-0.7%	(11,000)	-0.4%
6/30/06-07	2,111,000	2,141,000	2,131,000	2,138,000	20,000	0.9%	(3,000)	-0.1%
6/30/07-08	2,115,000	2,305,000	2,063,000	2,226,000	(52,000)	-2.5%	(79,000)	-3.4%
6/30/08-09	1,959,000	2,250,000	1,972,000	2,209,000	13,000	0.7%	(41,000)	-1.8%
6/30/09-10	1,407,000	1,888,000	1,357,000	1,745,000	(50,000)	-3.6%	(143,000)	-7.6%
6/30/10-11	1,690,000	2,338,350	1,613,000	2,161,950	(77,000)	-4.6%	(176,400)	-7.5%
6/30/11-12	1,619,000	2,454,900	1,412,000	2,090,550	(207,000)	-12.8%	(364,350)	-14.8%
6/30/12-13	1,856,000	3,026,100	1,669,000	2,483,250	(187,000)	-10.1%	(542,850)	-17.9%
6/30/13-14								
Total	57,059,195	62,511,402	56,796,533	61,224,873	(262,663)	-0.5%	(1,286,529)	-2.1%

NOTES:

(2), (3) From Aon analysis as of June 30, 2013

(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%
396	100.0%	2.2%	0.0%	0.6%	0.3%	1.000	1.000
384	97.8%	0.1%	2.2%	0.0%	0.0%	0.981	0.971
372	97.7%	0.2%	2.3%	0.1%	0.0%	0.944	0.919
360	97.5%	0.4%	2.5%	0.1%	0.1%	0.914	0.875
348	97.1%	0.4%	2.9%	0.1%	0.1%	0.893	0.845
336	96.8%	0.4%	3.2%	0.1%	0.1%	0.873	0.818
324	96.4%	0.4%	3.6%	0.1%	0.1%	0.854	0.793
312	96.0%	0.4%	4.0%	0.1%	0.1%	0.837	0.770
300	95.6%	0.4%	4.4%	0.1%	0.1%	0.820	0.747
288	95.2%	0.5%	4.8%	0.2%	0.1%	0.804	0.726
276	94.8%	0.9%	5.2%	0.4%	0.3%	0.792	0.711
264	93.8%	1.8%	6.2%	0.8%	0.5%	0.794	0.716
252	92.0%	2.3%	8.0%	1.0%	0.7%	0.814	0.744
240	89.7%	1.2%	10.3%	0.5%	0.4%	0.826	0.761
228	88.5%	1.0%	11.5%	0.5%	0.4%	0.814	0.744
216	87.5%	0.5%	12.5%	0.2%	0.2%	0.799	0.724
204	87.0%	1.0%	13.0%	0.5%	0.4%	0.776	0.694
192	86.0%	1.3%	14.0%	0.7%	0.5%	0.762	0.677
180	84.8%	1.2%	15.2%	0.7%	0.5%	0.754	0.666
168	83.5%	1.4%	16.5%	0.8%	0.7%	0.744	0.654
156	82.1%	1.2%	17.9%	0.7%	0.6%	0.737	0.646
144	80.8%	1.9%	19.2%	1.2%	1.0%	0.726	0.632
132	79.0%	1.2%	21.0%	0.8%	0.6%	0.723	0.630
120	77.8%	1.5%	22.2%	1.0%	0.9%	0.710	0.614
108	76.3%	1.2%	23.7%	0.8%	0.7%	0.702	0.604
96	75.1%	2.5%	24.9%	1.9%	1.6%	0.689	0.589
84	72.6%	2.9%	27.4%	2.2%	2.0%	0.692	0.594
72	69.7%	3.7%	30.3%	3.0%	2.7%	0.695	0.600
60	66.0%	5.2%	34.0%	4.4%	4.0%	0.703	0.610
48	60.7%	6.9%	39.3%	6.0%	5.6%	0.717	0.628
36	53.8%	12.3%	46.2%	11.2%	10.7%	0.733	0.649
24	41.5%	25.2%	58.5%	23.8%	23.1%	0.763	0.688
12	16.3%	16.3%	83.7%	16.0%	15.8%	0.808	0.746
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, 2014

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	645,195	1,435,854		608,761	1,354,772
6/30/82-83	0	7,025	0.981	0	6,888
6/30/83-84	0	31,907	0.944	0	30,135
6/30/84-85	6,674	11,674	0.914	6,099	10,669
6/30/85-86	13,668	16,668	0.893	12,200	14,878
6/30/86-87	21,313	22,313	0.873	18,604	19,477
6/30/87-88	43,100	46,100	0.854	36,822	39,385
6/30/88-89	50,390	52,390	0.837	42,163	43,836
6/30/89-90	84,823	85,823	0.820	69,543	70,363
6/30/90-91	123,108	124,108	0.804	98,939	99,743
6/30/91-92	108,333	109,333	0.792	85,749	86,541
6/30/92-93	88,813	89,813	0.794	70,552	71,346
6/30/93-94	128,702	130,702	0.814	104,702	106,329
6/30/94-95	150,939	152,939	0.826	124,707	126,360
6/30/95-96	187,741	190,741	0.814	152,739	155,179
6/30/96-97	247,896	252,896	0.799	197,970	201,963
6/30/97-98	293,078	302,078	0.776	227,286	234,266
6/30/98-99	294,582	301,582	0.762	224,534	229,870
6/30/99-00	358,736	368,736	0.754	270,328	277,864
6/30/00-01	548,011	574,011	0.744	407,697	427,039
6/30/01-02	402,269	409,269	0.737	296,321	301,477
6/30/02-03	375,774	525,774	0.726	272,688	381,539
6/30/03-04	399,589	535,589	0.723	288,885	387,207
6/30/04-05	475,769	729,769	0.710	338,029	518,494
6/30/05-06	517,546	650,546	0.702	363,289	456,648
6/30/06-07	529,808	536,808	0.689	365,087	369,911
6/30/07-08	564,821	727,821	0.692	390,818	503,603
6/30/08-09	525,036	762,036	0.695	365,161	529,995
6/30/09-10	504,138	892,138	0.703	354,310	626,998
6/30/10-11	581,714	1,130,664	0.717	416,806	810,136
6/30/11-12	688,177	1,366,727	0.733	504,144	1,001,235
6/30/12-13	1,009,569	1,823,819	0.763	769,974	1,390,983
6/30/13-14	1,584,280	2,746,930	0.808	1,279,771	2,218,953
Total	11,553,589	17,144,580		8,764,679	13,104,081
			(7) Total Discount Factor:	0.759	0.764

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	645,195	1,435,854
(9) Projected Number of Years:	3	3
(10) Projected Paid Loss per Year:	215,065	478,618
(11) Discounted Value at 4%:	608,761	1,354,772

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)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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	645,195	1,435,854		592,117	1,317,732
6/30/82-83	0	7,025	0.971	0	6,823
6/30/83-84	0	31,907	0.919	0	29,312
6/30/84-85	6,674	11,674	0.875	5,839	10,214
6/30/85-86	13,668	16,668	0.845	11,553	14,089
6/30/86-87	21,313	22,313	0.818	17,439	18,257
6/30/87-88	43,100	46,100	0.793	34,183	36,562
6/30/88-89	50,390	52,390	0.770	38,779	40,318
6/30/89-90	84,823	85,823	0.747	63,394	64,141
6/30/90-91	123,108	124,108	0.726	89,415	90,142
6/30/91-92	108,333	109,333	0.711	77,029	77,740
6/30/92-93	88,813	89,813	0.716	63,623	64,339
6/30/93-94	128,702	130,702	0.744	95,698	97,185
6/30/94-95	150,939	152,939	0.761	114,909	116,431
6/30/95-96	187,741	190,741	0.744	139,718	141,951
6/30/96-97	247,896	252,896	0.724	179,540	183,161
6/30/97-98	293,078	302,078	0.694	203,275	209,518
6/30/98-99	294,582	301,582	0.677	199,322	204,059
6/30/99-00	358,736	368,736	0.666	238,954	245,615
6/30/00-01	548,011	574,011	0.654	358,595	375,608
6/30/01-02	402,269	409,269	0.646	259,753	264,273
6/30/02-03	375,774	525,774	0.632	237,594	332,436
6/30/03-04	399,589	535,589	0.630	251,692	337,356
6/30/04-05	475,769	729,769	0.614	292,356	448,437
6/30/05-06	517,546	650,546	0.604	312,823	393,213
6/30/06-07	529,808	536,808	0.589	311,943	316,065
6/30/07-08	564,821	727,821	0.594	335,407	432,201
6/30/08-09	525,036	762,036	0.600	314,794	456,891
6/30/09-10	504,138	892,138	0.610	307,489	544,142
6/30/10-11	581,714	1,130,664	0.628	365,502	710,418
6/30/11-12	688,177	1,366,727	0.649	446,887	887,521
6/30/12-13	1,009,569	1,823,819	0.688	694,885	1,255,332
6/30/13-14	1,584,280	2,746,930	0.746	1,182,328	2,049,998
Total	11,553,589	17,144,580		7,836,836	11,771,481
			(7) Total Discount Factor:	0.678	0.687

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	645,195	1,435,854
(9) Projected Number of Years:	3	3
(10) Projected Paid Loss per Year:	215,065	478,618
(11) Discounted Value at 6%:	592,117	1,317,732

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, 2014

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		2,166,893			2,576,849	2,702,546	409,957	535,654		
6/30/82-83		134,406	136,659		138,000	140,000	3,594	5,594		
6/30/83-84		188,031	190,722		192,000	196,000	3,969	7,969		
6/30/84-85	176,924	1,890,661	2,297,135	1,916,443	1,916,000	2,297,000	25,339	406,339	1.083	1.298
6/30/85-86	188,662	1,624,227	2,223,103	1,643,695	1,644,000	1,933,399	19,773	309,172	0.871	1.025
6/30/86-87	212,277	2,352,601	3,239,591	2,381,575	2,382,000	3,240,000	29,399	887,399	1.122	1.526
6/30/87-88	243,118	2,131,990	2,166,241	2,164,092	2,164,000	2,166,000	32,010	34,010	0.890	0.891
6/30/88-89	248,990	1,869,535	1,899,730	1,898,882	1,899,000	1,900,000	29,465	30,465	0.763	0.763
6/30/89-90	250,404	522,038	529,940	533,637	530,000	534,000	7,962	11,962	0.212	0.213
6/30/90-91	235,170	2,307,384	2,353,233	2,352,840	2,353,000	2,353,000	45,616	45,616	1.001	1.001
6/30/91-92	235,607	2,432,675	2,728,060	2,508,330	2,508,000	2,728,000	75,325	295,325	1.064	1.158
6/30/92-93	241,161	450,365	466,595	466,514	455,000	473,000	4,635	22,635	0.189	0.196
6/30/93-94	254,321	710,933	882,029	764,527	719,000	747,000	8,067	36,067	0.283	0.294
6/30/94-95	256,665	761,806	824,986	823,178	770,000	800,000	8,194	38,194	0.300	0.312
6/30/95-96	265,739	591,722	650,054	648,617	598,000	622,000	6,278	30,278	0.225	0.234
6/30/96-97	296,336	512,528	580,930	579,357	518,000	539,000	5,473	26,473	0.175	0.182
6/30/97-98	296,982	463,804	518,136	518,176	469,000	487,000	5,196	23,196	0.158	0.164
6/30/98-99	299,530	670,669	763,810	761,248	761,000	764,000	90,331	93,331	0.254	0.255
6/30/99-00	323,627	1,216,150	1,447,008	1,432,105	1,432,000	1,447,000	215,850	230,850	0.442	0.447
6/30/00-01	338,348	1,338,374	1,632,471	1,613,097	1,613,000	1,632,000	274,626	293,626	0.477	0.482
6/30/01-02	329,555	775,125	943,114	937,679	938,000	943,000	162,875	167,875	0.285	0.286
6/30/02-03	329,179	889,621	1,086,547	1,079,476	1,079,000	1,087,000	189,379	197,379	0.328	0.330
6/30/03-04	344,547	268,295	342,207	348,899	342,000	349,000	73,705	80,705	0.099	0.101
6/30/04-05	325,530	624,705	801,097	777,741	778,000	801,000	153,295	176,295	0.239	0.246
6/30/05-06	403,750	353,027	467,390	552,636	467,000	553,000	113,973	199,973	0.116	0.137
6/30/06-07	420,219	442,769	582,266	663,934	582,000	664,000	139,231	221,231	0.138	0.158
6/30/07-08	425,998	398,806	549,559	638,238	550,000	638,000	151,194	239,194	0.129	0.150
6/30/08-09	420,566	844,312	1,201,564	1,138,042	1,138,000	1,202,000	293,688	357,688	0.271	0.286
6/30/09-10	433,206	508,425	776,051	862,799	776,000	863,000	267,575	354,575	0.179	0.199
6/30/10-11	444,673	584,777	1,048,251	1,017,009	1,017,000	1,048,000	432,223	463,223	0.229	0.236
6/30/11-12	467,753	617,988	1,304,442	1,232,773	1,233,000	1,304,000	615,012	686,012	0.264	0.279
6/30/12-13	495,398	453,488	1,399,896	1,301,688	1,302,000	1,400,000	848,512	946,512	0.263	0.283
6/30/13-14	518,391	158,266	1,076,683	1,271,721	1,077,000	1,272,000	918,734	1,113,734	0.208	0.245
Total	9,722,626	31,256,394	37,109,500	34,828,950	36,916,849	39,824,945	5,660,455	8,568,551		
Tot 6/30/84-14	9,722,626	28,767,065	36,782,119	34,828,950	34,010,000	36,786,399	5,242,935	8,019,334	0.350	0.378

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, 2014

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 7/1/12-13	Paid Counts 7/1/13-14	Average Outstanding Claim	Average Age
All Prior Yrs		2,078,853							1	1		79
6/30/82-83		134,406	1.017	1.000	136,659	0	136,659		0	0		
6/30/83-84		160,531	1.017	1.000	163,222	27,500	190,722		0	0		
6/30/84-85	176,924	1,846,661	1.017	1.200	2,253,135	44,000	2,297,135	1.298	1	1	406,474	75
6/30/85-86	188,662	1,414,227	1.017	1.400	2,013,103	210,000	2,223,103	1.178	0	0		
6/30/86-87	212,277	2,094,601	1.017	1.400	2,981,591	258,000	3,239,591	1.526	1	1	886,991	63
6/30/87-88	243,118	2,043,490	1.017	1.000	2,077,741	88,500	2,166,241	0.891	1	1	34,251	64
6/30/88-89	248,990	1,801,535	1.017	1.000	1,831,730	68,000	1,899,730	0.763	1	1	30,195	65
6/30/89-90	250,404	471,448	1.017	1.000	479,350	50,590	529,940	0.212	0	0		
6/30/90-91	235,170	2,098,884	1.022	1.000	2,144,733	208,500	2,353,233	1.001	1	1	45,850	75
6/30/91-92	235,607	2,183,675	1.032	1.100	2,479,060	249,000	2,728,060	1.158	1	1	295,385	73
6/30/92-93	241,161	292,355	1.056	1.000	308,585	158,010	466,595	0.193	0	0		
6/30/93-94	254,321	580,633	1.079	1.200	751,729	130,300	882,029	0.347	0	0		
6/30/94-95	256,665	624,606	1.101	1.000	687,786	137,200	824,986	0.321	0	0		
6/30/95-96	265,739	475,722	1.123	1.000	534,054	116,000	650,054	0.245	0	0		
6/30/96-97	296,336	472,528	1.145	1.000	540,930	40,000	580,930	0.196	0	0		
6/30/97-98	296,982	320,304	1.170	1.000	374,636	143,500	518,136	0.174	0	0		
6/30/98-99	299,530	477,169	1.195	1.000	570,310	193,500	763,810	0.255	0	0		
6/30/99-00	323,627	1,036,650	1.222	1.000	1,266,611	180,398	1,447,008	0.447	0	0		
6/30/00-01	338,348	1,168,374	1.250	1.000	1,460,033	172,439	1,632,471	0.482	1	1	291,659	52
6/30/01-02	329,555	582,625	1.281	1.000	746,578	196,536	943,114	0.286	0	0		
6/30/02-03	329,179	629,649	1.300	1.000	818,840	267,706	1,086,547	0.330	2	2	94,596	59
6/30/03-04	344,547	212,295	1.335	1.000	283,362	58,845	342,207	0.099	0	0		
6/30/04-05	325,530	457,755	1.363	1.000	623,894	177,203	801,097	0.246	0	0		
6/30/05-06	403,750	276,027	1.386	1.000	382,544	84,846	467,390	0.116	0	0		
6/30/06-07	420,219	324,328	1.386	1.000	449,484	132,782	582,266	0.139	0	0		
6/30/07-08	425,998	336,306	1.404	1.000	472,236	77,323	549,559	0.129	1	1	135,930	53
6/30/08-09	420,566	711,812	1.423	1.000	1,012,657	188,906	1,201,564	0.286	4	3	100,282	60
6/30/09-10	433,206	390,834	1.506	1.000	588,484	187,567	776,051	0.179	5	3	65,883	64
6/30/10-11	444,673	584,777	1.656	1.000	968,569	79,682	1,048,251	0.236	7	7	54,827	51
6/30/11-12	467,753	566,988	1.961	1.000	1,111,929	192,513	1,304,442	0.279	14	15	36,329	49
6/30/12-13	495,398	453,488	2.674	1.000	1,212,538	187,358	1,399,896	0.283	78	25	30,362	44
6/30/13-14	518,391	158,266	5.695	1.000	901,354	175,329	1,076,683	0.208		55	13,511	45
Total	9,722,626	27,461,800			32,627,467	4,482,033	37,109,500		119	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, 2014

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	1,846,661	1.017	1,872,443	44,000	1,916,443	1.083	1.058
6/30/85-86	188,662	0.626	1,414,227	1.017	1,433,695	210,000	1,643,695	0.871	0.760
6/30/86-87	212,277	0.828	2,094,601	1.017	2,123,575	258,000	2,381,575	1.122	1.000
6/30/87-88	243,118	0.801	2,043,490	1.017	2,075,592	88,500	2,164,092	0.890	0.854
6/30/88-89	248,990	0.715	1,801,535	1.017	1,830,882	68,000	1,898,882	0.763	0.735
6/30/89-90	250,404	0.281	471,448	1.017	483,047	50,590	533,637	0.213	0.193
6/30/90-91	235,170	0.904	2,098,884	1.022	2,144,340	208,500	2,352,840	1.000	0.912
6/30/91-92	235,607	1.034	2,183,675	1.032	2,259,330	249,000	2,508,330	1.065	0.959
6/30/92-93	241,161	0.127	292,355	1.056	308,504	158,010	466,514	0.193	0.128
6/30/93-94	254,321	0.288	580,633	1.079	634,227	130,300	764,527	0.301	0.249
6/30/94-95	256,665	0.260	624,606	1.101	685,978	137,200	823,178	0.321	0.267
6/30/95-96	265,739	0.196	475,722	1.123	532,617	116,000	648,617	0.244	0.200
6/30/96-97	296,336	0.178	472,528	1.145	539,357	40,000	579,357	0.196	0.182
6/30/97-98	296,982	0.126	320,304	1.170	374,676	143,500	518,176	0.174	0.126
6/30/98-99	299,530	0.185	477,169	1.195	567,748	193,500	761,248	0.254	0.190
6/30/99-00	323,627	0.366	1,036,650	1.222	1,251,708	180,398	1,432,105	0.443	0.387
6/30/00-01	338,348	0.403	1,168,374	1.250	1,440,658	172,439	1,613,097	0.477	0.426
6/30/01-02	329,555	0.219	582,625	1.281	741,143	196,536	937,679	0.285	0.225
6/30/02-03	329,179	0.239	629,649	1.300	811,770	267,706	1,079,476	0.328	0.247
6/30/03-04	344,547	0.090	212,295	1.335	290,054	58,845	348,899	0.101	0.084
6/30/04-05	325,530	0.165	457,755	1.363	600,538	177,203	777,741	0.239	0.184
6/30/05-06	403,750	0.171	276,027	1.386	467,790	84,846	552,636	0.137	0.116
6/30/06-07	420,219	0.177	324,328	1.386	531,152	132,782	663,934	0.158	0.126
6/30/07-08	425,998	0.183	336,306	1.404	560,915	77,323	638,238	0.150	0.132
6/30/08-09	420,566	0.190	711,812	1.423	949,136	188,906	1,138,042	0.271	0.226
6/30/09-10	433,206	0.195	390,834	1.506	675,232	187,567	862,799	0.199	0.156
6/30/10-11	444,673	0.200	584,777	1.656	937,327	79,682	1,017,009	0.229	0.211
6/30/11-12	467,753	0.206	566,988	1.961	1,040,260	192,513	1,232,773	0.264	0.222
6/30/12-13	495,398	0.213	453,488	2.674	1,114,330	187,358	1,301,688	0.263	0.225
6/30/13-14	518,391	0.220	158,266	5.695	1,096,392	175,329	1,271,721	0.245	0.211
Total	9,722,626		25,088,011		30,374,417	4,454,533	34,828,950		

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, 2014

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	2,144,733	0.912	0.957	0.873	1.809	1.579	0.130	0.900	0.904
6/30/91-92	235,607	2,479,060	1.052	1.050	1.105	1.765	1.950	0.121	1.045	1.034
6/30/92-93	241,161	308,585	0.128	1.225	0.157	1.722	0.270	0.107	0.131	0.127
6/30/93-94	254,321	751,729	0.296	1.209	0.357	1.680	0.600	0.111	0.296	0.288
6/30/94-95	256,665	687,786	0.268	1.198	0.321	1.639	0.526	0.115	0.267	0.260
6/30/95-96	265,739	534,054	0.201	1.188	0.239	1.599	0.382	0.118	0.202	0.196
6/30/96-97	296,336	540,930	0.183	1.177	0.215	1.560	0.335	0.123	0.184	0.178
6/30/97-98	296,982	374,636	0.126	1.162	0.147	1.522	0.223	0.127	0.131	0.126
6/30/98-99	299,530	570,310	0.190	1.146	0.218	1.485	0.324	0.132	0.192	0.185
6/30/99-00	323,627	1,266,611	0.391	1.128	0.441	1.448	0.639	0.138	0.379	0.366
6/30/00-01	338,348	1,460,033	0.432	1.099	0.474	1.413	0.670	0.145	0.408	0.403
6/30/01-02	329,555	746,578	0.227	1.078	0.244	1.379	0.337	0.151	0.225	0.219
6/30/02-03	329,179	818,840	0.249	1.074	0.267	1.345	0.359	0.156	0.231	0.239
6/30/03-04	344,547	283,362	0.082	1.074	0.088	1.312	0.116	0.160	0.092	0.090
6/30/04-05	325,530	623,894	0.192	1.067	0.205	1.280	0.262	0.165	0.168	0.165
6/30/05-06	403,750	382,544	0.095	1.056	0.100	1.249	0.125	0.171	0.171	0.171
6/30/06-07	420,219	449,484	0.107	1.045	0.112	1.218	0.136	0.177	0.175	0.177
6/30/07-08	425,998	472,236	0.111	1.033	0.115	1.189	0.136	0.183	0.179	0.183
6/30/08-09	420,566	1,012,657	0.241	1.021	0.246	1.160	0.285	0.190	0.183	0.190
6/30/09-10	433,206	588,484	0.136	1.017	0.138	1.131	0.156	0.195	0.185	0.195
6/30/10-11	444,673	968,569	0.218	1.019	0.222	1.104	0.245	0.200	0.187	0.200
6/30/11-12	467,753	1,111,929	0.238	1.012	0.241	1.077	0.259	0.206	0.190	0.206
6/30/12-13	495,398	1,212,538	0.245	1.005	0.246	1.051	0.258	0.213	0.193	0.213
6/30/13-14	518,391	901,354	0.174	1.000	0.174	1.025	0.178	0.220		0.220
Total	8,402,252	20,690,936								

Trend Last 4 (ex 13-14):	19.8%	Avg 3 (x13-14):	0.254
Trend Last 8 (ex 13-14):	14.7%	Avg 5 (x13-14):	0.241
Trend Last 12 (ex 13-14):	2.2%	Avg 10 (x13-14):	0.198
Prior Selected Trend:	1.0%	Prior Sel Avg:	0.195
Selected Trend:	2.5%	Sel. Loss Cost:	0.225

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, 2013
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

University of Massachusetts (Amherst) - Cluster 4
Indemnity

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend		0.940	
(2)	Credibility		14%	
(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 2014	34,242		34,242
(7)	Estimated Reserve	618,403		1,407,343
(8)	Paid to Date (82 & Prior)	2,078,853		2,078,853
(9)	Est Ult Paid for 1982 & Prior	2,697,256		3,486,196

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	33,585	32,719
(11)	Projected Number of Years	6	6
(12)	Estimated Reserve	201,510	196,314
(13)	Paid to Date (82 & Prior)	2,078,853	2,044,611
(14)	Est Ult Paid for 1982 & Prior	2,280,363	2,240,925
(14a)	Paid Counts During Fiscal Year	1	1
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	2,488,809	2,614,506
(16)	Lump Sum Ultimates	88,040	88,040
(17)	Ult Loss Including Lump Sums	**2,576,849**	**2,702,546**
(18)	Implied Tail	1.197	1.258
(19)	Ult Loss Inc Lump Sums @ 6/13	2,535,758	2,663,005

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, 2013

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 =	23
2001	10	69,462	11.149	1.066	S(x) =	46,069
2002	11	72,621	11.193	1.045	S(x-sq) =	92,277,219
2003	12	73,534	11.206	1.013	S(xy) =	504,467
2004	13	73,411	11.204	0.998	S(y) =	252
2005	14	77,899	11.263	1.061	D =	23,276
2006	15	44,021	10.692	0.565	slope =	-0.062
2007	16	28,745	10.266	0.653	Avg Trend =	0.938
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		
2014	23	34,242	10.441	1.013		
					Selected Trend:	**0.940**

NOTES:

(3) 2014 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2013

(4) LN [(3)]

(5) Eg. 2014: 1.013 = 34242 / 33791

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	384
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	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	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	1,846,661		
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	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	2,094,601				
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	2,043,490					
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	1,801,535						
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	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	2,098,884								
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	2,183,675									
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	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	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	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	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	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	477,169	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	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	1,168,374																		
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	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	629,649																				
June-04	119,754	192,578	206,484	211,562	212,295	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	457,755																						
June-06	109,288	227,014	271,354	276,027	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	324,328																								
June-08	136,833	207,607	263,568	288,690	304,525	321,451	336,306																									
June-09	157,647	372,637	490,926	555,124	656,285	711,812																										
June-10	84,674	225,140	286,244	344,751	390,834																											
June-11	203,344	361,140	445,050	584,777																												
June-12	198,403	427,078	566,988																													
June-13	283,404	453,488																														
June-14	158,266																															

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
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	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	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	1.030			
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	1.000																				
June-03	2.081	1.291	1.282	1.178	1.071	1.047	1.045	1.044	1.043	1.034	1.068																					
June-04	1.608	1.072	1.025	1.003	1.000	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	1.000																							
June-06	2.077	1.195	1.017	1.000	1.000	1.000	1.000	1.000																								
June-07	1.621	1.284	1.129	1.037	1.017	1.000	1.000																									
June-08	1.517	1.270	1.095	1.055	1.056	1.046																										
June-09	2.364	1.317	1.131	1.182	1.085																											
June-10	2.659	1.271	1.204	1.134																												
June-11	1.776	1.232	1.314																													
June-12	2.153	1.328																														
June-13	1.600																															

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	2.303	1.350	1.174	1.130	1.077	1.068	1.043	1.033	1.032	1.020	1.024	1.018	1.017	1.015	1.015	1.013	1.014	1.013	1.014	1.015	1.016	1.018	1.018	1.016	1.018	1.011	1.009	1.008	1.010	1.000	1.000	
Latest 5	2.110	1.284	1.175	1.082	1.058	1.013	1.009	1.010	1.017	1.012	1.019	1.005	1.005	1.000	1.000	1.000	1.000	1.003	1.006	1.006	1.010	1.014	1.017	1.019	1.025	1.013	1.009					
Latest 3	1.843	1.277	1.216	1.124	1.053	1.015	1.001	1.000	1.014	1.012	1.031	1.008	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.005	1.010	1.010	1.012	1.013	1.018	1.012	1.016	1.010	1.010			
Volume Wtd																																
All Yrs	2.222	1.363	1.184	1.126	1.075	1.059	1.043	1.044	1.039	1.029	1.032	1.027	1.025	1.023	1.022	1.022	1.022	1.020	1.019	1.021	1.022	1.023	1.024	1.022	1.023	1.016	1.016	1.016	1.026	1.000	1.000	
Latest 5	1.983	1.288	1.183	1.098	1.067	1.015	1.013	1.012	1.023	1.013	1.018	1.008	1.008	1.000	1.000	1.000	1.000	1.008	1.010	1.011	1.014	1.016	1.020	1.021	1.024	1.017	1.016					
Latest 3	1.812	1.281	1.215	1.137	1.061	1.016	1.001	1.000	1.019	1.015	1.030	1.010	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.010	1.014	1.013	1.015	1.017	1.018	1.013	1.016	1.016	1.026			

Dev Factor Selection																																
Industry 1	2.861	1.511	1.198	1.090	1.035	1.020	1.016																									
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*	*1.365*	*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*	
Selected	2.130	1.363	1.184	1.100	1.058	1.013	1.013	1.000	1.017	1.021	1.026	1.015	1.025	1.023	1.022	1.022	1.022	1.020	1.019	1.021	1.022	1.023	1.010	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.017	1.017
FacToUlt	5.695	2.674	1.961	1.656	1.506	1.423	1.404	1.386	1.386	1.363	1.335	1.300	1.281	1.250	1.222	1.195	1.170	1.145	1.123	1.101	1.079	1.056	1.032	1.022	1.017	1.017	1.017	1.017	1.017	1.017	1.017	
Percent of Ult	17.6%	37.4%	51.0%	60.4%	66.4%	70.3%	71.2%	72.2%	72.2%	73.4%	74.9%	76.9%	78.0%	80.0%	81.8%	83.7%	85.5%	87.4%	89.1%	90.8%	92.7%	94.7%	96.9%	97.9%	98.4%	98.4%	98.4%	98.4%	98.4%	98.4%	98.4%	

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 6/13		As of 6/14		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	2,535,758	2,663,005	2,576,849	2,702,546	41,092	1.6%	39,541	1.5%
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	1,863,000	2,232,000	1,916,000	2,297,000	53,000	2.8%	65,000	2.9%
6/30/85-86	1,644,000	1,934,086	1,644,000	1,933,399	0	0.0%	(687)	0.0%
6/30/86-87	2,349,000	3,194,000	2,382,000	3,240,000	33,000	1.4%	46,000	1.4%
6/30/87-88	2,127,000	2,129,000	2,164,000	2,166,000	37,000	1.7%	37,000	1.7%
6/30/88-89	1,866,000	1,866,000	1,899,000	1,900,000	33,000	1.8%	34,000	1.8%
6/30/89-90	533,000	537,000	530,000	534,000	(3,000)	-0.6%	(3,000)	-0.6%
6/30/90-91	2,342,000	2,342,000	2,353,000	2,353,000	11,000	0.5%	11,000	0.5%
6/30/91-92	2,537,000	2,755,000	2,508,000	2,728,000	(29,000)	-1.1%	(27,000)	-1.0%
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	779,000	782,000	761,000	764,000	(18,000)	-2.3%	(18,000)	-2.3%
6/30/99-00	1,472,000	1,489,000	1,432,000	1,447,000	(40,000)	-2.7%	(42,000)	-2.8%
6/30/00-01	1,629,000	1,650,000	1,613,000	1,632,000	(16,000)	-1.0%	(18,000)	-1.1%
6/30/01-02	958,000	964,000	938,000	943,000	(20,000)	-2.1%	(21,000)	-2.2%
6/30/02-03	1,050,000	1,057,000	1,079,000	1,087,000	29,000	2.8%	30,000	2.8%
6/30/03-04	349,000	357,000	342,000	349,000	(7,000)	-2.0%	(8,000)	-2.2%
6/30/04-05	792,000	816,000	778,000	801,000	(14,000)	-1.8%	(15,000)	-1.8%
6/30/05-06	478,000	566,000	467,000	553,000	(11,000)	-2.3%	(13,000)	-2.3%
6/30/06-07	603,000	684,000	582,000	664,000	(21,000)	-3.5%	(20,000)	-2.9%
6/30/07-08	555,000	646,000	550,000	638,000	(5,000)	-0.9%	(8,000)	-1.2%
6/30/08-09	1,076,000	1,151,000	1,138,000	1,202,000	62,000	5.8%	51,000	4.4%
6/30/09-10	793,000	885,000	776,000	863,000	(17,000)	-2.1%	(22,000)	-2.5%
6/30/10-11	965,000	984,000	1,017,000	1,048,000	52,000	5.4%	64,000	6.5%
6/30/11-12	1,161,000	1,319,000	1,233,000	1,304,000	72,000	6.2%	(15,000)	-1.1%
6/30/12-13	1,389,000	1,929,000	1,302,000	1,400,000	(87,000)	-6.3%	(529,000)	-27.4%
6/30/13-14								
Total	35,704,758	38,935,091	35,839,849	38,552,945	135,092	0.4%	(382,146)	-1.0%

NOTES:

(2), (3) From Aon analysis as of June 30, 2013

(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, 2014

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	2,078,853	1.227	2,551,658	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	136,659	0.0%	0.0%	0	0	0	0.0%	1.000	0	0	0
6/30/83-84	160,531	1.017	163,222	0.0%	0.0%	0	27,500	27,500	16.8%	1.000	27,500	27,500	27,500
6/30/84-85	1,846,661	1.220	2,253,135	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	1.423	2,013,103	0.0%	0.0%	0	210,000	210,000	10.4%	1.000	210,000	210,000	210,000
6/30/86-87	2,094,601	1.423	2,981,591	0.0%	0.0%	0	258,000	258,000	8.7%	1.000	258,000	258,000	258,000
6/30/87-88	2,043,490	1.017	2,077,741	0.0%	0.0%	0	88,500	88,500	4.3%	1.000	88,500	88,500	88,500
6/30/88-89	1,801,535	1.017	1,831,730	0.0%	0.0%	0	68,000	68,000	3.7%	1.000	68,000	68,000	68,000
6/30/89-90	471,448	1.017	479,350	0.0%	0.0%	0	50,590	50,590	10.6%	1.000	50,590	50,590	50,590
6/30/90-91	2,098,884	1.022	2,144,733	0.0%	0.0%	0	208,500	208,500	9.7%	1.000	208,500	208,500	208,500
6/30/91-92	2,183,675	1.135	2,479,060	0.0%	0.0%	0	249,000	249,000	10.0%	1.000	249,000	249,000	249,000
6/30/92-93	292,355	1.056	308,585	0.0%	0.0%	0	158,010	158,010	51.2%	1.000	158,010	158,010	158,010
6/30/93-94	580,633	1.295	751,729	0.0%	0.0%	0	130,300	130,300	17.3%	1.000	130,300	130,300	130,300
6/30/94-95	624,606	1.101	687,786	0.0%	0.0%	0	137,200	137,200	19.9%	1.000	137,200	137,200	137,200
6/30/95-96	475,722	1.123	534,054	0.0%	0.0%	0	116,000	116,000	21.7%	1.000	116,000	116,000	116,000
6/30/96-97	472,528	1.145	540,930	0.0%	0.0%	0	40,000	40,000	7.4%	1.000	40,000	40,000	40,000
6/30/97-98	320,304	1.170	374,636	0.0%	0.0%	0	143,500	143,500	38.3%	1.000	143,500	143,500	143,500
6/30/98-99	477,169	1.195	570,310	0.0%	0.0%	0	193,500	193,500	33.9%	1.000	193,500	193,500	194,468
6/30/99-00	1,036,650	1.222	1,266,611	0.0%	0.0%	0	179,500	179,500	14.2%	1.010	181,295	180,398	181,957
6/30/00-01	1,168,374	1.250	1,460,033	0.1%	0.1%	1,460	170,000	171,460	11.7%	1.020	173,417	172,439	174,789
6/30/01-02	582,625	1.281	746,578	0.2%	0.3%	2,240	192,500	194,740	26.1%	1.030	198,333	196,536	198,703
6/30/02-03	629,649	1.300	818,840	0.3%	0.6%	4,913	259,972	264,885	32.3%	1.041	270,528	267,706	270,533
6/30/03-04	212,295	1.335	283,362	0.4%	1.0%	2,834	56,000	58,834	20.8%	1.051	58,857	58,845	60,038
6/30/04-05	457,755	1.363	623,894	0.5%	1.5%	9,358	166,950	176,308	28.3%	1.067	178,098	177,203	181,989
6/30/05-06	276,027	1.386	382,544	0.7%	2.2%	8,416	77,000	85,416	22.3%	1.094	84,276	84,846	87,891
6/30/06-07	324,328	1.386	449,484	0.7%	2.9%	13,035	118,441	131,476	29.3%	1.132	134,087	132,782	139,013
6/30/07-08	336,306	1.404	472,236	0.8%	3.7%	17,473	62,500	79,973	16.9%	1.195	74,674	77,323	89,417
6/30/08-09	711,812	1.423	1,012,657	1.0%	4.7%	47,447	132,500	179,947	17.8%	1.493	197,866	188,906	161,140
6/30/09-10	390,834	1.506	588,484	1.8%	6.5%	38,413	117,591	156,004	26.5%	1.863	219,129	187,567	221,225
6/30/10-11	584,777	1.656	968,569	1.7%	8.2%	79,682	0	79,682	8.2%	3.476	0	79,682	114,127
6/30/11-12	566,988	1.961	1,111,929	4.5%	12.7%	141,513	51,000	192,513	17.3%	6.237	318,091	192,513	178,643
6/30/12-13	453,488	2.674	1,212,538	2.7%	15.5%	187,358	0	187,358	15.5%	16.660	0	187,358	316,967
6/30/13-14	158,266	5.695	901,354	4.0%	19.5%	175,329	0	175,329	19.5%	16.660	0	175,329	
Total	27,461,800		35,179,125			729,471	3,794,594	4,524,065	12.9%		4,299,290	4,570,073	4,588,040

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, 2013

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	384-396
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	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	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	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	0			
Jun-86	0	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	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	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	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	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	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	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	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	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	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	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	0														
Jun-97	0	0	0	0	0	0	0	0	0	40,000	0	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	0																
Jun-99	0	40,000	93,500	27,500	0	22,500	0	0	0	10,000	0	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	0																		
Jun-01	0	17,500	72,500	50,000	0	30,000	0	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	0																				
Jun-03	0	9,000	26,500	32,000	30,000	92,472	0	0	0	0	70,000	0																					
Jun-04	0	6,000	0	0	50,000	0	0	0	0	0	0																						
Jun-05	0	24,450	18,500	0	35,000	12,000	65,000	12,000	0	0																							
Jun-06	0	35,000	28,000	14,000	0	0	0	0	0																								
Jun-07	0	0	0	60,000	40,000	15,000	3,441	0																									
Jun-08	0	0	17,500	45,000	0	0	0																										
Jun-09	0	62,500	30,000	0	0	40,000																											
Jun-10	0	62,591	25,000	0	30,000																												
Jun-11	0	0	0	0																													
Jun-12	0	0	51,000																														
Jun-13	0	0																															
Jun-14	0																																

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	396
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	259,972																					
Jun-04	0	6,000	6,000	6,000	56,000	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	166,950																							
Jun-06	0	35,000	63,000	77,000	77,000	77,000	77,000	77,000	77,000																								
Jun-07	0	0	0	60,000	100,000	115,000	118,441	118,441																									
Jun-08	0	0	17,500	62,500	62,500	62,500	62,500																										
Jun-09	0	62,500	92,500	92,500	92,500	132,500																											
Jun-10	0	62,591	87,591	87,591	117,591																												
Jun-11	0	0	0	0																													
Jun-12	0	0	51,000																														
Jun-13	0	0																															
Jun-14	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	384-396
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	0.021	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	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	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	0.000		
Jun-85	0.000	0.000	0.000	0.000	0.000	0.007	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	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	0.075	0.000	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	0.045	0.000	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	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	0.000							
Jun-90	0.000	0.000	0.000	0.069	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	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	0.000									
Jun-92	0.000	0.002	0.000	0.041	0.000	0.000	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.015	0.000	0.000	0.000	0.000	0.032	0.000	0.000	0.000	0.000										
Jun-93	0.000	0.065	0.139	0.032	0.000	0.032	0.000	0.243	0.000	0.000	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	0.014	0.000	0.000	0.000	0.000	0.000	0.160	0.000	0.000	0.000	0.000	0.000												
Jun-95	0.000	0.054	0.051	0.058	0.036	0.000	0.000	0.000	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	0.030	0.000	0.047	0.070	0.070	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-97	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.074	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000															
Jun-98	0.000	0.000	0.236	0.000	0.080	0.067	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	0.070	0.164	0.048	0.000	0.039	0.000	0.000	0.000	0.018	0.000	0.000	0.000	0.000	0.000	0.000																	
Jun-00	0.000	0.000	0.018	0.022	0.059	0.000	0.019	0.000	0.024	0.000	0.000	0.000	0.000	0.000	0.000																		
Jun-01	0.000	0.012	0.050	0.034	0.000	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																			
Jun-02	0.000	0.032	0.024	0.070	0.084	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000																				
Jun-03	0.000	0.011	0.032	0.039	0.037	0.113	0.000	0.000	0.000	0.000	0.085	0.000																					
Jun-04	0.000	0.021	0.000	0.000	0.176	0.000	0.000	0.000	0.000	0.000	0.000																						
Jun-05	0.000	0.039	0.030	0.000	0.056	0.019	0.104	0.019	0.000	0.000																							
Jun-06	0.000	0.091	0.073	0.037	0.000	0.000	0.000	0.000	0.000																								
Jun-07	0.000	0.000	0.000	0.133	0.089	0.033	0.008	0.000																									
Jun-08	0.000	0.000	0.037	0.095	0.000	0.000	0.000																										
Jun-09	0.000	0.062	0.030	0.000	0.000	0.040																											
Jun-10	0.000	0.106	0.042	0.000	0.051																												
Jun-11	0.000	0.000	0.000	0.000																													
Jun-12	0.000	0.000	0.046																														
Jun-13	0.000	0.000																															
Jun-14	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	384-396
Simple Avg																																	
All Yrs (ex P)	0.000	0.018	0.033	0.024	0.027	0.020	0.010	0.011	0.004	0.005	0.004	0.001	0.000	0.002	0.001	0.009	0.011	0.000	0.003	0.000	0.000	0.000	0.000	0.005	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.000	
Latest 5	0.000	0.034	0.031	0.046	0.028	0.018	0.022	0.004	0.000	0.000	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.009	0.000	0.015	0.000	0.000					
Latest 3	0.000	0.000	0.029	0.000	0.017	0.024	0.003	0.006	0.000	0.000	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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)	0.000	0.016	0.027	0.021	0.022	0.017	0.006	0.002	0.003	0.001	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	0.000	0.000			
Latest 10	0.000	0.027	0.027	0.030	0.040	0.020	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	0.000	0.000	0.000	0.000							
Latest 5	0.000	0.021	0.036	0.032	0.017	0.018	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	0.000	0.000	0.000					

Dev Factor Selection																																	
Prior	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	
Selected	NA	0.040	0.027	0.045	0.017	0.018	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	0.000
FacToUlt	NA	0.195	0.155	0.127	0.082	0.065	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	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	396
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	259,972																					
Jun-04	0	6,000	6,000	6,000	56,000	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	166,950																							
Jun-06	0	35,000	63,000	77,000	77,000	77,000	77,000	77,000	77,000																								
Jun-07	0	0	0	60,000	100,000	115,000	118,441	118,441																									
Jun-08	0	0	17,500	62,500	62,500	62,500	62,500																										
Jun-09	0	62,500	92,500	92,500	92,500	132,500																											
Jun-10	0	62,591	87,591	87,591	117,591																												
Jun-11	0	0	0	0																													
Jun-12	0	0	51,000																														
Jun-13	0	0																															
Jun-14	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	384-396	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	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	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	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	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	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	1.000	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	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	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	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	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	1.000												
Jun-94										1.000	1.000	1.000	1.000	1.000	12.650	1.000	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	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	1.000															
Jun-97										1.000	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	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	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	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	1.000																				
Jun-02		1.750	2.250	1.667	1.222	1.000	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	1.000																						
Jun-04		1.000	1.000	9.333	1.000	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	1.000																								
Jun-06		1.800	1.222	1.000	1.000	1.000	1.000	1.000																									
Jun-07				1.667	1.150	1.030	1.000																										
Jun-08			3.571	1.000	1.000	1.000																											
Jun-09		1.480	1.000	1.000	1.432																												
Jun-10		1.399	1.000	1.343																													
Jun-11																																	
Jun-12																																	
Jun-13																																	

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	384-396	To Ult
Simple Avg																																	
All Yrs (ex P)		2.308	2.732	1.839	1.248	1.349	1.094	1.134	1.003	1.028	1.088	1.018	1.052	1.009	1.777	1.000	1.000	1.059	1.000	1.000	1.000	1.000	1.137	1.000	1.417	1.000	1.000	1.000	1.000	1.000			
Latest 5		1.487	1.559	1.202	1.147	1.151	1.015	1.000	1.000	1.074	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.095	1.000	1.000	1.000	1.000	1.220	1.000	1.500	1.000	1.000						
Latest 3		1.560	1.857	1.114	1.194	1.010	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	1.000	1.000	1.000	1.000	1.000				
Volume Wtd																																	
All Yrs (ex P)		2.707	1.609	1.324	1.237	1.126	1.055	1.072	1.026	1.036	1.012	1.009	1.045	1.014	1.075	1.018	1.000	1.073	1.000	1.000	1.000	1.000	1.201	1.000	1.275	1.000	1.000	1.000	1.000	1.000			
Latest 5		1.987	1.531	1.184	1.163	1.171	1.020	1.000	1.000	1.089	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.113	1.000	1.000	1.000	1.000	1.251	1.000	1.289	1.000	1.000						
Latest 3		2.214	1.000	1.124	1.216	1.014	1.034	1.000	1.000	1.160	1.000	1.000	1.000	1.000	1.000	1.000	1.000	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	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	
Selected	1.000	2.671	1.794	1.866	1.248	1.250	1.055	1.034	1.026	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	1.000
FacToUlt	16.660	16.660	6.237	3.476	1.863	1.493	1.195	1.132	1.094	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	1.000
Percent of Ult	6.0%	6.0%	16.0%	28.8%	53.7%	67.0%	83.7%	88.3%	91.4%	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%	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%
396	100.0%	1.6%	0.0%	0.5%	0.2%	1.000	1.000
384	98.4%	0.0%	1.6%	0.0%	0.0%	0.981	0.971
372	98.4%	0.0%	1.6%	0.0%	0.0%	0.943	0.916
360	98.4%	0.0%	1.6%	0.0%	0.0%	0.907	0.864
348	98.4%	0.0%	1.6%	0.0%	0.0%	0.872	0.816
336	98.4%	0.0%	1.6%	0.0%	0.0%	0.838	0.769
324	98.4%	0.0%	1.6%	0.0%	0.0%	0.806	0.726
312	98.4%	0.0%	1.6%	0.0%	0.0%	0.775	0.685
300	98.4%	0.5%	1.6%	0.2%	0.1%	0.745	0.646
288	97.9%	1.0%	2.1%	0.4%	0.2%	0.777	0.692
276	96.9%	2.2%	3.1%	0.9%	0.6%	0.820	0.752
264	94.7%	2.1%	5.3%	0.9%	0.6%	0.867	0.817
252	92.7%	1.9%	7.3%	0.8%	0.6%	0.875	0.827
240	90.8%	1.7%	9.2%	0.8%	0.6%	0.870	0.819
228	89.1%	1.7%	10.9%	0.8%	0.6%	0.859	0.804
216	87.4%	1.9%	12.6%	0.9%	0.7%	0.847	0.788
204	85.5%	1.8%	14.5%	1.0%	0.7%	0.836	0.772
192	83.7%	1.8%	16.3%	1.0%	0.7%	0.824	0.756
180	81.8%	1.8%	18.2%	1.0%	0.8%	0.811	0.739
168	80.0%	2.0%	20.0%	1.2%	0.9%	0.798	0.722
156	78.0%	1.1%	22.0%	0.7%	0.6%	0.787	0.707
144	76.9%	2.0%	23.1%	1.3%	1.0%	0.767	0.682
132	74.9%	1.5%	25.1%	1.0%	0.8%	0.757	0.670
120	73.4%	1.2%	26.6%	0.8%	0.7%	0.743	0.651
108	72.2%	0.0%	27.8%	0.0%	0.0%	0.726	0.630
96	72.2%	0.9%	27.8%	0.7%	0.6%	0.698	0.594
84	71.2%	0.9%	28.8%	0.7%	0.6%	0.681	0.574
72	70.3%	3.9%	29.7%	3.1%	2.8%	0.665	0.555
60	66.4%	6.0%	33.6%	5.1%	4.6%	0.679	0.575
48	60.4%	9.4%	39.6%	8.2%	7.7%	0.703	0.608
36	51.0%	13.6%	49.0%	12.3%	11.7%	0.734	0.650
24	37.4%	19.8%	62.6%	18.7%	18.2%	0.765	0.691
12	17.6%	17.6%	82.4%	17.2%	17.1%	0.795	0.729
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	409,957	535,654		365,338	477,355
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	25,339	406,339	0.907	22,972	368,388
6/30/85-86	19,773	309,172	0.872	17,237	269,516
6/30/86-87	29,399	887,399	0.838	24,643	743,822
6/30/87-88	32,010	34,010	0.806	25,799	27,411
6/30/88-89	29,465	30,465	0.775	22,835	23,610
6/30/89-90	7,962	11,962	0.745	5,933	8,914
6/30/90-91	45,616	45,616	0.777	35,441	35,441
6/30/91-92	75,325	295,325	0.820	61,758	242,135
6/30/92-93	4,635	22,635	0.867	4,019	19,625
6/30/93-94	8,067	36,067	0.875	7,058	31,556
6/30/94-95	8,194	38,194	0.870	7,126	33,217
6/30/95-96	6,278	30,278	0.859	5,394	26,015
6/30/96-97	5,473	26,473	0.847	4,636	22,427
6/30/97-98	5,196	23,196	0.836	4,343	19,389
6/30/98-99	90,331	93,331	0.824	74,389	76,859
6/30/99-00	215,850	230,850	0.811	175,012	187,174
6/30/00-01	274,626	293,626	0.798	219,134	234,295
6/30/01-02	162,875	167,875	0.787	128,105	132,038
6/30/02-03	189,379	197,379	0.767	145,326	151,465
6/30/03-04	73,705	80,705	0.757	55,794	61,093
6/30/04-05	153,295	176,295	0.743	113,832	130,911
6/30/05-06	113,973	199,973	0.726	82,703	145,108
6/30/06-07	139,231	221,231	0.698	97,145	154,359
6/30/07-08	151,194	239,194	0.681	102,964	162,893
6/30/08-09	293,688	357,688	0.665	195,288	237,845
6/30/09-10	267,575	354,575	0.679	181,622	240,675
6/30/10-11	432,223	463,223	0.703	303,695	325,477
6/30/11-12	615,012	686,012	0.734	451,421	503,536
6/30/12-13	848,512	946,512	0.765	649,484	724,497
6/30/13-14	918,734	1,113,734	0.795	730,267	885,266
Total	5,660,455	8,568,551		4,327,980	6,715,307
			(7) Total Discount Factor:	0.765	0.784

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	409,957	535,654
(9) Projected Number of Years:	6	6
(10) Projected Paid Loss per Year:	68,326	89,276
(11) Discounted Value at 4%:	365,338	477,355

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	409,957	535,654		346,061	452,167
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	25,339	406,339	0.864	21,904	351,256
6/30/85-86	19,773	309,172	0.816	16,125	252,133
6/30/86-87	29,399	887,399	0.769	22,618	682,720
6/30/87-88	32,010	34,010	0.726	23,233	24,684
6/30/88-89	29,465	30,465	0.685	20,175	20,860
6/30/89-90	7,962	11,962	0.646	5,143	7,727
6/30/90-91	45,616	45,616	0.692	31,577	31,577
6/30/91-92	75,325	295,325	0.752	56,667	222,173
6/30/92-93	4,635	22,635	0.817	3,786	18,488
6/30/93-94	8,067	36,067	0.827	6,670	29,823
6/30/94-95	8,194	38,194	0.819	6,712	31,285
6/30/95-96	6,278	30,278	0.804	5,049	24,353
6/30/96-97	5,473	26,473	0.788	4,311	20,853
6/30/97-98	5,196	23,196	0.772	4,013	17,916
6/30/98-99	90,331	93,331	0.756	68,273	70,540
6/30/99-00	215,850	230,850	0.739	159,508	170,592
6/30/00-01	274,626	293,626	0.722	198,316	212,037
6/30/01-02	162,875	167,875	0.707	115,228	118,766
6/30/02-03	189,379	197,379	0.682	129,245	134,705
6/30/03-04	73,705	80,705	0.670	49,355	54,042
6/30/04-05	153,295	176,295	0.651	99,868	114,852
6/30/05-06	113,973	199,973	0.630	71,822	126,016
6/30/06-07	139,231	221,231	0.594	82,772	131,521
6/30/07-08	151,194	239,194	0.574	86,823	137,357
6/30/08-09	293,688	357,688	0.555	163,028	198,555
6/30/09-10	267,575	354,575	0.575	153,953	204,010
6/30/10-11	432,223	463,223	0.608	262,832	281,683
6/30/11-12	615,012	686,012	0.650	399,638	445,775
6/30/12-13	848,512	946,512	0.691	586,159	653,859
6/30/13-14	918,734	1,113,734	0.729	669,408	811,489
Total	5,660,455	8,568,551		3,877,402	6,066,548
			(7) Total Discount Factor:	0.685	0.708

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	409,957	535,654
(9) Projected Number of Years:	6	6
(10) Projected Paid Loss per Year:	68,326	89,276
(11) Discounted Value at 6%:	346,061	452,167

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, 2014

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

Calculation of Fiscal Year 7/1/14 - 15 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Cumulative	Incremental Paid		Estimated Payments from		FY 7/1/14 - 6/30/15	
Accident	Est Ult Losses	Est Ult Losses	Paid Losses	Reserves	Reserves	Percent	as a % of	as a % of	7/1/14 - 6/30/15		as a % of Reserves	
Year	(Low)	(High)	to Date	(Low)	(High)	Paid	Ultimates	Reserves	(Low)	(High)	(Low)	(High)
All Prior Yrs	5,153,699	5,405,093	4,333,785	819,913	1,071,307				32,187	35,406	3.9%	3.3%
6/30/82-83	276,000	280,000	268,812	7,188	11,188	96.7%	0.0%	0.0%	0	0	0.0%	0.0%
6/30/83-84	384,000	392,000	376,062	7,938	15,938	96.9%	0.0%	0.0%	0	0	0.0%	0.0%
6/30/84-85	3,832,000	4,594,000	3,781,322	50,678	812,678	89.8%	0.5%	4.9%	2,473	39,657	4.9%	4.9%
6/30/85-86	3,288,000	3,866,798	3,248,453	39,547	618,345	90.8%	0.5%	5.4%	2,150	33,624	5.4%	5.4%
6/30/86-87	4,764,000	6,480,000	4,705,201	58,799	1,774,799	83.7%	0.5%	3.1%	1,803	54,417	3.1%	3.1%
6/30/87-88	4,328,000	4,332,000	4,263,980	64,020	68,020	98.5%	0.5%	32.8%	20,994	22,306	32.8%	32.8%
6/30/88-89	3,798,000	3,800,000	3,739,069	58,931	60,931	98.4%	0.5%	31.7%	18,678	19,312	31.7%	31.7%
6/30/89-90	1,060,000	1,068,000	1,044,076	15,924	23,924	98.1%	0.5%	26.7%	4,252	6,388	26.7%	26.7%
6/30/90-91	4,706,000	4,706,000	4,614,767	91,233	91,233	98.1%	0.5%	25.8%	23,530	23,530	25.8%	25.8%
6/30/91-92	5,016,000	5,456,000	4,865,351	150,649	590,649	92.9%	0.5%	7.1%	10,641	41,719	7.1%	7.1%
6/30/92-93	910,000	946,000	900,730	9,270	45,270	97.1%	0.5%	17.0%	1,577	7,703	17.0%	17.0%
6/30/93-94	1,438,000	1,494,000	1,421,867	16,133	72,133	97.0%	0.5%	16.6%	2,680	11,980	16.6%	16.6%
6/30/94-95	1,540,000	1,600,000	1,523,612	16,388	76,388	97.0%	0.5%	16.9%	2,773	12,927	16.9%	16.9%
6/30/95-96	1,196,000	1,244,000	1,183,444	12,556	60,556	97.0%	0.5%	16.7%	2,095	10,105	16.7%	16.7%
6/30/96-97	1,036,000	1,078,000	1,025,055	10,945	52,945	97.0%	0.5%	16.5%	1,811	8,759	16.5%	16.5%
6/30/97-98	938,000	974,000	927,608	10,392	46,392	97.0%	0.5%	16.8%	1,750	7,810	16.8%	16.8%
6/30/98-99	1,522,000	1,528,000	1,341,339	180,661	186,661	88.0%	2.0%	16.6%	30,002	30,998	16.6%	16.6%
6/30/99-00	2,864,000	2,894,000	2,432,300	431,700	461,700	84.5%	2.0%	12.9%	55,646	59,514	12.9%	12.9%
6/30/00-01	3,226,000	3,264,000	2,676,747	549,253	587,253	82.5%	2.0%	11.4%	62,730	67,070	11.4%	11.4%
6/30/01-02	1,876,000	1,886,000	1,550,250	325,750	335,750	82.4%	2.0%	11.4%	37,051	38,189	11.4%	11.4%
6/30/02-03	2,158,000	2,174,000	1,779,241	378,759	394,759	82.1%	2.0%	11.2%	42,424	44,216	11.2%	11.2%
6/30/03-04	684,000	698,000	536,589	147,411	161,411	77.7%	2.0%	9.0%	13,193	14,447	9.0%	9.0%
6/30/04-05	1,556,000	1,602,000	1,249,410	306,590	352,590	79.1%	2.0%	9.6%	29,376	33,784	9.6%	9.6%
6/30/05-06	934,000	1,106,000	706,055	227,945	399,945	69.2%	2.0%	6.5%	14,812	25,988	6.5%	6.5%
6/30/06-07	1,164,000	1,328,000	885,539	278,461	442,461	71.1%	2.0%	6.9%	19,251	30,589	6.9%	6.9%
6/30/07-08	1,100,000	1,276,000	797,612	302,388	478,388	67.1%	2.0%	6.1%	18,404	29,116	6.1%	6.1%
6/30/08-09	2,276,000	2,404,000	1,688,623	587,377	715,377	72.2%	2.0%	7.2%	42,202	51,398	7.2%	7.2%
6/30/09-10	1,552,000	1,726,000	1,016,850	535,150	709,150	62.0%	5.0%	13.2%	70,490	93,410	13.2%	13.2%
6/30/10-11	2,034,000	2,096,000	1,169,553	864,447	926,447	56.6%	5.0%	11.5%	99,676	106,824	11.5%	11.5%
6/30/11-12	2,466,000	2,608,000	1,235,976	1,230,024	1,372,024	48.7%	7.9%	15.4%	189,940	211,868	15.4%	15.4%
6/30/12-13	2,604,000	2,800,000	906,976	1,697,024	1,893,024	33.6%	15.2%	22.8%	387,034	431,735	22.8%	22.8%
6/30/13-14	2,154,000	2,544,000	316,531	1,837,469	2,227,469	13.5%	20.1%	23.2%	426,674	517,235	23.2%	23.2%
Total	73,833,699	79,649,891	62,512,788	11,320,910	17,137,102				1,668,299	2,122,023	14.7%	12.4%

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, 2014

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			109,373	109,373	240	240		
6/30/82-83		91,124	91,552		91,124	92,467	0	1,343		
6/30/83-84		32,907	33,095		32,907	34,087	0	1,180		
6/30/84-85	176,924	74,201	74,698	74,802	74,943	76,192	742	1,992	0.042	0.043
6/30/85-86	188,662	52,218	52,621	52,724	52,741	53,263	522	1,044	0.028	0.028
6/30/86-87	212,277	196,094	197,804	197,801	198,000	198,000	1,906	1,906	0.093	0.093
6/30/87-88	243,118	225,509	227,704	227,665	228,000	228,000	2,491	2,491	0.094	0.094
6/30/88-89	248,990	296,430	299,613	300,266	300,000	300,000	3,570	3,570	0.120	0.120
6/30/89-90	250,404	157,317	159,166	159,760	158,890	160,463	1,573	3,146	0.063	0.064
6/30/90-91	235,170	507,399	513,874	513,822	514,000	514,000	6,601	6,601	0.219	0.219
6/30/91-92	235,607	550,346	557,927	557,804	558,000	558,000	7,654	7,654	0.237	0.237
6/30/92-93	241,161	262,075	266,482	266,405	264,696	267,317	2,621	5,242	0.110	0.111
6/30/93-94	254,321	497,802	507,691	507,392	507,000	508,000	9,198	10,198	0.199	0.200
6/30/94-95	256,665	305,369	312,993	312,770	308,423	311,476	3,054	6,107	0.120	0.121
6/30/95-96	265,739	243,985	251,327	251,135	246,425	248,865	2,440	4,880	0.093	0.094
6/30/96-97	296,336	187,967	194,591	194,526	189,847	191,726	1,880	3,759	0.064	0.065
6/30/97-98	296,982	188,043	195,644	195,578	196,000	196,000	7,957	7,957	0.066	0.066
6/30/98-99	299,530	223,056	233,232	233,036	233,000	233,000	9,944	9,944	0.078	0.078
6/30/99-00	323,627	360,854	380,423	379,525	380,000	380,000	19,146	19,146	0.117	0.117
6/30/00-01	338,348	389,538	413,249	412,191	412,000	413,000	22,462	23,462	0.122	0.122
6/30/01-02	329,555	458,566	491,047	489,345	489,000	491,000	30,434	32,434	0.148	0.149
6/30/02-03	329,179	278,177	300,859	300,469	300,000	301,000	21,823	22,823	0.091	0.091
6/30/03-04	344,547	146,045	159,534	160,536	160,000	161,000	13,955	14,955	0.046	0.047
6/30/04-05	325,530	287,625	317,331	313,468	313,000	317,000	25,375	29,375	0.096	0.097
6/30/05-06	403,750	287,115	323,104	326,917	323,000	327,000	35,885	39,885	0.080	0.081
6/30/06-07	420,219	208,341	240,354	259,858	240,000	260,000	31,659	51,659	0.057	0.062
6/30/07-08	425,998	393,780	456,434	449,757	450,000	456,000	56,220	62,220	0.106	0.107
6/30/08-09	420,566	547,517	648,874	613,268	613,000	649,000	65,483	101,483	0.146	0.154
6/30/09-10	433,206	301,536	371,516	388,726	372,000	389,000	70,464	87,464	0.086	0.090
6/30/10-11	444,673	349,891	453,365	462,672	453,000	463,000	103,109	113,109	0.102	0.104
6/30/11-12	467,753	391,171	590,838	573,854	574,000	591,000	182,829	199,829	0.123	0.126
6/30/12-13	495,398	280,644	502,829	543,747	503,000	544,000	222,356	263,356	0.102	0.110
6/30/13-14	518,391	132,938	462,152	594,532	462,000	595,000	329,062	462,062	0.089	0.115
Total	9,722,626	9,014,715	10,281,922	10,314,349	10,307,367	10,617,230	1,292,653	1,602,516		
Tot 6/30/84-14	9,722,626	8,781,551	10,157,275	10,314,349	10,073,964	10,381,302	1,292,413	1,599,752	0.104	0.107

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, 2014

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 7/1/12-13	Paid Counts 7/1/13-14	Average Outstanding Claim
All Prior Yrs		109,133							1	0	
6/30/82-83		91,124	1.005	1.000	91,552	N/A	91,552		0	0	
6/30/83-84		32,907	1.006	1.000	33,095	N/A	33,095		0	0	
6/30/84-85	176,924	74,201	1.007	1.000	74,698	N/A	74,698	0.042	0	1	498
6/30/85-86	188,662	52,218	1.008	1.000	52,621	N/A	52,621	0.028	0	0	
6/30/86-87	212,277	196,094	1.009	1.000	197,804	N/A	197,804	0.093	0	1	1,710
6/30/87-88	243,118	225,509	1.010	1.000	227,704	N/A	227,704	0.094	2	2	1,097
6/30/88-89	248,990	296,430	1.011	1.000	299,613	N/A	299,613	0.120	0	0	
6/30/89-90	250,404	157,317	1.012	1.000	159,166	N/A	159,166	0.064	0	0	
6/30/90-91	235,170	507,399	1.013	1.000	513,874	N/A	513,874	0.219	0	1	6,475
6/30/91-92	235,607	550,346	1.014	1.000	557,927	N/A	557,927	0.237	1	1	7,581
6/30/92-93	241,161	262,075	1.017	1.000	266,482	N/A	266,482	0.110	0	0	
6/30/93-94	254,321	497,802	1.020	1.000	507,691	N/A	507,691	0.200	1	1	9,890
6/30/94-95	256,665	305,369	1.025	1.000	312,993	N/A	312,993	0.122	0	0	
6/30/95-96	265,739	243,985	1.030	1.000	251,327	N/A	251,327	0.095	0	0	
6/30/96-97	296,336	187,967	1.035	1.000	194,591	N/A	194,591	0.066	0	0	
6/30/97-98	296,982	188,043	1.040	1.000	195,644	N/A	195,644	0.066	1	0	
6/30/98-99	299,530	223,056	1.046	1.000	233,232	N/A	233,232	0.078	1	1	10,176
6/30/99-00	323,627	360,854	1.054	1.000	380,423	N/A	380,423	0.118	3	1	19,570
6/30/00-01	338,348	389,538	1.061	1.000	413,249	N/A	413,249	0.122	2	1	23,710
6/30/01-02	329,555	458,566	1.071	1.000	491,047	N/A	491,047	0.149	3	4	8,120
6/30/02-03	329,179	278,177	1.082	1.000	300,859	N/A	300,859	0.091	2	2	11,341
6/30/03-04	344,547	146,045	1.092	1.000	159,534	N/A	159,534	0.046	0	0	
6/30/04-05	325,530	287,625	1.103	1.000	317,331	N/A	317,331	0.097	0	0	
6/30/05-06	403,750	287,115	1.125	1.000	323,104	N/A	323,104	0.080	0	0	
6/30/06-07	420,219	208,341	1.154	1.000	240,354	N/A	240,354	0.057	3	2	16,007
6/30/07-08	425,998	393,780	1.159	1.000	456,434	N/A	456,434	0.107	2	2	31,327
6/30/08-09	420,566	547,517	1.185	1.000	648,874	N/A	648,874	0.154	7	5	20,271
6/30/09-10	433,206	301,536	1.232	1.000	371,516	N/A	371,516	0.086	6	3	23,327
6/30/10-11	444,673	349,891	1.296	1.000	453,365	N/A	453,365	0.102	23	9	11,497
6/30/11-12	467,753	391,171	1.510	1.000	590,838	N/A	590,838	0.126	93	23	8,681
6/30/12-13	495,398	280,644	1.792	1.000	502,829	N/A	502,829	0.102	221	116	1,915
6/30/13-14	518,391	132,938	3.476	1.000	462,152	N/A	462,152	0.089		183	1,799
Total	9,722,626	9,014,715			10,281,922		10,281,922		372	359	

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, 2014

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	74,201	1.007	74,802	N/A	74,802	0.042	0.042
6/30/85-86	188,662	0.035	52,218	1.008	52,724	N/A	52,724	0.028	0.028
6/30/86-87	212,277	0.093	196,094	1.009	197,801	N/A	197,801	0.093	0.093
6/30/87-88	243,118	0.092	225,509	1.010	227,665	N/A	227,665	0.094	0.094
6/30/88-89	248,990	0.145	296,430	1.011	300,266	N/A	300,266	0.121	0.121
6/30/89-90	250,404	0.084	157,317	1.012	159,760	N/A	159,760	0.064	0.064
6/30/90-91	235,170	0.217	507,399	1.013	513,822	N/A	513,822	0.218	0.218
6/30/91-92	235,607	0.233	550,346	1.014	557,804	N/A	557,804	0.237	0.237
6/30/92-93	241,161	0.109	262,075	1.017	266,405	N/A	266,405	0.110	0.110
6/30/93-94	254,321	0.194	497,802	1.020	507,392	N/A	507,392	0.200	0.200
6/30/94-95	256,665	0.118	305,369	1.025	312,770	N/A	312,770	0.122	0.122
6/30/95-96	265,739	0.092	243,985	1.030	251,135	N/A	251,135	0.095	0.095
6/30/96-97	296,336	0.065	187,967	1.035	194,526	N/A	194,526	0.066	0.066
6/30/97-98	296,982	0.065	188,043	1.040	195,578	N/A	195,578	0.066	0.066
6/30/98-99	299,530	0.076	223,056	1.046	233,036	N/A	233,036	0.078	0.078
6/30/99-00	323,627	0.112	360,854	1.054	379,525	N/A	379,525	0.117	0.117
6/30/00-01	338,348	0.117	389,538	1.061	412,191	N/A	412,191	0.122	0.122
6/30/01-02	329,555	0.141	458,566	1.071	489,345	N/A	489,345	0.148	0.148
6/30/02-03	329,179	0.090	278,177	1.082	300,469	N/A	300,469	0.091	0.091
6/30/03-04	344,547	0.050	146,045	1.092	160,536	N/A	160,536	0.047	0.047
6/30/04-05	325,530	0.085	287,625	1.103	313,468	N/A	313,468	0.096	0.096
6/30/05-06	403,750	0.089	287,115	1.125	326,917	N/A	326,917	0.081	0.081
6/30/06-07	420,219	0.092	208,341	1.154	259,858	N/A	259,858	0.062	0.062
6/30/07-08	425,998	0.096	393,780	1.159	449,757	N/A	449,757	0.106	0.106
6/30/08-09	420,566	0.100	547,517	1.185	613,268	N/A	613,268	0.146	0.146
6/30/09-10	433,206	0.107	301,536	1.232	388,726	N/A	388,726	0.090	0.090
6/30/10-11	444,673	0.111	349,891	1.296	462,672	N/A	462,672	0.104	0.104
6/30/11-12	467,753	0.116	391,171	1.510	573,854	N/A	573,854	0.123	0.123
6/30/12-13	495,398	0.120	280,644	1.792	543,747	N/A	543,747	0.110	0.110
6/30/13-14	518,391	0.125	132,938	3.476	594,532	N/A	594,532	0.115	0.115
Total	9,722,626		8,781,551		10,314,349		10,314,349		

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, 2014

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	513,874	0.219	1.194	0.261	2.563	0.669	0.042	0.217	0.217
6/30/91-92	235,607	557,927	0.237	1.189	0.281	2.465	0.694	0.044	0.234	0.233
6/30/92-93	241,161	266,482	0.110	1.189	0.131	2.370	0.311	0.046	0.110	0.109
6/30/93-94	254,321	507,691	0.200	1.178	0.235	2.279	0.536	0.048	0.194	0.194
6/30/94-95	256,665	312,993	0.122	1.170	0.143	2.191	0.313	0.051	0.120	0.118
6/30/95-96	265,739	251,327	0.095	1.155	0.109	2.107	0.230	0.053	0.094	0.092
6/30/96-97	296,336	194,591	0.066	1.137	0.075	2.026	0.151	0.056	0.067	0.065
6/30/97-98	296,982	195,644	0.066	1.135	0.075	1.948	0.146	0.059	0.068	0.065
6/30/98-99	299,530	233,232	0.078	1.135	0.088	1.873	0.166	0.061	0.076	0.076
6/30/99-00	323,627	380,423	0.118	1.135	0.133	1.801	0.240	0.064	0.115	0.112
6/30/00-01	338,348	413,249	0.122	1.109	0.135	1.732	0.235	0.068	0.118	0.117
6/30/01-02	329,555	491,047	0.149	1.101	0.164	1.665	0.273	0.071	0.136	0.141
6/30/02-03	329,179	300,859	0.091	1.073	0.098	1.601	0.157	0.076	0.085	0.090
6/30/03-04	344,547	159,534	0.046	1.046	0.048	1.539	0.075	0.081	0.052	0.050
6/30/04-05	325,530	317,331	0.097	1.036	0.101	1.480	0.149	0.085	0.105	0.085
6/30/05-06	403,750	323,104	0.080	1.032	0.083	1.423	0.118	0.089	0.108	0.089
6/30/06-07	420,219	240,354	0.057	1.032	0.059	1.369	0.081	0.092	0.110	0.092
6/30/07-08	425,998	456,434	0.107	1.032	0.111	1.316	0.146	0.096	0.112	0.096
6/30/08-09	420,566	648,874	0.154	1.027	0.158	1.265	0.200	0.100	0.115	0.100
6/30/09-10	433,206	371,516	0.086	1.000	0.086	1.217	0.104	0.107	0.120	0.107
6/30/10-11	444,673	453,365	0.102	1.000	0.102	1.170	0.119	0.111	0.123	0.111
6/30/11-12	467,753	590,838	0.126	1.000	0.126	1.125	0.142	0.116	0.125	0.116
6/30/12-13	495,398	502,829	0.102	1.000	0.102	1.082	0.110	0.120	0.127	0.120
6/30/13-14	518,391	462,152	0.089	1.000	0.089	1.040	0.093	0.125		0.125
Total	8,402,252	9,145,669								

Trend Last 4 (ex 13-14):	7.5%	Avg 3 (x13-14):	0.124
Trend Last 8 (ex 13-14):	5.4%	Avg 5 (x13-14):	0.135
Trend Last 12 (ex 13-14):	1.4%	Avg 10 (x13-14):	0.124
Prior Selected Trend:	2.0%	Prior Sel Avg:	0.130
Selected Trend:	4.0%	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, 2013
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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 2014	0	0
(7)	Estimated Reserve	0	0
(8)	Paid to Date (82 & Prior)	109,133	109,133
(9)	Est Ult Paid for 1982 & Prior	109,133	109,133

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	240	240
(11)	Projected Number of Years	2	2
(12)	Estimated Reserve	480	480
(13)	Paid to Date (82 & Prior)	109,133	109,133
(14)	Est Ult Paid for 1982 & Prior	109,613	109,613
(14a)	Paid Counts During Fiscal Year	0	1
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	109,373	109,373
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	**109,373**	**109,373**
(18)	Implied Tail	1.002	1.002
(19)	Ult Loss Inc Lump Sums @ 6/13	115,063	118,328

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, 2013

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			
2014	23	0				
					Selected Trend:	**0.950**

NOTES:

(3) 2014 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2013

(4) LN [(3)]

(5) Eg. 2010: 0.978 = 3080 / 3150

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
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	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	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	74,201		
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	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	196,094				
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	225,509					
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	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	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	507,399								
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	550,346									
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	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	497,802											
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	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	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	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	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	223,056																
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	360,854																	
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	389,538																		
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	458,566																			
June-03	25,041	124,452	162,035	187,240	223,402	231,574	235,669	238,598	245,618	250,270	253,237	278,177																				
June-04	58,014	123,410	131,529	133,995	134,242	145,534	145,992	146,045	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	287,625																						
June-06	104,747	269,295	283,925	286,559	286,907	286,907	287,115	287,115	287,115																							
June-07	90,114	168,280	184,018	193,167	200,918	206,920	207,690	208,341																								
June-08	174,365	329,758	353,009	367,373	382,156	389,416	393,780																									
June-09	175,201	332,994	476,353	502,636	515,594	547,517																										
June-10	71,728	205,753	256,446	286,005	301,536																											
June-11	188,496	302,104	334,423	349,891																												
June-12	156,195	356,432	391,171																													
June-13	144,944	280,644																														
June-14	132,938																															

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
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	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	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	1.002			
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	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	1.001					
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	1.010						
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	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	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	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	1.000										
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	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	1.009												
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	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	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	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	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	1.041																	
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	1.000																		
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	1.015																			
June-02	2.531	1.693	1.223	1.059	1.039	1.072	1.116	1.194	1.082	1.069	1.067	1.062																				
June-03	4.970	1.302	1.156	1.193	1.037	1.018	1.012	1.029	1.019	1.012	1.098																					
June-04	2.127	1.066	1.019	1.002	1.084	1.003	1.000	1.000	1.000	1.000																						
June-05	2.274	1.253	1.057	1.036	1.011	1.004	1.008	1.000	1.000																							
June-06	2.571	1.054	1.009	1.001	1.000	1.001	1.000	1.000																								
June-07	1.867	1.094	1.050	1.040	1.030	1.004	1.003																									
June-08	1.891	1.071	1.041	1.040	1.019	1.011																										
June-09	1.901	1.431	1.055	1.026	1.062																											
June-10	2.869	1.246	1.115	1.054																												
June-11	1.603	1.107	1.046																													
June-12	2.282	1.097																														
June-13	1.936																															

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	2.671	1.283	1.166	1.083	1.058	1.058	1.040	1.031	1.038	1.016	1.020	1.013	1.009	1.007	1.006	1.012	1.007	1.022	1.014	1.009	1.007	1.009	1.012	1.006	1.007	1.004	1.000	1.000	1.001	1.000	1.000	
Latest 5	2.118	1.190	1.061	1.032	1.024	1.005	1.005	1.045	1.027	1.031	1.050	1.031	1.011	1.006	1.008	1.003	1.004	1.007	1.023	1.006	1.000	1.007	1.015	1.009	1.010	1.005	1.000					
Latest 3	1.940	1.150	1.072	1.040	1.037	1.005	1.004	1.000	1.006	1.027	1.059	1.040	1.016	1.010	1.014	1.000	1.000	1.009	1.006	1.006	1.000	1.000	1.000	1.007	1.007	1.003	1.000	1.000	1.001			
Volume Wtd																																
All Yrs	2.311	1.231	1.116	1.051	1.041	1.033	1.028	1.026	1.028	1.018	1.026	1.017	1.014	1.006	1.007	1.007	1.009	1.034	1.020	1.010	1.006	1.007	1.011	1.008	1.006	1.005	1.001	1.000	1.001	1.000	1.000	
Latest 5	2.007	1.186	1.059	1.031	1.029	1.005	1.005	1.051	1.033	1.037	1.050	1.035	1.012	1.005	1.008	1.006	1.007	1.009	1.027	1.008	1.000	1.005	1.011	1.010	1.007	1.006	1.001					
Latest 3	1.918	1.136	1.067	1.037	1.041	1.006	1.004	1.000	1.007	1.037	1.054	1.041	1.016	1.008	1.015	1.000	1.000	1.012	1.008	1.007	1.000	1.000	1.000	1.007	1.006	1.005	1.001	1.000	1.001			

Dev Factor Selection																																
Industry 1	1.954	1.133	1.050	1.027	1.015	1.012	1.011																									
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	*2.251*	*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*	
Selected	1.940	1.186	1.166	1.052	1.040	1.022	1.005	1.025	1.020	1.010	1.010	1.010	1.009	1.006	1.008	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	1.001	1.005
FacToUlt	3.476	1.792	1.510	1.296	1.232	1.185	1.159	1.154	1.125	1.103	1.092	1.082	1.071	1.061	1.054	1.046	1.040	1.035	1.030	1.025	1.020	1.017	1.014	1.013	1.012	1.011	1.010	1.009	1.008	1.007	1.006	1.005
Percent of Ult	28.8%	55.8%	66.2%	77.2%	81.2%	84.4%	86.3%	86.7%	88.9%	90.6%	91.5%	92.5%	93.4%	94.3%	94.9%	95.6%	96.1%	96.6%	97.1%	97.6%	98.1%	98.3%	98.6%	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 6/13		As of 6/14		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	115,063	118,328	109,373	109,373	(5,690)	-4.9%	(8,956)	-7.6%
6/30/82-83	91,124	92,535	91,124	92,467	0	0.0%	(67)	-0.1%
6/30/83-84	32,907	34,112	32,907	34,087	0	0.0%	(25)	-0.1%
6/30/84-85	74,805	75,546	74,943	76,192	138	0.2%	647	0.9%
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	226,000	226,000	228,000	228,000	2,000	0.9%	2,000	0.9%
6/30/88-89	300,000	301,000	300,000	300,000	0	0.0%	(1,000)	-0.3%
6/30/89-90	158,890	160,463	158,890	160,463	0	0.0%	0	0.0%
6/30/90-91	514,000	514,000	514,000	514,000	0	0.0%	0	0.0%
6/30/91-92	559,000	559,000	558,000	558,000	(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	505,000	506,000	507,000	508,000	2,000	0.4%	2,000	0.4%
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	197,000	196,000	196,000	(1,000)	-0.5%	(1,000)	-0.5%
6/30/98-99	225,000	225,000	233,000	233,000	8,000	3.6%	8,000	3.6%
6/30/99-00	381,000	381,000	380,000	380,000	(1,000)	-0.3%	(1,000)	-0.3%
6/30/00-01	409,000	409,000	412,000	413,000	3,000	0.7%	4,000	1.0%
6/30/01-02	464,000	465,000	489,000	491,000	25,000	5.4%	26,000	5.6%
6/30/02-03	276,000	276,000	300,000	301,000	24,000	8.7%	25,000	9.1%
6/30/03-04	160,000	162,000	160,000	161,000	0	0.0%	(1,000)	-0.6%
6/30/04-05	322,000	324,000	313,000	317,000	(9,000)	-2.8%	(7,000)	-2.2%
6/30/05-06	332,000	346,000	323,000	327,000	(9,000)	-2.7%	(19,000)	-5.5%
6/30/06-07	247,000	281,000	240,000	260,000	(7,000)	-2.8%	(21,000)	-7.5%
6/30/07-08	473,000	474,000	450,000	456,000	(23,000)	-4.9%	(18,000)	-3.8%
6/30/08-09	614,000	648,000	613,000	649,000	(1,000)	-0.2%	1,000	0.2%
6/30/09-10	377,000	412,000	372,000	389,000	(5,000)	-1.3%	(23,000)	-5.6%
6/30/10-11	516,000	526,000	453,000	463,000	(63,000)	-12.2%	(63,000)	-12.0%
6/30/11-12	625,000	659,000	574,000	591,000	(51,000)	-8.2%	(68,000)	-10.3%
6/30/12-13	603,000	625,000	503,000	544,000	(100,000)	-16.6%	(81,000)	-13.0%
6/30/13-14								
Total	10,057,920	10,267,631	9,845,367	10,022,230	(212,553)	-2.1%	(245,401)	-2.4%

NOTES:

(2), (3) From Aon analysis as of June 30, 2013

(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%
396	100.0%	0.5%	0.0%	0.1%	0.1%	1.000	1.000
384	99.5%	0.1%	0.5%	0.0%	0.0%	0.981	0.971
372	99.4%	0.1%	0.6%	0.0%	0.0%	0.949	0.926
360	99.3%	0.1%	0.7%	0.0%	0.0%	0.923	0.888
348	99.2%	0.1%	0.8%	0.0%	0.0%	0.900	0.855
336	99.1%	0.1%	0.9%	0.0%	0.0%	0.878	0.826
324	99.0%	0.1%	1.0%	0.0%	0.0%	0.858	0.799
312	98.9%	0.1%	1.1%	0.0%	0.0%	0.840	0.774
300	98.8%	0.1%	1.2%	0.0%	0.0%	0.822	0.750
288	98.7%	0.1%	1.3%	0.0%	0.0%	0.806	0.729
276	98.6%	0.3%	1.4%	0.1%	0.1%	0.790	0.708
264	98.3%	0.3%	1.7%	0.1%	0.1%	0.799	0.722
252	98.1%	0.5%	1.9%	0.2%	0.1%	0.800	0.725
240	97.6%	0.5%	2.4%	0.2%	0.2%	0.812	0.741
228	97.1%	0.5%	2.9%	0.2%	0.2%	0.814	0.745
216	96.6%	0.5%	3.4%	0.2%	0.2%	0.810	0.741
204	96.1%	0.5%	3.9%	0.3%	0.2%	0.804	0.732
192	95.6%	0.8%	4.4%	0.4%	0.3%	0.796	0.722
180	94.9%	0.6%	5.1%	0.3%	0.3%	0.798	0.725
168	94.3%	0.9%	5.7%	0.5%	0.4%	0.789	0.714
156	93.4%	0.9%	6.6%	0.6%	0.4%	0.788	0.713
144	92.5%	0.9%	7.5%	0.6%	0.5%	0.785	0.709
132	91.5%	0.9%	8.5%	0.6%	0.5%	0.780	0.702
120	90.6%	1.8%	9.4%	1.2%	1.0%	0.772	0.692
108	88.9%	2.2%	11.1%	1.6%	1.3%	0.780	0.704
96	86.7%	0.4%	13.3%	0.3%	0.3%	0.788	0.714
84	86.3%	1.9%	13.7%	1.5%	1.3%	0.764	0.683
72	84.4%	3.2%	15.6%	2.6%	2.3%	0.765	0.684
60	81.2%	4.0%	18.8%	3.3%	3.1%	0.777	0.701
48	77.2%	11.0%	22.8%	9.6%	8.9%	0.788	0.715
36	66.2%	10.4%	33.8%	9.4%	9.0%	0.830	0.771
24	55.8%	27.0%	44.2%	25.5%	24.8%	0.841	0.785
12	28.8%	28.8%	71.2%	28.2%	27.9%	0.874	0.828
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
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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	240	240		231	231
6/30/82-83	0	1,343	0.981	0	1,317
6/30/83-84	0	1,180	0.949	0	1,121
6/30/84-85	742	1,992	0.923	685	1,838
6/30/85-86	522	1,044	0.900	470	940
6/30/86-87	1,906	1,906	0.878	1,674	1,674
6/30/87-88	2,491	2,491	0.858	2,138	2,138
6/30/88-89	3,570	3,570	0.840	2,998	2,998
6/30/89-90	1,573	3,146	0.822	1,294	2,587
6/30/90-91	6,601	6,601	0.806	5,318	5,318
6/30/91-92	7,654	7,654	0.790	6,043	6,043
6/30/92-93	2,621	5,242	0.799	2,093	4,186
6/30/93-94	9,198	10,198	0.800	7,359	8,159
6/30/94-95	3,054	6,107	0.812	2,478	4,957
6/30/95-96	2,440	4,880	0.814	1,985	3,970
6/30/96-97	1,880	3,759	0.810	1,523	3,047
6/30/97-98	7,957	7,957	0.804	6,399	6,399
6/30/98-99	9,944	9,944	0.796	7,915	7,915
6/30/99-00	19,146	19,146	0.798	15,280	15,280
6/30/00-01	22,462	23,462	0.789	17,732	18,521
6/30/01-02	30,434	32,434	0.788	23,996	25,572
6/30/02-03	21,823	22,823	0.785	17,140	17,925
6/30/03-04	13,955	14,955	0.780	10,879	11,658
6/30/04-05	25,375	29,375	0.772	19,589	22,677
6/30/05-06	35,885	39,885	0.780	28,001	31,122
6/30/06-07	31,659	51,659	0.788	24,947	40,707
6/30/07-08	56,220	62,220	0.764	42,969	47,555
6/30/08-09	65,483	101,483	0.765	50,075	77,603
6/30/09-10	70,464	87,464	0.777	54,762	67,974
6/30/10-11	103,109	113,109	0.788	81,253	89,133
6/30/11-12	182,829	199,829	0.830	151,760	165,871
6/30/12-13	222,356	263,356	0.841	187,013	221,497
6/30/13-14	329,062	462,062	0.874	287,589	403,826
Total	1,292,653	1,602,516		1,063,587	1,321,761
			(7) Total Discount Factor:	0.823	0.825

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	240	240
(9) Projected Number of Years:	2	2
(10) Projected Paid Loss per Year:	120	120
(11) Discounted Value at 4%:	231	231

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)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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	240	240		227	227
6/30/82-83	0	1,343	0.971	0	1,305
6/30/83-84	0	1,180	0.926	0	1,093
6/30/84-85	742	1,992	0.888	659	1,769
6/30/85-86	522	1,044	0.855	447	893
6/30/86-87	1,906	1,906	0.826	1,574	1,574
6/30/87-88	2,491	2,491	0.799	1,989	1,989
6/30/88-89	3,570	3,570	0.774	2,762	2,762
6/30/89-90	1,573	3,146	0.750	1,181	2,361
6/30/90-91	6,601	6,601	0.729	4,810	4,810
6/30/91-92	7,654	7,654	0.708	5,419	5,419
6/30/92-93	2,621	5,242	0.722	1,892	3,785
6/30/93-94	9,198	10,198	0.725	6,668	7,393
6/30/94-95	3,054	6,107	0.741	2,264	4,529
6/30/95-96	2,440	4,880	0.745	1,817	3,634
6/30/96-97	1,880	3,759	0.741	1,392	2,784
6/30/97-98	7,957	7,957	0.732	5,828	5,828
6/30/98-99	9,944	9,944	0.722	7,176	7,176
6/30/99-00	19,146	19,146	0.725	13,880	13,880
6/30/00-01	22,462	23,462	0.714	16,030	16,743
6/30/01-02	30,434	32,434	0.713	21,693	23,118
6/30/02-03	21,823	22,823	0.709	15,475	16,184
6/30/03-04	13,955	14,955	0.702	9,792	10,493
6/30/04-05	25,375	29,375	0.692	17,557	20,325
6/30/05-06	35,885	39,885	0.704	25,248	28,062
6/30/06-07	31,659	51,659	0.714	22,608	36,890
6/30/07-08	56,220	62,220	0.683	38,371	42,466
6/30/08-09	65,483	101,483	0.684	44,763	69,371
6/30/09-10	70,464	87,464	0.701	49,368	61,278
6/30/10-11	103,109	113,109	0.715	73,740	80,892
6/30/11-12	182,829	199,829	0.771	140,955	154,062
	222,356	263,356	0.785	174,485	206,659
6/30/13-14	329,062	462,062	0.828	272,463	382,587
Total	1,292,653	1,602,516		982,532	1,222,341
			(7) Total Discount Factor:	0.760	0.763

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	240	240
(9) Projected Number of Years:	2	2
(10) Projected Paid Loss per Year:	120	120
(11) Discounted Value at 6%:	227	227

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, 2014

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	307,496		306,340	313,999	0	7,659		
6/30/83-84		1,443,839	1,449,037		1,472,716	1,501,593	28,877	57,754		
6/30/84-85	116,303	852,745	856,315	857,640	869,800	886,855	17,055	34,110	0.748	0.763
6/30/85-86	123,981	2,517,941	2,528,258	2,530,539	2,528,000	2,531,000	10,059	13,059	2.039	2.041
6/30/86-87	139,388	3,380,019	4,013,849	3,395,803	3,396,000	3,704,826	15,981	324,807	2.436	2.658
6/30/87-88	159,499	3,025,877	3,306,098	3,041,551	3,042,000	3,173,824	16,123	147,947	1.907	1.990
6/30/88-89	180,644	2,623,646	2,637,726	2,643,120	2,676,119	2,754,828	52,473	131,182	1.481	1.525
6/30/89-90	142,494	3,243,583	3,261,330	3,268,152	3,308,455	3,405,762	64,872	162,179	2.322	2.390
6/30/90-91	143,694	1,101,823	1,111,855	1,111,787	1,123,859	1,156,914	22,036	55,091	0.782	0.805
6/30/91-92	155,170	1,518,304	1,539,691	1,539,365	1,548,670	1,594,219	30,366	75,915	0.998	1.027
6/30/92-93	163,283	638,167	651,296	651,099	650,930	670,075	12,763	31,908	0.399	0.410
6/30/93-94	177,184	1,835,078	1,884,550	1,882,945	1,883,000	1,885,000	47,922	49,922	1.063	1.064
6/30/94-95	188,391	521,127	533,443	533,472	533,000	533,000	11,873	11,873	0.283	0.283
6/30/95-96	201,751	491,723	505,814	505,987	501,557	511,392	9,834	19,669	0.249	0.253
6/30/96-97	231,872	422,390	429,948	431,055	430,838	439,286	8,448	16,896	0.186	0.189
6/30/97-98	232,237	545,727	576,696	576,195	556,642	567,556	10,915	21,829	0.240	0.244
6/30/98-99	232,075	631,601	652,768	653,219	653,000	653,000	21,399	21,399	0.281	0.281
6/30/99-00	211,819	687,583	725,243	724,028	724,000	725,000	36,417	37,417	0.342	0.342
6/30/00-01	215,099	737,973	774,071	773,329	773,000	774,000	35,027	36,027	0.359	0.360
6/30/01-02	227,797	341,709	362,868	363,908	363,000	364,000	21,291	22,291	0.159	0.160
6/30/02-03	242,008	923,548	995,355	991,707	992,000	995,000	68,452	71,452	0.410	0.411
6/30/03-04	276,758	962,971	1,031,974	1,030,075	1,030,000	1,032,000	67,029	69,029	0.372	0.373
6/30/04-05	260,378	201,102	219,069	253,069	219,000	253,000	17,898	51,898	0.084	0.097
6/30/05-06	317,741	778,823	859,606	859,748	860,000	860,000	81,177	81,177	0.271	0.271
6/30/06-07	325,922	368,698	417,955	465,808	418,000	466,000	49,302	97,302	0.128	0.143
6/30/07-08	354,130	1,169,450	1,315,150	1,302,169	1,302,000	1,315,000	132,550	145,550	0.368	0.371
6/30/08-09	362,309	479,461	568,725	614,299	569,000	614,000	89,539	134,539	0.157	0.169
6/30/09-10	383,298	503,510	624,867	673,909	625,000	674,000	121,490	170,490	0.163	0.176
6/30/10-11	394,924	591,139	844,359	854,265	844,000	854,000	252,861	262,861	0.214	0.216
6/30/11-12	381,943	511,322	860,605	886,088	861,000	886,000	349,678	374,678	0.225	0.232
6/30/12-13	384,763	277,306	679,437	815,098	679,000	815,000	401,694	537,694	0.176	0.212
6/30/13-14	364,582	86,121	474,774	741,508	475,000	742,000	388,879	655,879	0.130	0.204
Total	7,291,438	35,050,056	37,000,229	34,970,935	37,544,338	38,981,541	2,494,282	3,931,485		
Tot 6/30/84-14	7,291,438	31,970,465	35,243,696	34,970,935	34,435,870	35,836,538	2,465,406	3,866,073	0.472	0.491

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, 2014

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 7/1/12-13	Paid Counts 7/1/13-14	Average Outstanding Claim	Average Age
All Prior Yrs		1,242,912							0	0		
6/30/82-83		271,340	1.004	1.000	272,496	35,000	307,496		0	0		
6/30/83-84		1,219,902	1.004	1.000	1,225,100	223,937	1,449,037		0	0		
6/30/84-85	116,303	837,745	1.004	1.000	841,315	15,000	856,315	0.736	0	0		
6/30/85-86	123,981	2,421,446	1.004	1.000	2,431,763	96,495	2,528,258	2.039	0	0		
6/30/86-87	139,388	3,072,101	1.005	1.200	3,705,931	307,918	4,013,849	2.880	1	1	633,830	83
6/30/87-88	159,499	2,621,395	1.006	1.100	2,901,616	404,482	3,306,098	2.073	1	0		
6/30/88-89	180,644	2,245,396	1.006	1.000	2,259,476	378,250	2,637,726	1.460	0	0		
6/30/89-90	142,494	2,830,333	1.006	1.000	2,848,080	413,250	3,261,330	2.289	0	0		
6/30/90-91	143,694	887,647	1.011	1.000	897,679	214,176	1,111,855	0.774	0	0		
6/30/91-92	155,170	1,163,553	1.018	1.000	1,184,940	354,751	1,539,691	0.992	0	0		
6/30/92-93	163,283	494,916	1.027	1.000	508,045	143,251	651,296	0.399	0	0		
6/30/93-94	177,184	1,423,826	1.035	1.000	1,473,298	411,252	1,884,550	1.064	1	1	49,472	72
6/30/94-95	188,391	273,127	1.045	1.000	285,443	248,000	533,443	0.283	0	0		
6/30/95-96	201,751	253,697	1.056	1.000	267,788	238,026	505,814	0.251	0	0		
6/30/96-97	231,872	113,590	1.067	1.000	121,148	308,800	429,948	0.185	0	0		
6/30/97-98	232,237	445,227	1.070	1.000	476,196	100,500	576,696	0.248	0	0		
6/30/98-99	232,075	289,851	1.073	1.000	311,018	341,750	652,768	0.281	1	0		
6/30/99-00	211,819	489,166	1.077	1.000	526,826	198,417	725,243	0.342	0	0		
6/30/00-01	215,099	431,926	1.084	1.000	468,024	306,047	774,071	0.360	0	0		
6/30/01-02	227,797	246,210	1.084	1.000	266,786	96,082	362,868	0.159	0	0		
6/30/02-03	242,008	822,132	1.085	1.000	892,278	103,077	995,355	0.411	1	1	70,145	53
6/30/03-04	276,758	635,971	1.100	1.000	699,306	332,668	1,031,974	0.373	0	0		
6/30/04-05	260,378	134,102	1.122	1.000	150,435	68,634	219,069	0.084	1	0		
6/30/05-06	317,741	498,323	1.145	1.000	570,449	289,157	859,606	0.271	0	0		
6/30/06-07	325,922	238,698	1.182	1.000	282,177	135,778	417,955	0.128	0	0		
6/30/07-08	354,130	609,450	1.198	1.000	729,828	585,322	1,315,150	0.371	4	1	120,378	46
6/30/08-09	362,309	345,960	1.221	1.000	422,579	146,146	568,725	0.157	2	2	38,310	47
6/30/09-10	383,298	374,510	1.244	1.000	465,984	158,883	624,867	0.163	2	1	91,475	39
6/30/10-11	394,924	503,639	1.393	1.000	701,404	142,955	844,359	0.214	4	4	49,441	60
6/30/11-12	381,943	416,322	1.550	1.000	645,247	215,358	860,605	0.225	13	5	45,785	52
6/30/12-13	384,763	227,306	2.016	1.000	458,194	221,243	679,437	0.177	51	11	20,990	49
6/30/13-14	364,582	86,121	3.865	1.000	332,878	141,896	474,774	0.130		28	8,813	47
Total	7,291,438	28,167,838			29,623,728	7,376,502	37,000,229		82	55		

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, 2014

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	1.004	842,640	15,000	857,640	0.737	0.725
6/30/85-86	123,981	2.395	2,421,446	1.004	2,434,044	96,495	2,530,539	2.041	1.963
6/30/86-87	139,388	2.162	3,072,101	1.005	3,087,885	307,918	3,395,803	2.436	2.215
6/30/87-88	159,499	1.577	2,621,395	1.006	2,637,069	404,482	3,041,551	1.907	1.653
6/30/88-89	180,644	1.730	2,245,396	1.006	2,264,870	378,250	2,643,120	1.463	1.254
6/30/89-90	142,494	2.767	2,830,333	1.006	2,854,902	413,250	3,268,152	2.294	2.004
6/30/90-91	143,694	0.620	887,647	1.011	897,611	214,176	1,111,787	0.774	0.625
6/30/91-92	155,170	0.752	1,163,553	1.018	1,184,614	354,751	1,539,365	0.992	0.763
6/30/92-93	163,283	0.306	494,916	1.027	507,848	143,251	651,099	0.399	0.311
6/30/93-94	177,184	0.805	1,423,826	1.035	1,471,693	411,252	1,882,945	1.063	0.831
6/30/94-95	188,391	0.152	273,127	1.045	285,472	248,000	533,472	0.283	0.152
6/30/95-96	201,751	0.134	253,697	1.056	267,961	238,026	505,987	0.251	0.133
6/30/96-97	231,872	0.060	113,590	1.067	122,255	308,800	431,055	0.186	0.053
6/30/97-98	232,237	0.202	445,227	1.070	475,695	100,500	576,195	0.248	0.205
6/30/98-99	232,075	0.137	289,851	1.073	311,469	341,750	653,219	0.281	0.134
6/30/99-00	211,819	0.241	489,166	1.077	525,611	198,417	724,028	0.342	0.248
6/30/00-01	215,099	0.213	431,926	1.084	467,282	306,047	773,329	0.360	0.217
6/30/01-02	227,797	0.123	246,210	1.084	267,826	96,082	363,908	0.160	0.118
6/30/02-03	242,008	0.350	822,132	1.085	888,629	103,077	991,707	0.410	0.367
6/30/03-04	276,758	0.245	635,971	1.100	697,407	332,668	1,030,075	0.372	0.252
6/30/04-05	260,378	0.178	134,102	1.122	184,435	68,634	253,069	0.097	0.071
6/30/05-06	317,741	0.180	498,323	1.145	570,592	289,157	859,748	0.271	0.180
6/30/06-07	325,922	0.182	238,698	1.182	330,030	135,778	465,808	0.143	0.101
6/30/07-08	354,130	0.184	609,450	1.198	716,847	585,322	1,302,169	0.368	0.202
6/30/08-09	362,309	0.186	345,960	1.221	468,154	146,146	614,299	0.170	0.129
6/30/09-10	383,298	0.187	374,510	1.244	515,026	158,883	673,909	0.176	0.134
6/30/10-11	394,924	0.187	503,639	1.393	711,310	142,955	854,265	0.216	0.180
6/30/11-12	381,943	0.188	416,322	1.550	670,730	215,358	886,088	0.232	0.176
6/30/12-13	384,763	0.189	227,306	2.016	593,855	221,243	815,098	0.212	0.154
6/30/13-14	364,582	0.190	86,121	3.865	599,613	141,896	741,508	0.203	0.164
Total	7,291,438		25,433,684		27,853,371	7,117,565	34,970,935		

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, 2014

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	897,679	0.625	0.957	0.598	1.000	0.598	0.198	0.623	0.620
6/30/91-92	155,170	1,184,940	0.764	1.050	0.802	1.000	0.802	0.181	0.756	0.752
6/30/92-93	163,283	508,045	0.311	1.225	0.381	1.000	0.381	0.155	0.308	0.306
6/30/93-94	177,184	1,473,298	0.832	1.209	1.005	1.000	1.005	0.157	0.800	0.805
6/30/94-95	188,391	285,443	0.152	1.198	0.182	1.000	0.182	0.159	0.152	0.152
6/30/95-96	201,751	267,788	0.133	1.188	0.158	1.000	0.158	0.160	0.134	0.134
6/30/96-97	231,872	121,148	0.052	1.177	0.061	1.000	0.061	0.161	0.059	0.060
6/30/97-98	232,237	476,196	0.205	1.162	0.238	1.000	0.238	0.164	0.201	0.202
6/30/98-99	232,075	311,018	0.134	1.146	0.154	1.000	0.154	0.166	0.136	0.137
6/30/99-00	211,819	526,826	0.249	1.128	0.281	1.000	0.281	0.168	0.241	0.241
6/30/00-01	215,099	468,024	0.218	1.099	0.239	1.000	0.239	0.173	0.212	0.213
6/30/01-02	227,797	266,786	0.117	1.078	0.126	1.000	0.126	0.176	0.122	0.123
6/30/02-03	242,008	892,278	0.369	1.074	0.396	1.000	0.396	0.177	0.330	0.350
6/30/03-04	276,758	699,306	0.253	1.074	0.271	1.000	0.271	0.177	0.248	0.245
6/30/04-05	260,378	150,435	0.058	1.067	0.062	1.000	0.062	0.178	0.172	0.178
6/30/05-06	317,741	570,449	0.180	1.056	0.190	1.000	0.190	0.180	0.176	0.180
6/30/06-07	325,922	282,177	0.087	1.045	0.090	1.000	0.090	0.182	0.179	0.182
6/30/07-08	354,130	729,828	0.206	1.033	0.213	1.000	0.213	0.184	0.183	0.184
6/30/08-09	362,309	422,579	0.117	1.021	0.119	1.000	0.119	0.186	0.187	0.186
6/30/09-10	383,298	465,984	0.122	1.017	0.124	1.000	0.124	0.187	0.190	0.187
6/30/10-11	394,924	701,404	0.178	1.019	0.181	1.000	0.181	0.187	0.191	0.187
6/30/11-12	381,943	645,247	0.169	1.012	0.171	1.000	0.171	0.188	0.195	0.188
6/30/12-13	384,763	458,194	0.119	1.005	0.120	1.000	0.120	0.189	0.198	0.189
6/30/13-14	364,582	332,878	0.091	1.000	0.091	1.000	0.091	0.190		0.190
Total	6,429,129	13,137,951								

Trend Last 4 (ex 13-14):	-1.5%	Avg 3 (x13-14):	0.157
Trend Last 8 (ex 13-14):	-0.6%	Avg 5 (x13-14):	0.143
Trend Last 12 (ex 13-14):	-2.8%	Avg 10 (x13-14):	0.154
Prior Selected Trend:	1.0%	Prior Sel Avg:	0.200
Selected Trend:	0.0%	Sel. Loss Cost:	0.190

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, 2013
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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	0.941		0.969
(6)	Incremental Paid for 2014	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 @ 6/13	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, 2013

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				
2014	23	0				
					Selected Trend:	**0.860**

NOTES:

(3) 2014 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2013

(4) LN [(3)]

(5) Eg. 2003: 0.436 = 12543 / 28782

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	384
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	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	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	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	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	3,072,101				
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	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	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	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	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	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	1,423,826											
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	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	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	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	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	289,251	289,251	289,851	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	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	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	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	822,132																				
June-04	158,939	366,873	493,674	593,313	624,409	635,971	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	134,102																						
June-06	148,922	299,710	423,237	498,323	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	238,698																								
June-08	199,585	456,548	645,562	768,096	799,003	692,172	609,450																									
June-09	126,394	222,250	303,425	345,595	337,031	345,960																										
June-10	173,596	323,966	367,986	373,360	374,510																											
June-11	204,108	361,900	447,595	503,639																												
June-12	169,232	317,366	416,322																													
June-13	159,666	227,306																														
June-14	86,121																															

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
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	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	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	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	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	1.007					
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	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	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	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	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	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	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	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	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	1.000																	
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	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	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	1.000																				
June-03	2.075	1.244	1.123	1.410	1.188	1.114	1.072	1.120	1.074	1.070	1.066																					
June-04	2.308	1.346	1.202	1.052	1.019	1.000	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	1.000																							
June-06	2.013	1.412	1.177	1.000	1.000	1.000	1.000	1.000																								
June-07	1.712	1.075	1.000	1.000	1.000	1.000	1.000																									
June-08	2.287	1.414	1.190	1.040	0.866	0.880																										
June-09	1.758	1.365	1.139	0.975	1.026																											
June-10	1.866	1.136	1.015	1.003																												
June-11	1.773	1.237	1.125																													
June-12	1.875	1.312																														
June-13	1.424																															

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	2.139	1.341	1.193	1.108	1.064	1.036	1.040	1.037	1.022	1.023	1.017	1.014	1.011	1.012	1.011	1.008	1.007	1.008	1.008	1.020	1.008	1.005	1.006	1.004	1.003	1.003	1.001	1.000	1.000	1.000	1.000	
Latest 5	1.739	1.293	1.094	1.004	0.979	0.976	1.040	1.039	1.015	1.014	1.013	1.002	1.000	1.000	1.000	1.003	1.003	1.003	1.003	1.003	1.000	1.006	1.010	1.007	1.004	1.004	1.001					
Latest 3	1.691	1.228	1.093	1.006	0.964	0.960	1.042	1.022	1.025	1.023	1.022	1.001	1.000	1.001	1.000	1.000	1.000	1.005	1.005	1.005	1.000	1.000	1.000	1.005	1.007	1.007	1.002	1.000	1.000			
Volume Wtd																																
All Yrs	2.091	1.377	1.183	1.119	1.077	1.048	1.046	1.046	1.028	1.032	1.030	1.019	1.020	1.016	1.014	1.009	1.009	1.009	1.010	1.028	1.010	1.008	1.008	1.006	1.005	1.006	1.003	1.000	1.000	1.000	1.000	
Latest 5	1.744	1.297	1.113	1.011	0.951	0.962	1.027	1.039	1.023	1.020	1.023	1.002	1.000	1.000	1.000	1.009	1.008	1.006	1.005	1.003	1.000	1.008	1.012	1.007	1.005	1.006	1.003					
Latest 3	1.701	1.228	1.093	1.016	0.929	0.942	1.017	1.007	1.034	1.031	1.035	1.001	1.000	1.000	1.000	1.000	1.000	1.010	1.009	1.007	1.000	1.000	1.000	1.005	1.008	1.007	1.004	1.000	1.000			

Dev Factor Selection																																
Industry 1	2.861	1.511	1.198	1.090	1.035	1.020	1.016																									
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	*1.958*	*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	
Selected	1.918	1.301	1.113	1.119	1.019	1.020	1.013	1.033	1.020	1.020	1.013	1.002	1.000	1.006	1.004	1.003	1.003	1.010	1.010	1.010	1.008	1.008	1.007	1.005	1.000	1.000	1.001	1.001	1.000	1.000	1.000	1.004
FacToUlt	3.865	2.016	1.550	1.393	1.244	1.221	1.198	1.182	1.145	1.122	1.100	1.085	1.084	1.084	1.077	1.073	1.070	1.067	1.056	1.045	1.035	1.027	1.018	1.011	1.006	1.006	1.006	1.005	1.004	1.004	1.004	1.004
Percent of Ult	25.9%	49.6%	64.5%	71.8%	80.4%	81.9%	83.5%	84.6%	87.4%	89.1%	90.9%	92.1%	92.3%	92.3%	92.9%	93.2%	93.5%	93.8%	94.7%	95.7%	96.6%	97.4%	98.2%	98.9%	99.4%	99.4%	99.4%	99.5%	99.6%	99.6%	99.6%	99.6%

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 6/13		As of 6/14		(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	2,529,000	2,532,000	2,528,000	2,531,000	(1,000)	0.0%	(1,000)	0.0%
6/30/86-87	3,372,000	3,678,312	3,396,000	3,704,826	24,000	0.7%	26,514	0.7%
6/30/87-88	3,038,000	3,169,609	3,042,000	3,173,824	4,000	0.1%	4,215	0.1%
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	1,875,000	1,877,000	1,883,000	1,885,000	8,000	0.4%	8,000	0.4%
6/30/94-95	536,000	536,000	533,000	533,000	(3,000)	-0.6%	(3,000)	-0.6%
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	654,000	654,000	653,000	653,000	(1,000)	-0.2%	(1,000)	-0.2%
6/30/99-00	727,000	728,000	724,000	725,000	(3,000)	-0.4%	(3,000)	-0.4%
6/30/00-01	775,000	776,000	773,000	774,000	(2,000)	-0.3%	(2,000)	-0.3%
6/30/01-02	364,000	365,000	363,000	364,000	(1,000)	-0.3%	(1,000)	-0.3%
6/30/02-03	943,000	946,000	992,000	995,000	49,000	5.2%	49,000	5.2%
6/30/03-04	1,041,000	1,044,000	1,030,000	1,032,000	(11,000)	-1.1%	(12,000)	-1.1%
6/30/04-05	222,000	258,000	219,000	253,000	(3,000)	-1.4%	(5,000)	-1.9%
6/30/05-06	881,000	887,000	860,000	860,000	(21,000)	-2.4%	(27,000)	-3.0%
6/30/06-07	425,000	476,000	418,000	466,000	(7,000)	-1.6%	(10,000)	-2.1%
6/30/07-08	1,422,000	1,463,000	1,302,000	1,315,000	(120,000)	-8.4%	(148,000)	-10.1%
6/30/08-09	571,000	619,000	569,000	614,000	(2,000)	-0.4%	(5,000)	-0.8%
6/30/09-10	691,000	750,000	625,000	674,000	(66,000)	-9.6%	(76,000)	-10.1%
6/30/10-11	836,000	861,000	844,000	854,000	8,000	1.0%	(7,000)	-0.8%
6/30/11-12	1,007,000	1,064,000	861,000	886,000	(146,000)	-14.5%	(178,000)	-16.7%
6/30/12-13	885,000	992,000	679,000	815,000	(206,000)	-23.3%	(177,000)	-17.8%
6/30/13-14								
Total	37,569,338	38,807,812	37,069,338	38,239,541	(500,000)	-1.3%	(568,271)	-1.5%

NOTES:

(2), (3) From Aon analysis as of June 30, 2013

(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, 2014

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	1.004	272,496	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	1.004	1,225,100	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	1.004	841,315	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	1.004	2,431,763	0.0%	0.0%	0	96,495	96,495	4.0%	1.000	96,495	96,495	96,495
6/30/86-87	3,072,101	1.206	3,705,931	0.0%	0.0%	0	307,918	307,918	8.3%	1.000	307,918	307,918	307,918
6/30/87-88	2,621,395	1.107	2,901,616	0.0%	0.0%	0	404,482	404,482	13.9%	1.000	404,482	404,482	404,482
6/30/88-89	2,245,396	1.006	2,259,476	0.0%	0.0%	0	378,250	378,250	16.7%	1.000	378,250	378,250	378,250
6/30/89-90	2,830,333	1.006	2,848,080	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	1.011	897,679	0.0%	0.0%	0	214,176	214,176	23.9%	1.000	214,176	214,176	214,176
6/30/91-92	1,163,553	1.018	1,184,940	0.0%	0.0%	0	354,751	354,751	29.9%	1.000	354,751	354,751	354,751
6/30/92-93	494,916	1.027	508,045	0.0%	0.0%	0	143,251	143,251	28.2%	1.000	143,251	143,251	143,251
6/30/93-94	1,423,826	1.035	1,473,298	0.0%	0.0%	0	411,252	411,252	27.9%	1.000	411,252	411,252	411,252
6/30/94-95	273,127	1.045	285,443	0.0%	0.0%	0	248,000	248,000	86.9%	1.000	248,000	248,000	248,000
6/30/95-96	253,697	1.056	267,788	0.0%	0.0%	0	238,026	238,026	88.9%	1.000	238,026	238,026	238,026
6/30/96-97	113,590	1.067	121,148	0.0%	0.0%	0	308,800	308,800	254.9%	1.000	308,800	308,800	308,800
6/30/97-98	445,227	1.070	476,196	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	1.073	311,018	0.0%	0.0%	0	341,750	341,750	109.9%	1.000	341,750	341,750	341,750
6/30/99-00	489,166	1.077	526,826	0.0%	0.0%	0	198,417	198,417	37.7%	1.000	198,417	198,417	198,417
6/30/00-01	431,926	1.084	468,024	0.0%	0.0%	0	306,047	306,047	65.4%	1.000	306,047	306,047	307,761
6/30/01-02	246,210	1.084	266,786	0.1%	0.1%	210	95,499	95,709	35.9%	1.010	96,454	96,082	96,651
6/30/02-03	822,132	1.085	892,278	0.1%	0.1%	1,284	101,416	102,700	11.5%	1.020	103,454	103,077	103,813
6/30/03-04	635,971	1.100	699,306	0.1%	0.2%	1,428	327,000	328,428	47.0%	1.030	336,908	332,668	334,931
6/30/04-05	134,102	1.122	150,435	0.2%	0.4%	548	67,000	67,548	44.9%	1.041	69,720	68,634	69,114
6/30/05-06	498,323	1.145	570,449	0.1%	0.5%	2,863	280,500	283,363	49.7%	1.052	294,951	289,157	293,151
6/30/06-07	238,698	1.182	282,177	0.2%	0.7%	1,942	130,000	131,942	46.8%	1.074	139,615	135,778	136,737
6/30/07-08	609,450	1.198	729,828	0.6%	1.3%	9,225	560,000	569,225	78.0%	1.074	601,418	585,322	603,535
6/30/08-09	345,960	1.221	422,579	0.9%	2.2%	9,250	133,501	142,751	33.8%	1.120	149,540	146,146	162,548
6/30/09-10	374,510	1.244	465,984	3.3%	5.5%	25,480	129,000	154,480	33.2%	1.266	163,286	158,883	183,253
6/30/10-11	503,639	1.393	701,404	5.0%	10.5%	73,736	87,500	161,236	23.0%	1.425	124,675	142,955	151,204
6/30/11-12	416,322	1.550	645,247	11.7%	22.2%	143,250	95,000	238,250	36.9%	2.026	192,466	215,358	379,798
6/30/12-13	227,306	2.016	458,194	10.4%	32.6%	149,371	50,000	199,371	43.5%	4.862	243,116	221,243	267,095
6/30/13-14	86,121	3.865	332,878	10.0%	42.6%	141,896	0	141,896	42.6%	4.862	0	141,896	
Total	28,167,838		30,866,640			560,483	6,882,218	7,442,701	24.1%		7,341,406	7,463,002	7,609,348

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, 2013

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	384-396
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	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	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	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	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	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	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	58,000	58,000	58,000	0						
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	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	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	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	0														
Jun-97	15,000	113,800	110,000	0	70,000	0	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	0																
Jun-99	0	33,750	125,000	160,000	23,000	0	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	0																		
Jun-01	0	71,047	80,000	60,000	0	50,000	0	45,000	0	0	0	0	0	0																			
Jun-02	0	9,000	38,999	30,000	17,500	0	0	0	0	0	0	0	0																				
Jun-03	0	16,416	55,000	0	0	0	30,000	0	0	0	0	0																					
Jun-04	0	65,000	30,000	125,000	55,000	52,000	0	0	0	0	0																						
Jun-05	0	0	67,000	0	0	0	0	0	0	0																							
Jun-06	0	15,000	18,000	177,500	40,000	30,000	0	0	0																								
Jun-07	0	70,000	45,000	15,000	0	0	0	0																									
Jun-08	0	170,000	150,000	165,000	0	75,000	0																										
Jun-09	0	0	0	133,501	0	0																											
Jun-10	0	36,000	93,000	0	0																												
Jun-11	0	50,000	0	37,500																													
Jun-12	0	95,000	0																														
Jun-13	0	50,000																															
Jun-14	0																																

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	396
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	101,416																					
Jun-04	0	65,000	95,000	220,000	275,000	327,000	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	67,000																							
Jun-06	0	15,000	33,000	210,500	250,500	280,500	280,500	280,500	280,500																								
Jun-07	0	70,000	115,000	130,000	130,000	130,000	130,000	130,000																									
Jun-08	0	170,000	320,000	485,000	485,000	560,000	560,000																										
Jun-09	0	0	0	133,501	133,501	133,501																											
Jun-10	0	36,000	129,000	129,000	129,000																												
Jun-11	0	50,000	50,000	87,500																													
Jun-12	0	95,000	95,000																														
Jun-13	0	50,000																															
Jun-14	0																																

Commonwealth of Massachusetts Workers Compensatio
University of Massachusetts (Medical Center) - Cluster
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	384-396
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	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	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	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	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	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	0.030	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	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	0.000						
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	0.000							
Jun-90	0.000	0.000	0.017	0.018	0.001	0.025	0.018	0.018	0.027	0.018	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								
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	0.000									
Jun-92	0.000	0.000	0.068	0.037	0.067	0.030	0.099	0.000	0.000	0.000	0.000	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	0.104	0.079	0.000	0.000	0.000	0.000	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	0.046	0.080	0.027	0.063	0.054	0.000	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												
Jun-95	0.000	0.555	0.103	0.123	0.088	0.000	0.000	0.000	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	0.606	0.085	0.000	0.000	0.000	0.000	0.105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000														
Jun-97	0.124	0.939	0.908	0.000	0.578	0.000	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	0.000																
Jun-99	0.000	0.109	0.402	0.514	0.074	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																	
Jun-00	0.009	0.138	0.090	0.036	0.000	0.000	0.047	0.057	0.000	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	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	0.000																				
Jun-03	0.000	0.018	0.062	0.000	0.000	0.000	0.034	0.000	0.000	0.000	0.000	0.000																					
Jun-04	0.000	0.093	0.043	0.179	0.079	0.074	0.000	0.000	0.000	0.000	0.000																						
Jun-05	0.000	0.000	0.445	0.000	0.000	0.000	0.000	0.000	0.000	0.000																							
Jun-06	0.000	0.026	0.032	0.311	0.070	0.053	0.000	0.000	0.000																								
Jun-07	0.000	0.248	0.159	0.053	0.000	0.000	0.000	0.000																									
Jun-08	0.000	0.233	0.206	0.226	0.000	0.103	0.000																										
Jun-09	0.000	0.000	0.000	0.316	0.000	0.000																											
Jun-10	0.000	0.077	0.200	0.000	0.000																												
Jun-11	0.000	0.071	0.000	0.053																													
Jun-12	0.000	0.147	0.000																														
Jun-13	0.000	0.109																															
Jun-14	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	384-396
Simple Avg																																	
All Yrs (ex P	0.004	0.106	0.127	0.079	0.049	0.023	0.011	0.011	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	0.006	0.000	0.002	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	
Latest 5	0.000	0.081	0.081	0.130	0.014	0.031	0.000	0.000	0.000	0.000	0.000	0.000	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	0.000					
Latest 3	0.000	0.109	0.067	0.123	0.000	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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	0.000	0.000	0.000	0.000			
Olympic Avg																																	
All Yrs (ex P	0.000	0.081	0.104	0.066	0.030	0.021	0.008	0.008	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
Latest 10	0.000	0.095	0.088	0.117	0.017	0.029	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	0.000	0.000	0.000								
Latest 5	0.000	0.086	0.067	0.111	0.000	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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		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	
Prior	NA																																
Selected	NA	0.100	0.104	0.117	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	0.000
FacToUlt	NA	0.426	0.326	0.222	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	0.000

Commonwealth of Massachusetts Workers Compensatio
University of Massachusetts (Medical Center) - Cluster
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	396
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	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	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	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	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	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	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	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	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	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	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	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	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	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	238,026	238,026	238,026	238,026	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	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	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	100,500	100,500	100,500	100,500	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	341,750	341,750	341,750	341,750	341,750	341,750	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	198,417	198,417	198,417	198,417	198,417	198,417	198,417	198,417	198,417	198,417	198,417	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	306,047	306,047	306,047	306,047	306,047	306,047	306,047	306,047	306,047	306,047	306,047	306,047	306,047	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	95,499	95,499	95,499	95,499	95,499	95,499	95,499	95,499	95,499	95,499	95,499	95,499	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	101,416	101,416	101,416	101,416	101,416	101,416	101,416	101,416	101,416	101,416	101,416	101,416	101,416	101,416	101,416	101,416	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	327,000	327,000	327,000	327,000	327,000	327,000	327,000	327,000	327,000	327,000	327,000	327,000	327,000	327,000	327,000	327,000	327,000	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	67,000	67,000	67,000	67,000	67,000	67,000	67,000	67,000	67,000	67,000	67,000	67,000	67,000	67,000	67,000	67,000	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	280,500	280,500	280,500	280,500	280,500	280,500	280,500	280,500	280,500	280,500	280,500	280,500	280,500	280,500	280,500	280,500	280,500	280,500	280,500	280,500	280,500	280,500	280,500	280,500	
Jun-07	0	70,000	115,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	
Jun-08	0	170,000	320,000	485,000	485,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	560,000	
Jun-09	0	0	0	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	133,501	
Jun-10	0	36,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	
Jun-11	0	50,000	50,000	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	87,500	
Jun-12	0	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	95,000	
Jun-13	0	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	
Jun-14	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	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	384-396	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	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	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	1.000	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	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	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	1.252	1.201	1.167	1.000						
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	1.000	
Jun-08		1.882	1.516	1.000	1.155	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	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-09				1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	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-10		3.583	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	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-11		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	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-12		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	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-13																																	

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	384-396	To Ult
Simple Avg																																	
All Yrs (ex P	22.252	2.728	1.782	1.279	1.338	1.152	1.178	1.066	1.037	1.090	1.027	1.039	1.080	1.012	1.000	1.000	1.000	1.143	1.000	1.000	1.055	1.000	1.028	1.025	1.024	1.000	1.000	1.000	1.000	1.000	1.000		
Latest 5		1.822	2.355	1.038	1.055	1.000	1.000	1.000	1.000	1.000	1.000	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	1.000						
Latest 3		1.861	1.422	1.000	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	1.000	1.000	1.000	1.000	1.067	1.056	1.000	1.000	1.000	1.000				
Volume Wtd																																	
All Yrs (ex P	57.573	2.149	1.493	1.176	1.126	1.085	1.066	1.043	1.021	1.061	1.020	1.032	1.020	1.010	1.000	1.000	1.000	1.003	1.000	1.000	1.036	1.000	1.030	1.033	1.041	1.000	1.000	1.000	1.000	1.000	1.000		
Latest 5		1.692	1.572	1.037	1.098	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.038	1.039	1.051	1.000	1.000						
Latest 3		1.514	1.955	1.000	1.100	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.054	1.056	1.000	1.000	1.000	1.000				

Dev Factor Selection																																	
Prior	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	
Selected	1.000	2.400	1.422	1.126	1.130	1.043	1.000	1.021	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	1.000	1.000	1.000
FacToUlt	4.862	4.862	2.026	1.425	1.266	1.120	1.074	1.074	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	1.000
Percent of Ult	20.6%	20.6%	49.4%	70.2%	79.0%	89.3%	93.1%	93.1%	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%	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%
396	100.0%	0.4%	0.0%	0.1%	0.1%	1.000	1.000
384	99.6%	0.0%	0.4%	0.0%	0.0%	0.981	0.971
372	99.6%	0.0%	0.4%	0.0%	0.0%	0.943	0.916
360	99.6%	0.0%	0.4%	0.0%	0.0%	0.907	0.864
348	99.6%	0.1%	0.4%	0.0%	0.0%	0.872	0.816
336	99.5%	0.1%	0.5%	0.0%	0.0%	0.865	0.808
324	99.4%	0.0%	0.6%	0.0%	0.0%	0.856	0.795
312	99.4%	0.0%	0.6%	0.0%	0.0%	0.823	0.750
300	99.4%	0.5%	0.6%	0.2%	0.1%	0.791	0.708
288	98.9%	0.7%	1.1%	0.3%	0.2%	0.858	0.802
276	98.2%	0.8%	1.8%	0.3%	0.2%	0.884	0.838
264	97.4%	0.8%	2.6%	0.3%	0.2%	0.890	0.845
252	96.6%	1.0%	3.4%	0.4%	0.3%	0.884	0.838
240	95.7%	0.9%	4.3%	0.4%	0.3%	0.879	0.830
228	94.7%	1.0%	5.3%	0.5%	0.3%	0.870	0.817
216	93.8%	0.3%	6.2%	0.1%	0.1%	0.859	0.802
204	93.5%	0.3%	6.5%	0.2%	0.1%	0.832	0.766
192	93.2%	0.3%	6.8%	0.2%	0.1%	0.808	0.733
180	92.9%	0.6%	7.1%	0.3%	0.2%	0.787	0.705
168	92.3%	0.0%	7.7%	0.0%	0.0%	0.773	0.688
156	92.3%	0.1%	7.7%	0.1%	0.1%	0.743	0.649
144	92.1%	1.2%	7.9%	0.8%	0.6%	0.720	0.619
132	90.9%	1.8%	9.1%	1.2%	1.0%	0.730	0.635
120	89.1%	1.8%	10.9%	1.2%	1.0%	0.748	0.661
108	87.4%	2.8%	12.6%	2.0%	1.7%	0.756	0.672
96	84.6%	1.1%	15.4%	0.8%	0.7%	0.773	0.695
84	83.5%	1.6%	16.5%	1.3%	1.1%	0.759	0.676
72	81.9%	1.5%	18.1%	1.2%	1.1%	0.752	0.668
60	80.4%	8.6%	19.6%	7.2%	6.6%	0.743	0.656
48	71.8%	7.3%	28.2%	6.3%	5.9%	0.795	0.726
36	64.5%	14.9%	35.5%	13.5%	12.9%	0.809	0.744
24	49.6%	23.7%	50.4%	22.4%	21.8%	0.838	0.781
12	25.9%	25.9%	74.1%	25.4%	25.1%	0.862	0.812
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	10,059	13,059	0.872	8,769	11,384
6/30/86-87	15,981	324,807	0.865	13,828	281,038
6/30/87-88	16,123	147,947	0.856	13,796	126,594
6/30/88-89	52,473	131,182	0.823	43,172	107,931
6/30/89-90	64,872	162,179	0.791	51,321	128,302
6/30/90-91	22,036	55,091	0.858	18,907	47,266
6/30/91-92	30,366	75,915	0.884	26,851	67,127
6/30/92-93	12,763	31,908	0.890	11,353	28,384
6/30/93-94	47,922	49,922	0.884	42,371	44,140
6/30/94-95	11,873	11,873	0.879	10,437	10,437
6/30/95-96	9,834	19,669	0.870	8,552	17,105
6/30/96-97	8,448	16,896	0.859	7,255	14,510
6/30/97-98	10,915	21,829	0.832	9,082	18,163
6/30/98-99	21,399	21,399	0.808	17,293	17,293
6/30/99-00	36,417	37,417	0.787	28,651	29,438
6/30/00-01	35,027	36,027	0.773	27,072	27,845
6/30/01-02	21,291	22,291	0.743	15,823	16,566
6/30/02-03	68,452	71,452	0.720	49,259	51,418
6/30/03-04	67,029	69,029	0.730	48,933	50,394
6/30/04-05	17,898	51,898	0.748	13,390	38,828
6/30/05-06	81,177	81,177	0.756	61,394	61,394
6/30/06-07	49,302	97,302	0.773	38,094	75,182
6/30/07-08	132,550	145,550	0.759	100,551	110,413
6/30/08-09	89,539	134,539	0.752	67,342	101,186
6/30/09-10	121,490	170,490	0.743	90,246	126,644
6/30/10-11	252,861	262,861	0.795	201,065	209,016
6/30/11-12	349,678	374,678	0.809	282,860	303,083
6/30/12-13	401,694	537,694	0.838	336,544	450,486
6/30/13-14	388,879	655,879	0.862	335,068	565,122
Total	2,494,282	3,931,485		2,021,969	3,229,576
			(7) Total Discount Factor:	0.811	0.821

	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	10,059	13,059	0.816	8,204	10,650
6/30/86-87	15,981	324,807	0.808	12,908	262,348
6/30/87-88	16,123	147,947	0.795	12,824	117,672
6/30/88-89	52,473	131,182	0.750	39,373	98,432
6/30/89-90	64,872	162,179	0.708	45,921	114,802
6/30/90-91	22,036	55,091	0.802	17,675	44,187
6/30/91-92	30,366	75,915	0.838	25,459	63,647
6/30/92-93	12,763	31,908	0.845	10,789	26,973
6/30/93-94	47,922	49,922	0.838	40,135	41,811
6/30/94-95	11,873	11,873	0.830	9,858	9,858
6/30/95-96	9,834	19,669	0.817	8,036	16,072
6/30/96-97	8,448	16,896	0.802	6,777	13,555
6/30/97-98	10,915	21,829	0.766	8,356	16,712
6/30/98-99	21,399	21,399	0.733	15,692	15,692
6/30/99-00	36,417	37,417	0.705	25,681	26,386
6/30/00-01	35,027	36,027	0.688	24,087	24,774
6/30/01-02	21,291	22,291	0.649	13,813	14,461
6/30/02-03	68,452	71,452	0.619	42,359	44,215
6/30/03-04	67,029	69,029	0.635	42,559	43,829
6/30/04-05	17,898	51,898	0.661	11,826	34,290
6/30/05-06	81,177	81,177	0.672	54,592	54,592
6/30/06-07	49,302	97,302	0.695	34,259	67,612
6/30/07-08	132,550	145,550	0.676	89,646	98,438
6/30/08-09	89,539	134,539	0.668	59,824	89,890
6/30/09-10	121,490	170,490	0.656	79,740	111,901
6/30/10-11	252,861	262,861	0.726	183,617	190,878
6/30/11-12	349,678	374,678	0.744	260,093	278,689
6/30/12-13	401,694	537,694	0.781	313,917	420,199
6/30/13-14	388,879	655,879	0.812	315,845	532,700
Total	2,494,282	3,931,485		1,855,066	2,975,109
			(7) Total Discount Factor:	0.744	0.757

	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, 2014

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

Calculation of Fiscal Year 7/1/14 - 15 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Cumulative	Incremental Paid		Estimated Payments from		FY 7/1/14 - 6/30/15	
Accident	Est Ult Losses	Est Ult Losses	Paid Losses	Reserves	Reserves	Percent	as a % of	as a % of	7/1/14 - 6/30/15		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	2,744,432	2,750,662	2,733,296	11,136	17,367	99.5%	0.5%	96.4%	10,735	16,741	96.4%	96.4%
6/30/86-87	3,794,000	4,103,826	3,777,375	16,625	326,451	95.7%	1.0%	23.0%	3,827	75,151	23.0%	23.0%
6/30/87-88	3,391,000	3,522,824	3,373,806	17,194	149,018	97.6%	1.0%	41.6%	7,152	61,986	41.6%	41.6%
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	2,581,000	2,583,000	2,529,907	51,093	53,093	98.0%	1.0%	49.6%	25,324	26,316	49.6%	49.6%
6/30/94-95	953,000	953,000	938,827	14,173	14,173	98.5%	1.0%	67.2%	9,530	9,530	67.2%	67.2%
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	618,782	10,056	28,404	97.0%	1.0%	33.2%	3,336	9,424	33.2%	33.2%
6/30/97-98	1,030,642	1,065,256	1,016,412	14,230	48,844	97.0%	1.0%	33.2%	4,728	16,231	33.2%	33.2%
6/30/98-99	966,000	966,000	940,822	25,178	25,178	97.4%	1.0%	38.4%	9,660	9,660	38.4%	38.4%
6/30/99-00	912,000	913,000	872,750	39,250	40,250	95.6%	2.0%	45.9%	18,020	18,480	45.9%	45.9%
6/30/00-01	982,000	983,000	943,388	38,612	39,612	96.0%	2.0%	50.2%	19,399	19,901	50.2%	50.2%
6/30/01-02	582,000	583,000	556,861	25,139	26,139	95.6%	2.0%	45.4%	11,423	11,877	45.4%	45.4%
6/30/02-03	1,206,000	1,209,000	1,128,784	77,216	80,216	93.5%	2.0%	30.7%	23,690	24,610	30.7%	30.7%
6/30/03-04	1,343,000	1,360,650	1,259,376	83,624	101,274	93.2%	2.0%	29.2%	24,456	29,617	29.2%	29.2%
6/30/04-05	395,000	443,050	366,732	28,268	76,318	87.5%	2.0%	16.0%	4,530	12,231	16.0%	16.0%
6/30/05-06	1,240,000	1,265,300	1,132,774	107,226	132,526	90.4%	2.0%	20.9%	22,409	27,697	20.9%	20.9%
6/30/06-07	687,000	754,750	605,124	81,876	149,626	83.9%	2.0%	12.5%	10,198	18,637	12.5%	12.5%
6/30/07-08	1,858,000	1,935,550	1,677,582	180,418	257,968	88.4%	2.0%	17.3%	31,225	44,646	17.3%	17.3%
6/30/08-09	954,000	1,024,550	809,621	144,379	214,929	81.8%	2.0%	11.0%	15,901	23,670	11.0%	11.0%
6/30/09-10	964,000	1,038,350	780,310	183,690	258,040	77.9%	3.0%	13.6%	24,980	35,091	13.6%	13.6%
6/30/10-11	1,248,000	1,280,300	913,520	334,480	366,780	72.3%	5.7%	20.5%	68,447	75,056	20.5%	20.5%
6/30/11-12	1,192,000	1,246,150	763,082	428,918	483,068	62.6%	9.7%	25.8%	110,867	124,863	25.8%	25.8%
6/30/12-13	1,022,000	1,189,850	500,697	521,303	689,153	45.3%	15.0%	27.4%	142,885	188,892	27.4%	27.4%
6/30/13-14	761,000	1,095,850	185,643	575,357	910,207	20.0%	20.0%	25.0%	143,831	227,539	25.0%	25.0%
Total	48,390,996	50,336,533	45,128,146	3,262,850	5,208,387				819,332	1,320,601	25.1%	25.4%

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, 2014

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	21,273		21,332	21,651	106	425		
6/30/83-84		50,961	51,073		51,216	51,980	255	1,019		
6/30/84-85	116,303	162,725	163,082	163,222	163,539	165,980	814	3,255	0.141	0.143
6/30/85-86	123,981	215,355	215,828	216,004	216,432	219,662	1,077	4,307	0.175	0.177
6/30/86-87	139,388	397,356	398,229	398,526	398,000	399,000	644	1,644	0.286	0.286
6/30/87-88	159,499	347,929	348,693	348,911	349,000	349,000	1,071	1,071	0.219	0.219
6/30/88-89	180,644	488,786	489,859	490,168	491,230	513,225	2,444	24,439	0.272	0.284
6/30/89-90	142,494	553,962	555,179	555,726	556,732	581,660	2,770	27,698	0.391	0.408
6/30/90-91	143,694	301,697	302,360	302,356	303,205	316,782	1,508	15,085	0.211	0.220
6/30/91-92	155,170	669,188	670,658	670,634	672,534	702,647	3,346	33,459	0.433	0.453
6/30/92-93	163,283	395,196	396,460	396,435	397,172	414,956	1,976	19,760	0.243	0.254
6/30/93-94	177,184	694,829	697,748	697,656	698,000	698,000	3,172	3,172	0.394	0.394
6/30/94-95	188,391	417,700	419,875	419,808	420,000	420,000	2,300	2,300	0.223	0.223
6/30/95-96	201,751	382,952	385,331	385,252	384,867	402,100	1,915	19,148	0.191	0.199
6/30/96-97	231,872	196,392	197,809	197,812	198,000	207,900	1,608	11,509	0.085	0.090
6/30/97-98	232,237	470,685	474,460	474,289	474,000	497,700	3,315	27,015	0.204	0.214
6/30/98-99	232,075	309,222	313,046	312,926	313,000	313,000	3,778	3,778	0.135	0.135
6/30/99-00	211,819	185,166	187,991	187,989	188,000	188,000	2,834	2,834	0.089	0.089
6/30/00-01	215,099	205,415	208,757	208,733	209,000	209,000	3,585	3,585	0.097	0.097
6/30/01-02	227,797	215,153	219,089	219,068	219,000	219,000	3,847	3,847	0.096	0.096
6/30/02-03	242,008	205,235	214,303	214,350	214,000	214,000	8,765	8,765	0.088	0.088
6/30/03-04	276,758	296,405	313,476	313,209	313,000	328,650	16,595	32,245	0.113	0.119
6/30/04-05	260,378	165,630	176,045	180,505	176,000	190,050	10,370	24,420	0.068	0.073
6/30/05-06	317,741	353,952	386,384	379,795	380,000	405,300	26,048	51,348	0.120	0.128
6/30/06-07	325,922	236,426	268,877	274,542	269,000	288,750	32,574	52,324	0.083	0.089
6/30/07-08	354,130	508,133	590,544	556,020	556,000	620,550	47,867	112,417	0.157	0.175
6/30/08-09	362,309	330,161	391,052	385,119	385,000	410,550	54,839	80,389	0.106	0.113
6/30/09-10	383,298	276,801	338,667	346,820	339,000	364,350	62,199	87,549	0.088	0.095
6/30/10-11	394,924	322,382	406,022	403,736	404,000	426,300	81,618	103,918	0.102	0.108
6/30/11-12	381,943	251,760	330,814	343,032	331,000	360,150	79,240	108,390	0.087	0.094
6/30/12-13	384,763	223,391	342,559	357,241	343,000	374,850	119,609	151,459	0.089	0.097
6/30/13-14	364,582	99,522	286,300	337,370	286,000	353,850	186,478	254,328	0.078	0.097
Total	7,291,438	10,078,091	10,761,842	10,737,254	10,846,658	11,354,992	768,568	1,276,902		
Tot 6/30/84-14	7,291,438	9,879,504	10,689,496	10,737,254	10,647,710	11,154,962	768,207	1,275,458	0.146	0.153

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, 2014

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 7/1/12-13	Paid Counts 7/1/13-14	Average Outstanding Claim
All Prior Yrs		126,400							0	0	
6/30/82-83		21,226	1.002	1.000	21,273	N/A	21,273		0	0	
6/30/83-84		50,961	1.002	1.000	51,073	N/A	51,073		0	0	
6/30/84-85	116,303	162,725	1.002	1.000	163,082	N/A	163,082	0.140	0	0	
6/30/85-86	123,981	215,355	1.002	1.000	215,828	N/A	215,828	0.174	0	0	
6/30/86-87	139,388	397,356	1.002	1.000	398,229	N/A	398,229	0.286	0	0	
6/30/87-88	159,499	347,929	1.002	1.000	348,693	N/A	348,693	0.219	0	0	
6/30/88-89	180,644	488,786	1.002	1.000	489,859	N/A	489,859	0.271	0	0	
6/30/89-90	142,494	553,962	1.002	1.000	555,179	N/A	555,179	0.390	0	0	
6/30/90-91	143,694	301,697	1.002	1.000	302,360	N/A	302,360	0.210	0	0	
6/30/91-92	155,170	669,188	1.002	1.000	670,658	N/A	670,658	0.432	0	0	
6/30/92-93	163,283	395,196	1.003	1.000	396,460	N/A	396,460	0.243	0	0	
6/30/93-94	177,184	694,829	1.004	1.000	697,748	N/A	697,748	0.394	0	0	
6/30/94-95	188,391	417,700	1.005	1.000	419,875	N/A	419,875	0.223	1	1	2,174
6/30/95-96	201,751	382,952	1.006	1.000	385,331	N/A	385,331	0.191	0	0	
6/30/96-97	231,872	196,392	1.007	1.000	197,809	N/A	197,809	0.085	1	1	1,417
6/30/97-98	232,237	470,685	1.008	1.000	474,460	N/A	474,460	0.204	1	1	3,776
6/30/98-99	232,075	309,222	1.012	1.000	313,046	N/A	313,046	0.135	2	2	1,912
6/30/99-00	211,819	185,166	1.015	1.000	187,991	N/A	187,991	0.089	0	0	
6/30/00-01	215,099	205,415	1.016	1.000	208,757	N/A	208,757	0.097	2	1	3,343
6/30/01-02	227,797	215,153	1.018	1.000	219,089	N/A	219,089	0.096	1	1	3,937
6/30/02-03	242,008	205,235	1.044	1.000	214,303	N/A	214,303	0.089	1	2	4,534
6/30/03-04	276,758	296,405	1.058	1.000	313,476	N/A	313,476	0.113	1	0	
6/30/04-05	260,378	165,630	1.063	1.000	176,045	N/A	176,045	0.068	1	1	10,415
6/30/05-06	317,741	353,952	1.092	1.000	386,384	N/A	386,384	0.122	3	3	10,811
6/30/06-07	325,922	236,426	1.137	1.000	268,877	N/A	268,877	0.082	0	0	
6/30/07-08	354,130	508,133	1.162	1.000	590,544	N/A	590,544	0.167	5	4	20,603
6/30/08-09	362,309	330,161	1.184	1.000	391,052	N/A	391,052	0.108	3	2	30,446
6/30/09-10	383,298	276,801	1.224	1.000	338,667	N/A	338,667	0.088	5	2	30,933
6/30/10-11	394,924	322,382	1.259	1.000	406,022	N/A	406,022	0.103	16	9	9,293
6/30/11-12	381,943	251,760	1.314	1.000	330,814	N/A	330,814	0.087	120	30	2,635
6/30/12-13	384,763	223,391	1.533	1.000	342,559	N/A	342,559	0.089	163	101	1,180
6/30/13-14	364,582	99,522	2.877	1.000	286,300	N/A	286,300	0.079		126	1,482
Total	7,291,438	10,078,091			10,761,842		10,761,842		326	287	

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, 2014

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	1.002	163,222	N/A	163,222	0.140	0.140
6/30/85-86	123,981	0.239	215,355	1.002	216,004	N/A	216,004	0.174	0.174
6/30/86-87	139,388	0.383	397,356	1.002	398,526	N/A	398,526	0.286	0.286
6/30/87-88	159,499	0.281	347,929	1.002	348,911	N/A	348,911	0.219	0.219
6/30/88-89	180,644	0.349	488,786	1.002	490,168	N/A	490,168	0.271	0.271
6/30/89-90	142,494	0.565	553,962	1.002	555,726	N/A	555,726	0.390	0.390
6/30/90-91	143,694	0.209	301,697	1.002	302,356	N/A	302,356	0.210	0.210
6/30/91-92	155,170	0.425	669,188	1.002	670,634	N/A	670,634	0.432	0.432
6/30/92-93	163,283	0.238	395,196	1.003	396,435	N/A	396,435	0.243	0.243
6/30/93-94	177,184	0.381	694,829	1.004	697,656	N/A	697,656	0.394	0.394
6/30/94-95	188,391	0.216	417,700	1.005	419,808	N/A	419,808	0.223	0.223
6/30/95-96	201,751	0.185	382,952	1.006	385,252	N/A	385,252	0.191	0.191
6/30/96-97	231,872	0.085	196,392	1.007	197,812	N/A	197,812	0.085	0.085
6/30/97-98	232,237	0.195	470,685	1.008	474,289	N/A	474,289	0.204	0.204
6/30/98-99	232,075	0.131	309,222	1.012	312,926	N/A	312,926	0.135	0.135
6/30/99-00	211,819	0.089	185,166	1.015	187,989	N/A	187,989	0.089	0.089
6/30/00-01	215,099	0.096	205,415	1.016	208,733	N/A	208,733	0.097	0.097
6/30/01-02	227,797	0.096	215,153	1.018	219,068	N/A	219,068	0.096	0.096
6/30/02-03	242,008	0.089	205,235	1.044	214,350	N/A	214,350	0.089	0.089
6/30/03-04	276,758	0.111	296,405	1.058	313,209	N/A	313,209	0.113	0.113
6/30/04-05	260,378	0.097	165,630	1.063	180,505	N/A	180,505	0.069	0.069
6/30/05-06	317,741	0.097	353,952	1.092	379,795	N/A	379,795	0.120	0.120
6/30/06-07	325,922	0.097	236,426	1.137	274,542	N/A	274,542	0.084	0.084
6/30/07-08	354,130	0.097	508,133	1.162	556,020	N/A	556,020	0.157	0.157
6/30/08-09	362,309	0.097	330,161	1.184	385,119	N/A	385,119	0.106	0.106
6/30/09-10	383,298	0.100	276,801	1.224	346,820	N/A	346,820	0.090	0.090
6/30/10-11	394,924	0.100	322,382	1.259	403,736	N/A	403,736	0.102	0.102
6/30/11-12	381,943	0.100	251,760	1.314	343,032	N/A	343,032	0.090	0.090
6/30/12-13	384,763	0.100	223,391	1.533	357,241	N/A	357,241	0.093	0.093
6/30/13-14	364,582	0.100	99,522	2.877	337,370	N/A	337,370	0.093	0.093
Total	7,291,438		9,879,504		10,737,254		10,737,254		

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, 2014

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	302,360	0.210	1.194	0.251	1.000	0.251	0.084	0.209	0.209
6/30/91-92	155,170	670,658	0.432	1.189	0.514	1.000	0.514	0.084	0.426	0.425
6/30/92-93	163,283	396,460	0.243	1.189	0.289	1.000	0.289	0.084	0.238	0.238
6/30/93-94	177,184	697,748	0.394	1.178	0.464	1.000	0.464	0.085	0.382	0.381
6/30/94-95	188,391	419,875	0.223	1.170	0.261	1.000	0.261	0.085	0.216	0.216
6/30/95-96	201,751	385,331	0.191	1.155	0.221	1.000	0.221	0.087	0.185	0.185
6/30/96-97	231,872	197,809	0.085	1.137	0.097	1.000	0.097	0.088	0.086	0.085
6/30/97-98	232,237	474,460	0.204	1.135	0.232	1.000	0.232	0.088	0.192	0.195
6/30/98-99	232,075	313,046	0.135	1.135	0.153	1.000	0.153	0.088	0.131	0.131
6/30/99-00	211,819	187,991	0.089	1.135	0.101	1.000	0.101	0.088	0.089	0.089
6/30/00-01	215,099	208,757	0.097	1.109	0.108	1.000	0.108	0.090	0.097	0.096
6/30/01-02	227,797	219,089	0.096	1.101	0.106	1.000	0.106	0.091	0.096	0.096
6/30/02-03	242,008	214,303	0.089	1.073	0.095	1.000	0.095	0.093	0.088	0.089
6/30/03-04	276,758	313,476	0.113	1.046	0.119	1.000	0.119	0.096	0.111	0.111
6/30/04-05	260,378	176,045	0.068	1.036	0.070	1.000	0.070	0.097	0.110	0.097
6/30/05-06	317,741	386,384	0.122	1.032	0.125	1.000	0.125	0.097	0.112	0.097
6/30/06-07	325,922	268,877	0.082	1.032	0.085	1.000	0.085	0.097	0.113	0.097
6/30/07-08	354,130	590,544	0.167	1.032	0.172	1.000	0.172	0.097	0.114	0.097
6/30/08-09	362,309	391,052	0.108	1.027	0.111	1.000	0.111	0.097	0.116	0.097
6/30/09-10	383,298	338,667	0.088	1.000	0.088	1.000	0.088	0.100	0.120	0.100
6/30/10-11	394,924	406,022	0.103	1.000	0.103	1.000	0.103	0.100	0.121	0.100
6/30/11-12	381,943	330,814	0.087	1.000	0.087	1.000	0.087	0.100	0.123	0.100
6/30/12-13	384,763	342,559	0.089	1.000	0.089	1.000	0.089	0.100	0.124	0.100
6/30/13-14	364,582	286,300	0.079	1.000	0.079	1.000	0.079	0.100		0.100
Total	6,429,129	8,518,625								

Trend Last 4 (ex 13-14):	-1.5%	Avg 3 (x13-14):	0.093
Trend Last 8 (ex 13-14):	-4.8%	Avg 5 (x13-14):	0.096
Trend Last 12 (ex 13-14):	-0.8%	Avg 10 (x13-14):	0.105
Prior Selected Trend:	1.0%	Prior Sel Avg:	0.125
Selected Trend:	0.0%	Sel. Loss Cost:	0.100

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, 2013
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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		0.921	
		(Low)		(High)
(5)	Selected Range	0.911		0.930
(6)	Incremental Paid for 2014	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 @ 6/13	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, 2013

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			S(y) =	92
2005	14	0			D =	1,716
2006	15	0			slope =	-0.246
2007	16	0			Avg Trend =	0.754
2008	17	0				
2009	18	0				
2010	19	0				
2011	20	0				
2012	21	0				
2013	22	0				
2014	23	0				
					Selected Trend:	**0.750**

NOTES:

(3) 2014 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2013

(4) LN [(3)]

(5) Eg. 2003: 0.028 = 16 / 573

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
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	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	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	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	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	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	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	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	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	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	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	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	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	417,700												
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	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	196,392														
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	470,685															
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	309,222																
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	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	205,415																		
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	215,153																			
June-03	24,338	126,639	167,817	173,658	176,063	176,926	181,096	186,492	190,822	196,704	200,649	205,235																				
June-04	83,690	216,265	266,643	284,876	292,325	295,052	295,295	296,029	296,255	296,405	296,405																					
June-05	70,794	151,383	161,299	162,118	162,383	162,449	162,848	165,224	165,325	165,630																						
June-06	111,267	215,773	247,375	290,539	295,723	304,040	318,675	338,665	353,952																							
June-07	135,214	210,808	235,383	235,931	236,426	236,426	236,426	236,426																								
June-08	163,349	354,750	465,422	484,430	499,466	503,458	508,133																									
June-09	147,783	237,019	285,263	290,878	311,776	330,161																										
June-10	151,041	251,654	264,987	272,182	276,801																											
June-11	207,552	306,733	317,839	322,382																												
June-12	139,332	221,373	251,760																													
June-13	127,443	223,391																														
June-14	99,522																															

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
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	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	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	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	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	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	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	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	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	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	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	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	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	1.002													
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	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	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	1.018																
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	1.001																	
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	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	1.005																			
June-02	1.917	1.252	1.069	1.035	1.055	1.013	1.003	1.186	1.083	1.064	1.039	1.028																				
June-03	5.203	1.325	1.035	1.014	1.005	1.024	1.030	1.023	1.031	1.020	1.023																					
June-04	2.584	1.233	1.068	1.026	1.009	1.001	1.002	1.001	1.001	1.000																						
June-05	2.138	1.066	1.005	1.002	1.000	1.002	1.015	1.001	1.002																							
June-06	1.939	1.146	1.174	1.018	1.028	1.048	1.063	1.045																								
June-07	1.559	1.117	1.002	1.002	1.000	1.000	1.000																									
June-08	2.172	1.312	1.041	1.031	1.008	1.009																										
June-09	1.604	1.204	1.020	1.072	1.059																											
June-10	1.666	1.053	1.027	1.017																												
June-11	1.478	1.036	1.014																													
June-12	1.589	1.137																														
June-13	1.753																															

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	2.404	1.264	1.109	1.083	1.065	1.053	1.041	1.031	1.027	1.043	1.017	1.018	1.006	1.004	1.002	1.002	1.001	1.002	1.000	1.001	1.001	1.001	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Latest 5	1.618	1.148	1.021	1.028	1.019	1.012	1.022	1.051	1.027	1.019	1.013	1.017	1.003	1.003	1.003	1.004	1.001	1.000	1.000	1.000	1.000	1.002	1.003	1.001	1.000	1.000	1.000	1.000				
Latest 3	1.607	1.075	1.020	1.040	1.022	1.019	1.026	1.016	1.011	1.028	1.021	1.025	1.002	1.004	1.004	1.006	1.001	1.000	1.001	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000			
Volume Wtd																																
All Yrs	2.063	1.178	1.063	1.051	1.033	1.033	1.020	1.017	1.005	1.016	1.010	1.013	1.006	1.004	1.002	1.002	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	1.000	1.000	
Latest 5	1.604	1.156	1.024	1.029	1.020	1.013	1.024	1.042	1.024	1.017	1.013	1.013	1.004	1.004	1.003	1.005	1.001	1.000	1.000	1.000	1.000	1.001	1.002	1.001	1.000	1.000	1.000					
Latest 3	1.584	1.070	1.020	1.039	1.021	1.018	1.031	1.020	1.010	1.024	1.021	1.025	1.002	1.005	1.005	1.008	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000			

Dev Factor Selection																																
Industry 1	1.954	1.133	1.050	1.027	1.015	1.012	1.011																									
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	*1.902*	*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*	
Selected	1.876	1.167	1.043	1.029	1.033	1.019	1.022	1.042	1.027	1.005	1.013	1.025	1.002	1.001	1.003	1.004	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	1.000	1.002
FacToUlt	2.877	1.533	1.314	1.259	1.224	1.184	1.162	1.137	1.092	1.063	1.058	1.044	1.018	1.016	1.015	1.012	1.008	1.007	1.006	1.005	1.004	1.003	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002
Percent of Ult	34.8%	65.2%	76.1%	79.4%	81.7%	84.4%	86.0%	87.9%	91.6%	94.1%	94.6%	95.8%	98.2%	98.4%	98.5%	98.8%	99.2%	99.3%	99.4%	99.5%	99.6%	99.7%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%

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 6/13		As of 6/14		(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	398,000	399,000	(1,000)	-0.3%	0	0.0%
6/30/87-88	349,000	349,000	349,000	349,000	0	0.0%	0	0.0%
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	699,000	699,000	698,000	698,000	(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	467,000	490,350	474,000	497,700	7,000	1.5%	7,350	1.5%
6/30/98-99	313,000	313,000	313,000	313,000	0	0.0%	0	0.0%
6/30/99-00	188,000	188,000	188,000	188,000	0	0.0%	0	0.0%
6/30/00-01	208,000	208,000	209,000	209,000	1,000	0.5%	1,000	0.5%
6/30/01-02	216,000	216,000	219,000	219,000	3,000	1.4%	3,000	1.4%
6/30/02-03	208,000	208,000	214,000	214,000	6,000	2.9%	6,000	2.9%
6/30/03-04	308,000	323,400	313,000	328,650	5,000	1.6%	5,250	1.6%
6/30/04-05	177,000	193,200	176,000	190,050	(1,000)	-0.6%	(3,150)	-1.6%
6/30/05-06	376,000	396,900	380,000	405,300	4,000	1.1%	8,400	2.1%
6/30/06-07	270,000	296,100	269,000	288,750	(1,000)	-0.4%	(7,350)	-2.5%
6/30/07-08	559,000	613,200	556,000	620,550	(3,000)	-0.5%	7,350	1.2%
6/30/08-09	373,000	400,050	385,000	410,550	12,000	3.2%	10,500	2.6%
6/30/09-10	335,000	376,950	339,000	364,350	4,000	1.2%	(12,600)	-3.3%
6/30/10-11	412,000	449,400	404,000	426,300	(8,000)	-1.9%	(23,100)	-5.1%
6/30/11-12	339,000	402,150	331,000	360,150	(8,000)	-2.4%	(42,000)	-10.4%
6/30/12-13	371,000	462,000	343,000	374,850	(28,000)	-7.5%	(87,150)	-18.9%
6/30/13-14								
Total	10,569,658	11,128,642	10,560,658	11,001,142	(9,000)	-0.1%	(127,500)	-1.1%

NOTES:

(2), (3) From Aon analysis as of June 30, 2013

(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%
396	100.0%	0.2%	0.0%	0.1%	0.0%	1.000	1.000
384	99.8%	0.0%	0.2%	0.0%	0.0%	1.000	1.000
372	99.8%	0.0%	0.2%	0.0%	0.0%	1.000	1.000
360	99.8%	0.0%	0.2%	0.0%	0.0%	1.000	1.000
348	99.8%	0.0%	0.2%	0.0%	0.0%	1.000	1.000
336	99.8%	0.0%	0.2%	0.0%	0.0%	1.000	1.000
324	99.8%	0.0%	0.2%	0.0%	0.0%	0.806	0.726
312	99.8%	0.0%	0.2%	0.0%	0.0%	0.775	0.685
300	99.8%	0.0%	0.2%	0.0%	0.0%	0.745	0.646
288	99.8%	0.0%	0.2%	0.0%	0.0%	0.717	0.609
276	99.8%	0.1%	0.2%	0.0%	0.0%	0.689	0.575
264	99.7%	0.1%	0.3%	0.0%	0.0%	0.762	0.676
252	99.6%	0.1%	0.4%	0.0%	0.0%	0.792	0.717
240	99.5%	0.1%	0.5%	0.0%	0.0%	0.803	0.733
228	99.4%	0.1%	0.6%	0.0%	0.0%	0.806	0.737
216	99.3%	0.1%	0.7%	0.0%	0.0%	0.803	0.733
204	99.2%	0.4%	0.8%	0.2%	0.2%	0.793	0.720
192	98.8%	0.3%	1.2%	0.2%	0.1%	0.839	0.781
180	98.5%	0.1%	1.5%	0.1%	0.0%	0.839	0.781
168	98.4%	0.2%	1.6%	0.1%	0.1%	0.817	0.751
156	98.2%	2.4%	1.8%	1.5%	1.2%	0.807	0.737
144	95.8%	1.2%	4.2%	0.8%	0.6%	0.894	0.854
132	94.6%	0.5%	5.4%	0.3%	0.3%	0.886	0.843
120	94.1%	2.5%	5.9%	1.7%	1.4%	0.863	0.809
108	91.6%	3.7%	8.4%	2.6%	2.2%	0.874	0.825
96	87.9%	1.9%	12.1%	1.4%	1.2%	0.883	0.837
84	86.0%	1.6%	14.0%	1.3%	1.1%	0.867	0.814
72	84.4%	2.7%	15.6%	2.2%	2.0%	0.849	0.789
60	81.7%	2.3%	18.3%	2.0%	1.8%	0.840	0.778
48	79.4%	3.3%	20.6%	2.9%	2.7%	0.828	0.761
36	76.1%	10.9%	23.9%	9.9%	9.4%	0.821	0.753
24	65.2%	30.5%	34.8%	28.7%	27.9%	0.849	0.792
12	34.8%	34.8%	65.2%	34.1%	33.8%	0.893	0.852
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	644	1,644	1.000	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	0.689	2,305	23,052
6/30/92-93	1,976	19,760	0.762	1,506	15,055
6/30/93-94	3,172	3,172	0.792	2,511	2,511
6/30/94-95	2,300	2,300	0.803	1,848	1,848
6/30/95-96	1,915	19,148	0.806	1,543	15,432
6/30/96-97	1,608	11,509	0.803	1,292	9,246
6/30/97-98	3,315	27,015	0.793	2,630	21,430
6/30/98-99	3,778	3,778	0.839	3,169	3,169
6/30/99-00	2,834	2,834	0.839	2,378	2,378
6/30/00-01	3,585	3,585	0.817	2,931	2,931
6/30/01-02	3,847	3,847	0.807	3,105	3,105
6/30/02-03	8,765	8,765	0.894	7,833	7,833
6/30/03-04	16,595	32,245	0.886	14,710	28,582
6/30/04-05	10,370	24,420	0.863	8,944	21,063
6/30/05-06	26,048	51,348	0.874	22,766	44,878
6/30/06-07	32,574	52,324	0.883	28,765	46,205
6/30/07-08	47,867	112,417	0.867	41,495	97,452
6/30/08-09	54,839	80,389	0.849	46,547	68,234
6/30/09-10	62,199	87,549	0.840	52,273	73,578
6/30/10-11	81,618	103,918	0.828	67,549	86,005
6/30/11-12	79,240	108,390	0.821	65,079	89,019
6/30/12-13	119,609	151,459	0.849	101,603	128,658
6/30/13-14	186,478	254,328	0.893	166,569	227,176
Total	768,568	1,276,902		658,148	1,080,738
			(7) Total Discount Factor:	0.856	0.846

	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	644	1,644	1.000	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	0.575	1,924	19,236
6/30/92-93	1,976	19,760	0.676	1,337	13,367
6/30/93-94	3,172	3,172	0.717	2,275	2,275
6/30/94-95	2,300	2,300	0.733	1,687	1,687
6/30/95-96	1,915	19,148	0.737	1,411	14,109
6/30/96-97	1,608	11,509	0.733	1,180	8,441
6/30/97-98	3,315	27,015	0.720	2,386	19,444
6/30/98-99	3,778	3,778	0.781	2,950	2,950
6/30/99-00	2,834	2,834	0.781	2,212	2,212
6/30/00-01	3,585	3,585	0.751	2,692	2,692
6/30/01-02	3,847	3,847	0.737	2,835	2,835
6/30/02-03	8,765	8,765	0.854	7,485	7,485
6/30/03-04	16,595	32,245	0.843	13,983	27,171
6/30/04-05	10,370	24,420	0.809	8,389	19,755
6/30/05-06	26,048	51,348	0.825	21,480	42,342
6/30/06-07	32,574	52,324	0.837	27,258	43,785
6/30/07-08	47,867	112,417	0.814	38,965	91,510
6/30/08-09	54,839	80,389	0.789	43,271	63,431
6/30/09-10	62,199	87,549	0.778	48,383	68,103
6/30/10-11	81,618	103,918	0.761	62,090	79,054
6/30/11-12	79,240	108,390	0.753	59,641	81,581
6/30/12-13	119,609	151,459	0.792	94,711	119,931
6/30/13-14	186,478	254,328	0.852	158,823	216,611
Total	768,568	1,276,902		615,422	1,005,252
			(7) Total Discount Factor:	0.801	0.787

	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, 2014

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		3,019,826			3,219,784	3,353,215	199,958	333,389		
6/30/82-83		743,272	744,533		758,137	773,003	14,865	29,731		
6/30/83-84		917,731	919,206		936,086	954,440	18,355	36,709		
6/30/84-85	357,749	1,492,038	1,494,491	1,495,723	1,521,879	1,551,720	29,841	59,682	0.425	0.434
6/30/85-86	380,112	1,868,907	1,872,136	1,873,243	1,872,000	1,873,000	3,093	4,093	0.492	0.493
6/30/86-87	423,770	2,659,063	2,920,530	2,666,570	2,667,000	2,921,000	7,937	261,937	0.629	0.689
6/30/87-88	480,405	4,268,438	5,081,112	4,283,630	4,353,807	4,481,860	85,369	213,422	0.906	0.933
6/30/88-89	495,261	1,515,210	1,521,424	1,525,013	1,545,514	1,590,971	30,304	75,761	0.312	0.321
6/30/89-90	502,691	3,807,474	3,826,400	3,825,309	3,883,624	3,997,848	76,149	190,374	0.773	0.795
6/30/90-91	482,143	1,393,607	1,407,894	1,407,874	1,408,000	1,408,000	14,393	14,393	0.292	0.292
6/30/91-92	492,539	1,392,878	1,867,154	1,412,355	1,475,779	1,639,755	82,901	246,876	0.300	0.333
6/30/92-93	524,541	1,147,496	1,160,694	1,160,632	1,170,446	1,204,871	22,950	57,375	0.223	0.230
6/30/93-94	584,853	1,111,106	1,511,008	1,129,959	1,130,000	1,511,000	18,894	399,894	0.193	0.258
6/30/94-95	587,701	1,592,468	1,625,199	1,624,867	1,625,000	1,625,000	32,532	32,532	0.277	0.277
6/30/95-96	614,868	1,269,047	1,307,122	1,307,096	1,294,428	1,332,499	25,381	63,452	0.211	0.217
6/30/96-97	700,686	1,143,309	1,198,962	1,199,418	1,199,000	1,199,000	55,691	55,691	0.171	0.171
6/30/97-98	684,415	2,051,522	2,187,562	2,183,170	2,183,000	2,188,000	131,478	136,478	0.319	0.320
6/30/98-99	707,796	1,350,909	1,476,451	1,475,556	1,476,000	1,550,000	125,091	199,091	0.209	0.219
6/30/99-00	760,477	1,182,336	1,306,020	1,309,807	1,306,000	1,310,000	123,664	127,664	0.172	0.172
6/30/00-01	811,600	1,582,184	1,814,498	1,812,776	1,813,000	1,814,000	230,816	231,816	0.223	0.224
6/30/01-02	835,038	2,299,109	2,689,496	2,677,193	2,677,000	2,689,000	377,891	389,891	0.321	0.322
6/30/02-03	825,340	1,232,208	1,492,726	1,496,340	1,493,000	1,496,000	260,792	263,792	0.181	0.181
6/30/03-04	849,216	1,486,953	1,813,376	1,815,120	1,813,000	1,906,000	326,047	419,047	0.213	0.224
6/30/04-05	992,508	1,023,563	1,287,916	1,469,872	1,288,000	1,470,000	264,437	446,437	0.130	0.148
6/30/05-06	962,878	1,318,990	1,729,079	1,812,732	1,729,000	1,903,000	410,010	584,010	0.180	0.198
6/30/06-07	1,032,930	968,708	1,302,924	1,563,847	1,303,000	1,564,000	334,292	595,292	0.126	0.151
6/30/07-08	1,063,597	2,137,102	2,947,890	2,897,503	2,898,000	2,948,000	760,898	810,898	0.272	0.277
6/30/08-09	1,073,805	1,462,290	2,246,491	2,329,068	2,246,000	2,329,000	783,710	866,710	0.209	0.217
6/30/09-10	1,084,749	2,310,389	3,776,630	3,444,615	3,445,000	3,777,000	1,134,611	1,466,611	0.318	0.348
6/30/10-11	1,134,164	1,931,469	3,463,977	3,327,924	3,328,000	3,464,000	1,396,531	1,532,531	0.293	0.305
6/30/11-12	1,202,674	1,313,326	3,142,843	2,998,734	2,999,000	3,143,000	1,685,674	1,829,674	0.249	0.261
6/30/12-13	1,284,741	782,865	2,869,869	3,266,110	2,870,000	3,266,000	2,087,135	2,483,135	0.223	0.254
6/30/13-14	1,346,902	553,274	4,064,377	3,860,835	3,861,000	4,064,000	3,307,726	3,510,726	0.287	0.302
Total	23,280,147	54,329,066	68,069,991	64,652,893	68,788,483	72,298,181	14,459,417	17,969,114		
Tot 6/30/84-14	23,280,147	49,648,237	66,406,252	64,652,893	63,874,476	67,217,523	14,226,239	17,569,285	0.274	0.289

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, 2014

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 7/1/12-13	Paid Counts 7/1/13-14	Average Outstanding Claim	Average Age
All Prior Yrs		3,004,076							1	1		81
6/30/82-83		716,272	1.002	1.000	717,533	27,000	744,533		0	0		
6/30/83-84		837,731	1.002	1.000	839,206	80,000	919,206		0	0		
6/30/84-85	357,749	1,393,062	1.002	1.000	1,395,515	98,976	1,494,491	0.418	0	0		
6/30/85-86	380,112	1,833,907	1.002	1.000	1,837,136	35,000	1,872,136	0.493	0	0		
6/30/86-87	423,770	2,537,563	1.003	1.100	2,799,030	121,500	2,920,530	0.689	1	1	261,468	88
6/30/87-88	480,405	3,973,595	1.004	1.200	4,786,269	294,843	5,081,112	1.058	2	2	406,337	74
6/30/88-89	495,261	1,302,910	1.005	1.000	1,309,124	212,300	1,521,424	0.307	0	0		
6/30/89-90	502,691	3,277,762	1.006	1.000	3,296,688	529,712	3,826,400	0.761	2	2	9,463	71
6/30/90-91	482,143	1,160,107	1.007	1.000	1,167,973	239,921	1,407,894	0.292	0	0		
6/30/91-92	492,539	1,136,695	1.008	1.400	1,603,765	263,389	1,867,154	0.379	1	0		
6/30/92-93	524,541	986,496	1.009	1.000	995,172	165,523	1,160,694	0.221	0	0		
6/30/93-94	584,853	952,106	1.011	1.400	1,347,360	163,649	1,511,008	0.258	1	1	395,254	55
6/30/94-95	587,701	1,223,263	1.019	1.000	1,246,141	379,058	1,625,199	0.277	1	1	22,878	77
6/30/95-96	614,868	927,586	1.031	1.000	956,646	350,476	1,307,122	0.213	0	0		
6/30/96-97	700,686	918,427	1.054	1.000	967,856	231,106	1,198,962	0.171	1	1	49,429	66
6/30/97-98	684,415	1,786,522	1.072	1.000	1,914,701	272,861	2,187,562	0.320	2	2	64,090	81
6/30/98-99	707,796	1,145,659	1.104	1.000	1,264,374	212,077	1,476,451	0.209	1	1	118,715	68
6/30/99-00	760,477	844,236	1.134	1.000	957,442	348,577	1,306,020	0.172	0	0		
6/30/00-01	811,600	1,308,682	1.170	1.000	1,531,475	283,023	1,814,498	0.224	1	1	222,792	64
6/30/01-02	835,038	1,855,859	1.202	1.000	2,230,363	459,133	2,689,496	0.322	1	1	374,503	70
6/30/02-03	825,340	1,059,708	1.239	1.000	1,313,324	179,401	1,492,726	0.181	2	2	126,808	64
6/30/03-04	849,216	1,163,453	1.270	1.000	1,477,211	336,164	1,813,376	0.214	0	0		
6/30/04-05	992,508	825,463	1.308	1.000	1,079,768	208,147	1,287,916	0.130	1	0		
6/30/05-06	962,878	1,118,317	1.353	1.000	1,513,257	215,822	1,729,079	0.180	3	3	131,647	63
6/30/06-07	1,032,930	783,708	1.402	1.000	1,098,779	204,145	1,302,924	0.126	3	2	157,535	59
6/30/07-08	1,063,597	1,567,518	1.451	1.000	2,274,181	673,709	2,947,890	0.277	8	6	117,777	63
6/30/08-09	1,073,805	1,267,290	1.531	1.000	1,940,787	305,703	2,246,491	0.209	7	7	96,214	59
6/30/09-10	1,084,749	1,884,889	1.637	1.000	3,085,181	691,448	3,776,630	0.348	17	11	109,118	60
6/30/10-11	1,134,164	1,466,786	1.812	1.000	2,657,319	806,658	3,463,977	0.305	25	16	74,408	59
6/30/11-12	1,202,674	1,295,826	2.165	1.000	2,805,380	337,463	3,142,843	0.261	37	18	83,864	59
6/30/12-13	1,284,741	710,865	3.049	1.000	2,167,315	702,554	2,869,869	0.223	92	34	42,837	51
6/30/13-14	1,346,902	466,274	6.804	1.000	3,172,458	891,920	4,064,377	0.302		92	29,415	51
Total	23,280,147	46,732,613			57,748,731	10,321,260	68,069,991		210	205		

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, 2014

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	1,396,747	98,976	1,495,723	0.418	0.390
6/30/85-86	380,112	0.649	1,833,907	1.002	1,838,243	35,000	1,873,243	0.493	0.484
6/30/86-87	423,770	0.643	2,537,563	1.003	2,545,070	121,500	2,666,570	0.629	0.601
6/30/87-88	480,405	0.843	3,973,595	1.004	3,988,787	294,843	4,283,630	0.892	0.830
6/30/88-89	495,261	0.417	1,302,910	1.005	1,312,713	212,300	1,525,013	0.308	0.265
6/30/89-90	502,691	0.618	3,277,762	1.006	3,295,597	529,712	3,825,309	0.761	0.656
6/30/90-91	482,143	0.242	1,160,107	1.007	1,167,953	239,921	1,407,874	0.292	0.242
6/30/91-92	492,539	0.322	1,136,695	1.008	1,148,966	263,389	1,412,355	0.287	0.233
6/30/92-93	524,541	0.188	986,496	1.009	995,109	165,523	1,160,632	0.221	0.190
6/30/93-94	584,853	0.227	952,106	1.011	966,310	163,649	1,129,959	0.193	0.165
6/30/94-95	587,701	0.209	1,223,263	1.019	1,245,809	379,058	1,624,867	0.276	0.212
6/30/95-96	614,868	0.155	927,586	1.031	956,620	350,476	1,307,096	0.213	0.156
6/30/96-97	700,686	0.139	918,427	1.054	968,312	231,106	1,199,418	0.171	0.138
6/30/97-98	684,415	0.270	1,786,522	1.072	1,910,309	272,861	2,183,170	0.319	0.279
6/30/98-99	707,796	0.177	1,145,659	1.104	1,263,479	212,077	1,475,556	0.208	0.179
6/30/99-00	760,477	0.130	844,236	1.134	961,229	348,577	1,309,807	0.172	0.126
6/30/00-01	811,600	0.187	1,308,682	1.170	1,529,753	283,023	1,812,776	0.223	0.188
6/30/01-02	835,038	0.258	1,855,859	1.202	2,218,061	459,133	2,677,193	0.321	0.266
6/30/02-03	825,340	0.161	1,059,708	1.239	1,316,939	179,401	1,496,340	0.181	0.160
6/30/03-04	849,216	0.175	1,163,453	1.270	1,478,956	336,164	1,815,120	0.214	0.174
6/30/04-05	992,508	0.187	825,463	1.308	1,261,725	208,147	1,469,872	0.148	0.127
6/30/05-06	962,878	0.190	1,118,317	1.353	1,596,910	215,822	1,812,732	0.188	0.166
6/30/06-07	1,032,930	0.194	783,708	1.402	1,359,702	204,145	1,563,847	0.151	0.132
6/30/07-08	1,063,597	0.199	1,567,518	1.451	2,223,794	673,709	2,897,503	0.272	0.209
6/30/08-09	1,073,805	0.203	1,267,290	1.531	2,023,365	305,703	2,329,068	0.217	0.188
6/30/09-10	1,084,749	0.206	1,884,889	1.637	2,753,167	691,448	3,444,615	0.318	0.254
6/30/10-11	1,134,164	0.208	1,466,786	1.812	2,521,266	806,658	3,327,924	0.293	0.222
6/30/11-12	1,202,674	0.211	1,295,826	2.165	2,661,271	337,463	2,998,734	0.249	0.221
6/30/12-13	1,284,741	0.215	710,865	3.049	2,563,556	702,554	3,266,110	0.254	0.200
6/30/13-14	1,346,902	0.218	466,274	6.804	2,968,915	891,920	3,860,835	0.287	0.220
Total	23,280,147		42,174,534		54,438,632	10,214,260	64,652,893		

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, 2014

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	1,167,973	0.242	0.957	0.232	1.270	0.295	0.181	0.241	0.242
6/30/91-92	492,539	1,603,765	0.326	1.050	0.342	1.257	0.430	0.167	0.321	0.322
6/30/92-93	524,541	995,172	0.190	1.225	0.232	1.245	0.289	0.144	0.188	0.188
6/30/93-94	584,853	1,347,360	0.230	1.209	0.279	1.232	0.343	0.148	0.222	0.227
6/30/94-95	587,701	1,246,141	0.212	1.198	0.254	1.220	0.310	0.151	0.202	0.209
6/30/95-96	614,868	956,646	0.156	1.188	0.185	1.208	0.223	0.153	0.157	0.155
6/30/96-97	700,686	967,856	0.138	1.177	0.163	1.196	0.194	0.156	0.137	0.139
6/30/97-98	684,415	1,914,701	0.280	1.162	0.325	1.184	0.385	0.160	0.262	0.270
6/30/98-99	707,796	1,264,374	0.179	1.146	0.205	1.173	0.240	0.164	0.172	0.177
6/30/99-00	760,477	957,442	0.126	1.128	0.142	1.161	0.165	0.168	0.130	0.130
6/30/00-01	811,600	1,531,475	0.189	1.099	0.207	1.149	0.238	0.174	0.183	0.187
6/30/01-02	835,038	2,230,363	0.267	1.078	0.288	1.138	0.328	0.179	0.252	0.258
6/30/02-03	825,340	1,313,324	0.159	1.074	0.171	1.127	0.193	0.182	0.157	0.161
6/30/03-04	849,216	1,477,211	0.174	1.074	0.187	1.116	0.208	0.184	0.175	0.175
6/30/04-05	992,508	1,079,768	0.109	1.067	0.116	1.105	0.128	0.187	0.172	0.187
6/30/05-06	962,878	1,513,257	0.157	1.056	0.166	1.094	0.182	0.190	0.176	0.190
6/30/06-07	1,032,930	1,098,779	0.106	1.045	0.111	1.083	0.120	0.194	0.179	0.194
6/30/07-08	1,063,597	2,274,181	0.214	1.033	0.221	1.072	0.237	0.199	0.183	0.199
6/30/08-09	1,073,805	1,940,787	0.181	1.021	0.185	1.062	0.196	0.203	0.187	0.203
6/30/09-10	1,084,749	3,085,181	0.284	1.017	0.289	1.051	0.304	0.206	0.190	0.206
6/30/10-11	1,134,164	2,657,319	0.234	1.019	0.239	1.041	0.248	0.208	0.191	0.208
6/30/11-12	1,202,674	2,805,380	0.233	1.012	0.236	1.030	0.243	0.211	0.195	0.211
6/30/12-13	1,284,741	2,167,315	0.169	1.005	0.170	1.020	0.173	0.215	0.198	0.215
6/30/13-14	1,346,902	3,172,458	0.236	1.000	0.236	1.010	0.238	0.218		0.218
Total	20,640,160	40,768,229								

Trend Last 4 (ex 13-14):	-14.9%	Avg 3 (x13-14):	0.222
Trend Last 8 (ex 13-14):	5.6%	Avg 5 (x13-14):	0.233
Trend Last 12 (ex 13-14):	1.5%	Avg 10 (x13-14):	0.204
Prior Selected Trend:	1.0%	Prior Sel Avg:	0.200
Selected Trend:	1.0%	Sel. Loss Cost:	0.220

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, 2013
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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 2014	6,860	6,860
(7)	Estimated Reserve	141,601	247,795
(8)	Paid to Date (82 & Prior)	3,004,076	3,004,076
(9)	Est Ult Paid for 1982 & Prior	3,145,677	3,251,871

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	31,344	52,683
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	219,410	368,780
(13)	Paid to Date (82 & Prior)	3,004,076	2,997,216
(14)	Est Ult Paid for 1982 & Prior	3,223,486	3,365,996
(14a)	Paid Counts During Fiscal Year	1	1
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	3,204,034	3,337,465
(16)	Lump Sum Ultimates	15,750	15,750
(17)	Ult Loss Including Lump Sums	**3,219,784**	**3,353,215**
(18)	Implied Tail	1.067	1.111
(19)	Ult Loss Inc Lump Sums @ 6/13	3,522,974	3,710,154

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, 2013

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 =	23
2001	10	95,087	11.463	1.039	S(x) =	46,069
2002	11	101,860	11.531	1.071	S(x-sq) =	92,277,219
2003	12	103,466	11.547	1.016	S(xy) =	519,929
2004	13	103,217	11.545	0.998	S(y) =	260
2005	14	106,270	11.574	1.030	D =	23,276
2006	15	111,087	11.618	1.045	slope =	-0.045
2007	16	115,666	11.658	1.041	Avg Trend =	0.955
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		
2014	22	6,860	8.833	0.163		
					Selected Trend:	**0.980**

NOTES:

(3) 2014 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2013

(4) LN [(3)]

(5) Eg. 2013: 0.163 = 6860 / 45160

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
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	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	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	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	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	2,537,563				
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	3,973,595					
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	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	3,277,762							
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	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	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	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	952,106											
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	1,223,263												
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	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	918,427														
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	1,786,522															
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	1,145,659																
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	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	1,308,682																		
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	1,855,859																			
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	1,059,708																				
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	1,163,453																					
June-05	230,521	418,799	624,539	726,139	780,814	805,681	824,654	825,393	825,463	825,463																						
June-06	295,643	638,840	855,565	960,239	1,005,254	1,031,933	1,059,134	1,097,733	1,118,317																							
June-07	271,385	517,910	631,652	710,911	719,279	741,612	769,416	783,708																								
June-08	266,597	683,370	951,226	1,163,168	1,327,356	1,479,040	1,567,518																									
June-09	286,738	569,698	809,591	1,006,874	1,150,080	1,267,290																										
June-10	418,176	997,028	1,315,276	1,658,156	1,884,889																											
June-11	441,106	954,293	1,366,571	1,466,786																												
June-12	412,473	870,425	1,295,826																													
June-13	360,464	710,865																														
June-14	466,274																															

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
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	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	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	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	1.020					
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	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	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	1.025								
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	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	1.000										
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	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	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	1.037													
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	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	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	1.042																
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	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	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	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	1.032																				
June-03	1.903	1.244	1.100	1.107	1.067	1.031	1.030	1.027	1.028	1.027	1.027																					
June-04	2.237	1.353	1.240	1.234	1.092	1.045	1.011	1.000	1.000	1.000																						
June-05	1.817	1.491	1.163	1.075	1.032	1.024	1.001	1.000	1.000																							
June-06	2.161	1.339	1.122	1.047	1.027	1.026	1.036	1.019																								
June-07	1.908	1.220	1.125	1.012	1.031	1.037	1.019																									
June-08	2.563	1.392	1.223	1.141	1.114	1.060																										
June-09	1.987	1.421	1.244	1.142	1.102																											
June-10	2.384	1.319	1.261	1.137																												
June-11	2.163	1.432	1.073																													
June-12	2.110	1.489																														
June-13	1.972																															

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	2.285	1.387	1.203	1.131	1.092	1.068	1.052	1.034	1.033	1.028	1.024	1.026	1.027	1.028	1.024	1.018	1.014	1.016	1.012	1.008	1.006	1.007	1.009	1.009	1.006	1.007	1.004	1.000	1.000	1.000	1.000	
Latest 5	2.123	1.411	1.185	1.096	1.061	1.038	1.019	1.016	1.017	1.017	1.024	1.031	1.029	1.023	1.029	1.027	1.018	1.013	1.012	1.010	1.004	1.009	1.016	1.014	1.009	1.009	1.004					
Latest 3	2.082	1.413	1.193	1.140	1.082	1.041	1.019	1.006	1.009	1.020	1.028	1.019	1.019	1.027	1.034	1.023	1.022	1.022	1.021	1.008	1.000	1.006	1.009	1.016	1.014	1.015	1.007	1.000	1.000			
Volume Wtd																																
All Yrs	2.232	1.386	1.200	1.129	1.092	1.070	1.050	1.036	1.034	1.030	1.028	1.029	1.029	1.032	1.028	1.024	1.017	1.018	1.017	1.012	1.010	1.011	1.015	1.014	1.011	1.013	1.007	1.000	1.000	1.000	1.000	
Latest 5	2.138	1.408	1.184	1.107	1.069	1.041	1.020	1.018	1.019	1.019	1.026	1.034	1.032	1.026	1.032	1.030	1.018	1.014	1.012	1.013	1.008	1.014	1.021	1.017	1.013	1.013	1.007					
Latest 3	2.089	1.410	1.183	1.140	1.091	1.044	1.020	1.007	1.009	1.022	1.029	1.023	1.021	1.033	1.036	1.027	1.022	1.023	1.021	1.007	1.000	1.011	1.015	1.020	1.018	1.017	1.009	1.000	1.000			

Dev Factor Selection																																
Industry 1	2.861	1.511	1.198	1.090	1.035	1.020	1.016																									
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	*2.269*	*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*	
Selected	2.232	1.408	1.195	1.107	1.069	1.056	1.035	1.036	1.034	1.030	1.024	1.031	1.027	1.032	1.028	1.030	1.017	1.022	1.012	1.008	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.000	1.000	1.000	1.002
FacToUlt	6.804	3.049	2.165	1.812	1.637	1.531	1.451	1.402	1.353	1.308	1.270	1.239	1.202	1.170	1.134	1.104	1.072	1.054	1.031	1.019	1.011	1.009	1.008	1.007	1.006	1.005	1.004	1.003	1.002	1.002	1.002	1.002
Percent of Ult	14.7%	32.8%	46.2%	55.2%	61.1%	65.3%	68.9%	71.3%	73.9%	76.4%	78.8%	80.7%	83.2%	85.5%	88.2%	90.6%	93.3%	94.9%	97.0%	98.2%	98.9%	99.1%	99.2%	99.3%	99.4%	99.5%	99.6%	99.7%	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 6/13		As of 6/14		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	3,522,974	3,710,154	3,219,784	3,353,215	(303,190)	-8.6%	(356,939)	-9.6%
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	1,873,000	1,874,000	1,872,000	1,873,000	(1,000)	-0.1%	(1,000)	-0.1%
6/30/86-87	2,614,000	2,863,000	2,667,000	2,921,000	53,000	2.0%	58,000	2.0%
6/30/87-88	4,262,031	4,387,385	4,353,807	4,481,860	91,776	2.2%	94,475	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	3,619,576	3,726,035	3,883,624	3,997,848	264,047	7.3%	271,813	7.3%
6/30/90-91	1,398,000	1,398,000	1,408,000	1,408,000	10,000	0.7%	10,000	0.7%
6/30/91-92	1,465,619	1,628,466	1,475,779	1,639,755	10,160	0.7%	11,289	0.7%
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	1,106,000	1,479,000	1,130,000	1,511,000	24,000	2.2%	32,000	2.2%
6/30/94-95	1,576,000	1,577,000	1,625,000	1,625,000	49,000	3.1%	48,000	3.0%
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	1,178,000	1,179,000	1,199,000	1,199,000	21,000	1.8%	20,000	1.7%
6/30/97-98	2,120,000	2,125,000	2,183,000	2,188,000	63,000	3.0%	63,000	3.0%
6/30/98-99	1,439,000	1,512,000	1,476,000	1,550,000	37,000	2.6%	38,000	2.5%
6/30/99-00	1,309,000	1,311,000	1,306,000	1,310,000	(3,000)	-0.2%	(1,000)	-0.1%
6/30/00-01	1,778,000	1,781,000	1,813,000	1,814,000	35,000	2.0%	33,000	1.9%
6/30/01-02	2,618,000	2,632,000	2,677,000	2,689,000	59,000	2.3%	57,000	2.2%
6/30/02-03	1,458,000	1,460,000	1,493,000	1,496,000	35,000	2.4%	36,000	2.5%
6/30/03-04	1,824,000	1,916,000	1,813,000	1,906,000	(11,000)	-0.6%	(10,000)	-0.5%
6/30/04-05	1,304,000	1,456,000	1,288,000	1,470,000	(16,000)	-1.2%	14,000	1.0%
6/30/05-06	1,732,000	1,870,000	1,729,000	1,903,000	(3,000)	-0.2%	33,000	1.8%
6/30/06-07	1,303,000	1,530,000	1,303,000	1,564,000	0	0.0%	34,000	2.2%
6/30/07-08	2,660,000	2,753,000	2,898,000	2,948,000	238,000	8.9%	195,000	7.1%
6/30/08-09	2,140,000	2,207,000	2,246,000	2,329,000	106,000	5.0%	122,000	5.5%
6/30/09-10	3,288,000	3,624,000	3,445,000	3,777,000	157,000	4.8%	153,000	4.2%
6/30/10-11	3,463,000	3,794,000	3,328,000	3,464,000	(135,000)	-3.9%	(330,000)	-8.7%
6/30/11-12	2,749,000	2,823,000	2,999,000	3,143,000	250,000	9.1%	320,000	11.3%
6/30/12-13	3,434,000	3,633,000	2,870,000	3,266,000	(564,000)	-16.4%	(367,000)	-10.1%
6/30/13-14								
Total	64,460,690	67,656,542	64,927,483	68,234,181	466,793	0.7%	577,638	0.9%

NOTES:

(2), (3) From Aon analysis as of June 30, 2013

(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, 2014

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	3,004,076	1.089	3,270,749	0.0%	0.0%	0	15,750	15,750	0.5%	1.000	15,750	15,750	15,750
6/30/82-83	716,272	1.002	717,533	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	839,206	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	1,395,515	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	1,837,136	0.0%	0.0%	0	35,000	35,000	1.9%	1.000	35,000	35,000	35,000
6/30/86-87	2,537,563	1.103	2,799,030	0.0%	0.0%	0	121,500	121,500	4.3%	1.000	121,500	121,500	121,500
6/30/87-88	3,973,595	1.205	4,786,269	0.0%	0.0%	0	294,843	294,843	6.2%	1.000	294,843	294,843	294,843
6/30/88-89	1,302,910	1.005	1,309,124	0.0%	0.0%	0	212,300	212,300	16.2%	1.000	212,300	212,300	212,300
6/30/89-90	3,277,762	1.006	3,296,688	0.0%	0.0%	0	529,712	529,712	16.1%	1.000	529,712	529,712	349,712
6/30/90-91	1,160,107	1.007	1,167,973	0.1%	0.1%	1,168	233,500	234,668	20.1%	1.050	245,175	239,921	233,500
6/30/91-92	1,136,695	1.411	1,603,765	0.0%	0.1%	1,604	256,183	257,787	16.1%	1.050	268,992	263,389	256,183
6/30/92-93	986,496	1.009	995,172	0.0%	0.1%	995	161,000	161,995	16.3%	1.050	169,050	165,523	161,000
6/30/93-94	952,106	1.415	1,347,360	0.0%	0.1%	1,347	159,000	160,347	11.9%	1.050	166,950	163,649	159,000
6/30/94-95	1,223,263	1.019	1,246,141	0.0%	0.1%	1,246	369,205	370,451	29.7%	1.050	387,665	379,058	369,205
6/30/95-96	927,586	1.031	956,646	0.0%	0.1%	957	341,461	342,418	35.8%	1.050	358,534	350,476	341,632
6/30/96-97	918,427	1.054	967,856	0.0%	0.1%	968	224,882	225,850	23.3%	1.051	236,362	231,106	225,107
6/30/97-98	1,786,522	1.072	1,914,701	0.0%	0.1%	1,915	265,000	266,915	13.9%	1.052	278,807	272,861	267,371
6/30/98-99	1,145,659	1.104	1,264,374	0.1%	0.2%	2,529	205,250	207,779	16.4%	1.054	216,376	212,077	207,088
6/30/99-00	844,236	1.134	957,442	0.0%	0.2%	1,915	338,100	340,015	35.5%	1.056	357,140	348,577	340,416
6/30/00-01	1,308,682	1.170	1,531,475	0.0%	0.2%	3,063	273,502	276,565	18.1%	1.058	289,482	283,023	276,503
6/30/01-02	1,855,859	1.202	2,230,363	0.0%	0.2%	4,461	443,250	447,711	20.1%	1.062	470,555	459,133	448,533
6/30/02-03	1,059,708	1.239	1,313,324	0.0%	0.2%	2,627	172,500	175,127	13.3%	1.065	183,676	179,401	175,359
6/30/03-04	1,163,453	1.270	1,477,211	0.0%	0.2%	2,954	323,500	326,454	22.1%	1.069	345,875	336,164	332,979
6/30/04-05	825,463	1.308	1,079,768	0.2%	0.4%	3,852	198,100	201,952	18.7%	1.082	214,343	208,147	207,835
6/30/05-06	1,118,317	1.353	1,513,257	0.4%	0.7%	10,746	200,673	211,418	14.0%	1.097	220,225	215,822	220,065
6/30/06-07	783,708	1.402	1,098,779	0.6%	1.4%	14,848	185,000	199,848	18.2%	1.127	208,442	204,145	202,254
6/30/07-08	1,567,518	1.451	2,274,181	1.4%	2.8%	63,496	569,583	633,079	27.8%	1.254	714,339	673,709	526,938
6/30/08-09	1,267,290	1.531	1,940,787	3.8%	6.5%	127,044	195,000	322,044	16.6%	1.484	289,362	305,703	310,069
6/30/09-10	1,884,889	1.637	3,085,181	1.1%	7.6%	235,770	425,500	661,270	21.4%	1.696	721,627	691,448	764,669
6/30/10-11	1,466,786	1.812	2,657,319	2.6%	10.3%	273,177	464,683	737,860	27.8%	2.328	1,081,849	806,658	978,527
6/30/11-12	1,295,826	2.165	2,805,380	3.5%	13.8%	386,727	17,500	404,227	14.4%	4.023	70,405	337,463	365,886
6/30/12-13	710,865	3.049	2,167,315	5.4%	19.2%	415,471	72,000	487,471	22.5%	10.753	774,248	702,554	1,125,228
6/30/13-14	466,274	6.804	3,172,458	2.1%	21.3%	675,794	87,000	762,794	24.0%	23.610	2,054,054	891,920	
Total	46,732,613		61,019,480			2,234,673	7,596,453	9,831,126	16.1%		11,738,614	10,337,010	9,730,428

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, 2013

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	384-396
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	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	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	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	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	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	180,000								
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	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	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	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	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	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	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	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	0																
Jun-99	0	6,250	10,000	92,000	65,000	0	0	0	0	0	32,000	0	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	0																		
Jun-01	27,500	2,500	62,500	74,001	47,000	0	10,001	50,000	0	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	0																				
Jun-03	0	52,500	30,000	45,000	0	35,000	0	10,000	0	0	0	0																					
Jun-04	0	7,000	0	22,000	87,500	32,000	100,000	75,000	0	0	0																						
Jun-05	0	15,000	38,600	45,000	49,500	20,000	30,000	0	0	0																							
Jun-06	0	30,000	20,000	75,000	75,673	0	0	0	0																								
Jun-07	0	40,000	75,000	35,000	0	0	20,000	15,000																									
Jun-08	0	33,000	183,500	27,500	74,750	82,500	168,333																										
Jun-09	0	35,000	30,000	60,000	70,000	0																											
Jun-10	0	71,500	174,000	140,000	40,000																												
Jun-11	0	25,000	293,500	146,183																													
Jun-12	0	0	17,500																														
Jun-13	72,000	0																															
Jun-14	87,000																																

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	396
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	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	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	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	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	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	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	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	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	529,712								
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	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	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	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	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	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	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	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	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	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	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	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	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	172,500																					
Jun-04	0	7,000	7,000	29,000	116,500	148,500	248,500	323,500	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	198,100																							
Jun-06	0	30,000	50,000	125,000	200,673	200,673	200,673	200,673	200,673																								
Jun-07	0	40,000	115,000	150,000	150,000	150,000	170,000	185,000																									
Jun-08	0	33,000	216,500	244,000	318,750	401,250	569,583																										
Jun-09	0	35,000	65,000	125,000	195,000	195,000																											
Jun-10	0	71,500	245,500	385,500	425,500																												
Jun-11	0	25,000	318,500	464,683																													
Jun-12	0	0	17,500																														
Jun-13	72,000	72,000																															
Jun-14	87,000																																

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	384-396
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	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	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	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	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	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	0.000					
Jun-88	0.000	0.000	0.005	0.000	0.008	0.006	0.017	0.009	0.003	0.006	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	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	0.000							
Jun-90	0.000	0.000	0.008	0.009	0.011	0.023	0.009	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	0.010	0.010	0.010	0.000	0.055								
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	0.000									
Jun-92	0.000	0.000	0.009	0.056	0.000	0.000	0.000	0.007	0.000	0.012	0.006	0.000	0.000	0.000	0.000	0.000	0.047	0.022	0.000	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	0.000											
Jun-94	0.002	0.000	0.019	0.011	0.012	0.048	0.000	0.026	0.000	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	0.085	0.082	0.044	0.032	0.018	0.000	0.000	0.017	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000													
Jun-96	0.024	0.101	0.010	0.016	0.074	0.021	0.000	0.000	0.042	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000														
Jun-97	0.000	0.051	0.117	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	0.000															
Jun-98	0.000	0.042	0.047	0.013	0.013	0.000	0.000	0.021	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.000																
Jun-99	0.000	0.005	0.008	0.073	0.051	0.000	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.000	0.000	0.000																	
Jun-00	0.000	0.099	0.143	0.013	0.046	0.021	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																		
Jun-01	0.018	0.002	0.041	0.048	0.031	0.000	0.007	0.033	0.000	0.000	0.000	0.000	0.000	0.000																			
Jun-02	0.022	0.008	0.029	0.050	0.034	0.047	0.009	0.000	0.000	0.000	0.000	0.000	0.000																				
Jun-03	0.000	0.040	0.023	0.034	0.000	0.027	0.000	0.008	0.000	0.000	0.000	0.000																					
Jun-04	0.000	0.005	0.000	0.015	0.059	0.022	0.068	0.051	0.000	0.000	0.000																						
Jun-05	0.000	0.014	0.036	0.042	0.046	0.019	0.028	0.000	0.000	0.000																							
Jun-06	0.000	0.020	0.013	0.050	0.050	0.000	0.000	0.000	0.000																								
Jun-07	0.000	0.036	0.068	0.032	0.000	0.000	0.018	0.014																									
Jun-08	0.000	0.015	0.081	0.012	0.033	0.036	0.074																										
Jun-09	0.000	0.018	0.015	0.031	0.036	0.000																											
Jun-10	0.000	0.023	0.056	0.045	0.013																												
Jun-11	0.000	0.009	0.110	0.055																													
Jun-12	0.000	0.000	0.006																														
Jun-13	0.033	0.000																															
Jun-14	0.027																																

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	384-396
Simple Avg																																
All Yrs (ex P)	0.021	0.033	0.026	0.022	0.014	0.010	0.013	0.006	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	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Latest 5	0.010	0.054	0.035	0.026	0.011	0.038	0.014	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.002	0.000	0.011	0.000	0.000	0.000					
Latest 3	0.003	0.058	0.044	0.027	0.012	0.031	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	0.003	0.000	0.018	0.000	0.000	0.000	0.000	0.000			
Olympic Avg																																
All Yrs (ex P)	0.019	0.030	0.025	0.020	0.013	0.008	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	0.000	0.000			
Latest 10	0.013	0.037	0.037	0.030	0.016	0.020	0.009	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									
Latest 5	0.009	0.051	0.036	0.027	0.006	0.038	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	0.000	0.000	0.000	0.000					

Dev Factor Selection																																	
Prior	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	
Selected	NA	0.021	0.054	0.035	0.026	0.011	0.038	0.014	0.006	0.004	0.002	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	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FacToUlt	NA	0.213	0.192	0.138	0.103	0.076	0.065	0.028	0.014	0.007	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.001	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	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	396
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	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	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	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	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	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	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	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	529,712								
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	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	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	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	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	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	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	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	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	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	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	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	172,500																					
Jun-04	0	7,000	7,000	29,000	116,500	148,500	248,500	323,500	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	198,100																							
Jun-06	0	30,000	50,000	125,000	200,673	200,673	200,673	200,673	200,673																								
Jun-07	0	40,000	115,000	150,000	150,000	150,000	170,000	185,000																									
Jun-08	0	33,000	216,500	244,000	318,750	401,250	569,583																										
Jun-09	0	35,000	65,000	125,000	195,000	195,000																											
Jun-10	0	71,500	245,500	385,500	425,500																												
Jun-11	0	25,000	318,500	464,683																													
Jun-12	0	0	17,500																														
Jun-13	72,000	72,000																															
Jun-14	87,000																																

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	384-396	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	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	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	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	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	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	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	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	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	1.515									
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	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	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	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	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	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	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	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	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	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	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	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	1.000																					
Jun-03		1.571	1.545	1.000	1.275	1.000	1.062	1.000	1.000	1.000	1.000																						
Jun-04		1.000	4.143	4.017	1.275	1.673	1.302	1.000	1.000	1.000																							
Jun-05		3.573	1.840	1.502	1.135	1.178	1.000	1.000	1.000																								
Jun-06		1.667	2.500	1.605	1.000	1.000	1.000	1.000																									
Jun-07		2.875	1.304	1.000	1.000	1.133	1.088																										
Jun-08		6.561	1.127	1.306	1.259	1.420																											
Jun-09		1.857	1.923	1.560	1.000																												
Jun-10		3.434	1.570	1.104																													
Jun-11		12.740	1.459																														
Jun-12																																	
Jun-13	1.000																																

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	384-396	To Ult
Simple Avg																																	
All Yrs (ex P)	1.956	3.273	2.057	1.430	1.264	1.117	1.173	1.091	1.074	1.036	1.013	1.001	1.030	1.069	1.010	1.043	1.023	1.004	1.000	1.011	1.011	1.011	1.000	1.064	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
Latest 5		5.493	1.477	1.315	1.079	1.281	1.090	1.000	1.000	1.000	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.027	1.024	1.021	1.000	1.103	1.000	1.000	1.000						
Latest 3		6.010	1.651	1.323	1.086	1.184	1.029	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.035	1.000	1.172	1.000	1.000	1.000	1.000	1.000				
Volume Wtd																																	
All Yrs (ex P)	5.962	2.673	1.479	1.275	1.169	1.116	1.113	1.053	1.043	1.026	1.004	1.001	1.012	1.004	1.008	1.036	1.028	1.006	1.000	1.017	1.018	1.020	1.000	1.148	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
Latest 5		5.246	1.425	1.253	1.101	1.298	1.102	1.000	1.000	1.000	1.000	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.031	1.029	1.025	1.000	1.178	1.000	1.000	1.000						
Latest 3		6.026	1.550	1.245	1.124	1.250	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	1.041	1.000	1.210	1.000	1.000	1.000	1.000	1.000				

Dev Factor Selection

	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	
Prior																																	
Selected	2.196	2.673	1.728	1.373	1.143	1.183	1.113	1.027	1.014	1.012	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	1.050	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
FacToUlt	23.610	10.753	4.023	2.328	1.696	1.484	1.254	1.127	1.097	1.082	1.069	1.065	1.062	1.058	1.056	1.054	1.052	1.051	1.050	1.050	1.050	1.050	1.050	1.050	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Percent of Ult	4.2%	9.3%	24.9%	43.0%	59.0%	67.4%	79.7%	88.8%	91.1%	92.4%	93.5%	93.9%	94.2%	94.5%	94.7%	94.9%	95.0%	95.1%	95.2%	95.2%	95.2%	95.2%	95.2%	95.2%	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%
396	100.0%	0.2%	0.0%	0.0%	0.0%	1.000	1.000
384	99.8%	0.0%	0.2%	0.0%	0.0%	0.981	0.971
372	99.8%	0.0%	0.2%	0.0%	0.0%	0.943	0.916
360	99.8%	0.0%	0.2%	0.0%	0.0%	0.907	0.864
348	99.8%	0.1%	0.2%	0.0%	0.0%	0.872	0.816
336	99.7%	0.1%	0.3%	0.0%	0.0%	0.890	0.842
324	99.6%	0.1%	0.4%	0.0%	0.0%	0.889	0.842
312	99.5%	0.1%	0.5%	0.0%	0.0%	0.881	0.831
300	99.4%	0.1%	0.6%	0.0%	0.0%	0.870	0.817
288	99.3%	0.1%	0.7%	0.0%	0.0%	0.858	0.800
276	99.2%	0.1%	0.8%	0.0%	0.0%	0.845	0.782
264	99.1%	0.2%	0.9%	0.1%	0.1%	0.832	0.765
252	98.9%	0.8%	1.1%	0.3%	0.2%	0.833	0.768
240	98.2%	1.2%	1.8%	0.6%	0.4%	0.876	0.827
228	97.0%	2.1%	3.0%	1.0%	0.7%	0.897	0.856
216	94.9%	1.6%	5.1%	0.8%	0.6%	0.910	0.874
204	93.3%	2.7%	6.7%	1.4%	1.0%	0.900	0.859
192	90.6%	2.4%	9.4%	1.3%	1.0%	0.899	0.857
180	88.2%	2.7%	11.8%	1.5%	1.2%	0.888	0.842
168	85.5%	2.2%	14.5%	1.3%	1.0%	0.878	0.827
156	83.2%	2.5%	16.8%	1.5%	1.2%	0.862	0.806
144	80.7%	1.9%	19.3%	1.2%	1.0%	0.849	0.788
132	78.8%	2.3%	21.2%	1.5%	1.3%	0.831	0.764
120	76.4%	2.5%	23.6%	1.8%	1.5%	0.817	0.745
108	73.9%	2.6%	26.1%	1.8%	1.6%	0.805	0.729
96	71.3%	2.4%	28.7%	1.8%	1.5%	0.792	0.713
84	68.9%	3.6%	31.1%	2.8%	2.5%	0.779	0.696
72	65.3%	4.2%	34.7%	3.4%	3.1%	0.773	0.690
60	61.1%	5.9%	38.9%	4.9%	4.5%	0.769	0.685
48	55.2%	9.0%	44.8%	7.9%	7.3%	0.771	0.689
36	46.2%	13.4%	53.8%	12.1%	11.6%	0.781	0.704
24	32.8%	18.1%	67.2%	17.1%	16.6%	0.797	0.725
12	14.7%	14.7%	85.3%	14.4%	14.3%	0.812	0.745
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	199,958	333,389		174,880	291,577
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	3,093	4,093	0.872	2,696	3,568
6/30/86-87	7,937	261,937	0.890	7,062	233,056
6/30/87-88	85,369	213,422	0.889	75,870	189,675
6/30/88-89	30,304	75,761	0.881	26,697	66,743
6/30/89-90	76,149	190,374	0.870	66,266	165,665
6/30/90-91	14,393	14,393	0.858	12,348	12,348
6/30/91-92	82,901	246,876	0.845	70,047	208,597
6/30/92-93	22,950	57,375	0.832	19,084	47,711
6/30/93-94	18,894	399,894	0.833	15,740	333,137
6/30/94-95	32,532	32,532	0.876	28,497	28,497
6/30/95-96	25,381	63,452	0.897	22,767	56,916
6/30/96-97	55,691	55,691	0.910	50,697	50,697
6/30/97-98	131,478	136,478	0.900	118,367	122,869
6/30/98-99	125,091	199,091	0.899	112,412	178,912
6/30/99-00	123,664	127,664	0.888	109,822	113,374
6/30/00-01	230,816	231,816	0.878	202,570	203,448
6/30/01-02	377,891	389,891	0.862	325,794	336,140
6/30/02-03	260,792	263,792	0.849	221,351	223,897
6/30/03-04	326,047	419,047	0.831	270,963	348,251
6/30/04-05	264,437	446,437	0.817	216,020	364,696
6/30/05-06	410,010	584,010	0.805	329,863	469,850
6/30/06-07	334,292	595,292	0.792	264,818	471,576
6/30/07-08	760,898	810,898	0.779	592,438	631,368
6/30/08-09	783,710	866,710	0.773	605,738	669,889
6/30/09-10	1,134,611	1,466,611	0.769	872,322	1,127,573
6/30/10-11	1,396,531	1,532,531	0.771	1,076,756	1,181,615
6/30/11-12	1,685,674	1,829,674	0.781	1,317,202	1,429,725
6/30/12-13	2,087,135	2,483,135	0.797	1,663,518	1,979,144
6/30/13-14	3,307,726	3,510,726	0.812	2,685,325	2,850,128
Total	14,459,417	17,969,114		11,616,869	14,508,517
			(7) Total Discount Factor:	0.803	0.807

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	199,958	333,389
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	28,565	47,627
(11) Discounted Value at 4%:	174,880	291,577

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)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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	199,958	333,389		164,247	273,848
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	3,093	4,093	0.816	2,522	3,338
6/30/86-87	7,937	261,937	0.842	6,687	220,667
6/30/87-88	85,369	213,422	0.842	71,850	179,624
6/30/88-89	30,304	75,761	0.831	25,188	62,970
6/30/89-90	76,149	190,374	0.817	62,179	155,448
6/30/90-91	14,393	14,393	0.800	11,514	11,514
6/30/91-92	82,901	246,876	0.782	64,870	193,180
6/30/92-93	22,950	57,375	0.765	17,550	43,875
6/30/93-94	18,894	399,894	0.768	14,504	306,977
6/30/94-95	32,532	32,532	0.827	26,915	26,915
6/30/95-96	25,381	63,452	0.856	21,726	54,314
6/30/96-97	55,691	55,691	0.874	48,667	48,667
6/30/97-98	131,478	136,478	0.859	112,971	117,267
6/30/98-99	125,091	199,091	0.857	107,168	170,566
6/30/99-00	123,664	127,664	0.842	104,101	107,468
6/30/00-01	230,816	231,816	0.827	190,958	191,785
6/30/01-02	377,891	389,891	0.806	304,573	314,245
6/30/02-03	260,792	263,792	0.788	205,474	207,838
6/30/03-04	326,047	419,047	0.764	249,098	320,149
6/30/04-05	264,437	446,437	0.745	197,095	332,748
6/30/05-06	410,010	584,010	0.729	299,028	425,929
6/30/06-07	334,292	595,292	0.713	238,511	424,729
6/30/07-08	760,898	810,898	0.696	529,672	564,477
6/30/08-09	783,710	866,710	0.690	540,452	597,690
6/30/09-10	1,134,611	1,466,611	0.685	777,457	1,004,950
6/30/10-11	1,396,531	1,532,531	0.689	962,477	1,056,207
6/30/11-12	1,685,674	1,829,674	0.704	1,186,598	1,287,964
6/30/12-13	2,087,135	2,483,135	0.725	1,513,805	1,801,025
6/30/13-14	3,307,726	3,510,726	0.745	2,464,783	2,616,051
Total	14,459,417	17,969,114		10,579,691	13,236,529
			(7) Total Discount Factor:	0.732	0.737

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	199,958	333,389
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	28,565	47,627
(11) Discounted Value at 6%:	164,247	273,848

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, 2014

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

Calculation of Fiscal Year 7/1/14 - 15 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Cumulative	Incremental Paid		Estimated Payments from		FY 7/1/14 - 6/30/15	
Accident	Est Ult Losses	Est Ult Losses	Paid Losses	Reserves	Reserves	Percent	as a % of	as a % of	7/1/14 - 6/30/15		as a % of Reserves	
Year	(Low)	(High)	to Date	(Low)	(High)	Paid	Ultimates	Reserves	(Low)	(High)	(Low)	(High)
All Prior yrs	3,564,096	3,709,659	3,358,281	205,815	351,378				6,723	7,395	3.3%	2.1%
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	2,258,269	2,261,190	2,253,254	5,015	7,936	99.7%	0.2%	69.8%	3,500	5,539	69.8%	69.8%
6/30/86-87	2,906,246	3,161,437	2,897,119	9,128	264,318	95.5%	0.5%	11.1%	1,013	29,326	11.1%	11.1%
6/30/87-88	4,996,807	5,125,860	4,910,399	86,408	215,461	97.0%	0.5%	16.8%	14,488	36,126	16.8%	16.8%
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	4,432,624	4,547,848	4,354,931	77,693	192,917	97.0%	0.5%	16.6%	12,892	32,011	16.6%	16.6%
6/30/90-91	1,883,000	1,883,000	1,866,079	16,921	16,921	99.1%	0.2%	22.3%	3,766	3,766	22.3%	22.3%
6/30/91-92	2,258,779	2,422,755	2,171,684	87,095	251,070	92.8%	0.5%	6.9%	6,029	17,379	6.9%	6.9%
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	1,740,000	2,121,000	1,714,574	25,426	406,426	88.8%	1.0%	8.9%	2,273	36,337	8.9%	8.9%
6/30/94-95	2,188,000	2,188,000	2,145,256	42,744	42,744	98.0%	1.0%	51.2%	21,880	21,880	51.2%	51.2%
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	1,969,000	1,969,000	1,895,003	73,997	73,997	96.2%	2.0%	53.2%	39,380	39,380	53.2%	53.2%
6/30/97-98	2,628,000	2,634,000	2,480,941	147,059	153,059	94.3%	2.0%	35.1%	51,568	53,672	35.1%	35.1%
6/30/98-99	1,853,000	1,928,000	1,707,097	145,903	220,903	90.3%	3.0%	30.9%	45,119	68,311	30.9%	30.9%
6/30/99-00	1,827,000	1,832,000	1,668,934	158,066	163,066	91.2%	3.0%	34.2%	54,030	55,740	34.2%	34.2%
6/30/00-01	2,423,000	2,425,000	2,146,484	276,516	278,516	88.6%	4.0%	34.9%	96,611	97,309	34.9%	34.9%
6/30/01-02	3,261,000	3,274,000	2,832,878	428,122	441,122	86.7%	4.0%	30.1%	128,745	132,655	30.1%	30.1%
6/30/02-03	2,139,000	2,144,000	1,813,009	325,991	330,991	84.7%	2.0%	13.3%	43,310	43,975	13.3%	13.3%
6/30/03-04	2,586,000	2,679,000	2,177,552	408,448	501,448	82.7%	1.9%	11.2%	45,914	56,369	11.2%	11.2%
6/30/04-05	2,029,000	2,235,000	1,681,625	347,375	553,375	78.9%	3.8%	18.2%	63,187	100,659	18.2%	18.2%
6/30/05-06	2,606,000	2,787,000	2,085,100	520,900	701,900	77.3%	1.5%	6.8%	35,593	47,961	6.8%	6.8%
6/30/06-07	2,055,000	2,350,000	1,617,149	437,851	732,851	73.4%	3.9%	14.7%	64,299	107,620	14.7%	14.7%
6/30/07-08	3,940,000	3,991,000	3,023,214	916,786	967,786	76.2%	4.0%	16.8%	154,327	162,913	16.8%	16.8%
6/30/08-09	3,308,000	3,394,000	2,353,089	954,911	1,040,911	70.2%	6.0%	20.2%	192,954	210,332	20.2%	20.2%
6/30/09-10	4,612,000	4,963,000	3,280,210	1,331,790	1,682,790	68.5%	5.0%	15.9%	211,504	267,246	15.9%	15.9%
6/30/10-11	4,576,000	4,745,000	2,929,033	1,646,967	1,815,967	62.8%	5.7%	15.3%	251,270	277,054	15.3%	15.3%
6/30/11-12	4,110,000	4,280,000	2,117,635	1,992,365	2,162,365	50.5%	12.4%	25.0%	497,611	540,070	25.0%	25.0%
6/30/12-13	3,773,000	4,266,000	1,340,531	2,432,469	2,925,469	33.4%	17.1%	25.7%	625,160	751,864	25.7%	25.7%
6/30/13-14	5,217,000	5,443,000	933,801	4,283,199	4,509,199	17.5%	15.8%	19.2%	822,102	865,479	19.2%	19.2%
Total	90,081,619	93,889,970	72,547,570	17,534,049	21,342,401				3,528,389	4,144,582	20.1%	19.4%

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, 2014

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			344,312	356,444	5,857	17,989		
6/30/82-83		53,045	53,161		53,310	53,575	265	530		
6/30/83-84		27,773	27,834		27,912	28,051	139	278		
6/30/84-85	357,749	112,891	113,139	113,275	113,455	114,020	564	1,129	0.032	0.032
6/30/85-86	380,112	384,347	385,191	385,472	386,269	388,190	1,922	3,843	0.102	0.102
6/30/86-87	423,770	238,056	238,579	238,817	239,246	240,437	1,190	2,381	0.056	0.057
6/30/87-88	480,405	641,961	643,371	643,772	643,000	644,000	1,039	2,039	0.134	0.134
6/30/88-89	495,261	426,014	427,313	427,835	427,000	428,000	986	1,986	0.086	0.086
6/30/89-90	502,691	547,456	549,125	549,763	549,000	550,000	1,544	2,544	0.109	0.109
6/30/90-91	482,143	472,472	474,824	474,820	475,000	475,000	2,528	2,528	0.099	0.099
6/30/91-92	492,539	778,806	782,682	782,646	783,000	783,000	4,194	4,194	0.159	0.159
6/30/92-93	524,541	506,348	510,684	510,666	508,880	511,411	2,532	5,063	0.097	0.097
6/30/93-94	584,853	603,468	610,143	610,094	610,000	610,000	6,532	6,532	0.104	0.104
6/30/94-95	587,701	552,788	563,025	562,970	563,000	563,000	10,212	10,212	0.096	0.096
6/30/95-96	614,868	581,842	594,395	594,316	584,752	587,661	2,909	5,818	0.095	0.096
6/30/96-97	700,686	751,693	770,213	769,954	770,000	770,000	18,307	18,307	0.110	0.110
6/30/97-98	684,415	429,419	445,342	445,793	445,000	446,000	15,581	16,581	0.065	0.065
6/30/98-99	707,796	356,188	376,963	378,186	377,000	378,000	20,812	21,812	0.053	0.053
6/30/99-00	760,477	486,598	520,755	521,734	521,000	522,000	34,402	35,402	0.069	0.069
6/30/00-01	811,600	564,300	609,898	610,809	610,000	611,000	45,700	46,700	0.075	0.075
6/30/01-02	835,038	533,769	583,852	585,350	584,000	585,000	50,231	51,231	0.070	0.070
6/30/02-03	825,340	580,801	646,284	647,530	646,000	648,000	65,199	67,199	0.078	0.079
6/30/03-04	849,216	690,599	772,980	773,391	773,000	773,000	82,401	82,401	0.091	0.091
6/30/04-05	992,508	658,062	740,570	764,840	741,000	765,000	82,938	106,938	0.075	0.077
6/30/05-06	962,878	766,110	877,201	884,270	877,000	884,000	110,890	117,890	0.091	0.092
6/30/06-07	1,032,930	648,441	752,043	786,326	752,000	786,000	103,559	137,559	0.073	0.076
6/30/07-08	1,063,597	886,112	1,043,466	1,041,528	1,042,000	1,043,000	155,888	156,888	0.098	0.098
6/30/08-09	1,073,805	890,799	1,064,873	1,061,797	1,062,000	1,065,000	171,201	174,201	0.099	0.099
6/30/09-10	1,084,749	969,822	1,185,895	1,167,466	1,167,000	1,186,000	197,178	216,178	0.108	0.109
6/30/10-11	1,134,164	997,564	1,280,965	1,248,487	1,248,000	1,281,000	250,436	283,436	0.110	0.113
6/30/11-12	1,202,674	804,310	1,111,338	1,136,571	1,111,000	1,137,000	306,690	332,690	0.092	0.095
6/30/12-13	1,284,741	557,666	902,960	1,048,954	903,000	1,000,000	345,334	442,334	0.070	0.078
6/30/13-14	1,346,902	380,527	1,378,985	1,355,755	1,356,000	1,379,000	975,473	998,473	0.101	0.102
Total	23,280,147	18,218,503	21,038,049	21,123,188	21,293,136	21,591,790	3,074,633	3,373,286		
Tot 6/30/84-14	23,280,147	17,799,230	20,957,053	21,123,188	20,867,602	21,153,719	3,068,371	3,354,489	0.090	0.091

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, 2014

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 7/1/12-13	Paid Counts 7/1/13-14	Average Outstanding Claim
All Prior Yrs		338,455							1	0	
6/30/82-83		53,045	1.002	1.000	53,161	N/A	53,161		0	0	
6/30/83-84		27,773	1.002	1.000	27,834	N/A	27,834		0	0	
6/30/84-85	357,749	112,891	1.002	1.000	113,139	N/A	113,139	0.032	0	0	
6/30/85-86	380,112	384,347	1.002	1.000	385,191	N/A	385,191	0.101	0	0	
6/30/86-87	423,770	238,056	1.002	1.000	238,579	N/A	238,579	0.056	0	0	
6/30/87-88	480,405	641,961	1.002	1.000	643,371	N/A	643,371	0.134	2	1	1,410
6/30/88-89	495,261	426,014	1.003	1.000	427,313	N/A	427,313	0.086	1	0	
6/30/89-90	502,691	547,456	1.003	1.000	549,125	N/A	549,125	0.109	1	2	834
6/30/90-91	482,143	472,472	1.005	1.000	474,824	N/A	474,824	0.098	0	0	
6/30/91-92	492,539	778,806	1.005	1.000	782,682	N/A	782,682	0.159	1	1	3,877
6/30/92-93	524,541	506,348	1.009	1.000	510,684	N/A	510,684	0.097	0	0	
6/30/93-94	584,853	603,468	1.011	1.000	610,143	N/A	610,143	0.104	4	2	3,338
6/30/94-95	587,701	552,788	1.019	1.000	563,025	N/A	563,025	0.096	1	1	10,236
6/30/95-96	614,868	581,842	1.022	1.000	594,395	N/A	594,395	0.097	0	0	
6/30/96-97	700,686	751,693	1.025	1.000	770,213	N/A	770,213	0.110	2	4	4,630
6/30/97-98	684,415	429,419	1.037	1.000	445,342	N/A	445,342	0.065	1	0	
6/30/98-99	707,796	356,188	1.058	1.000	376,963	N/A	376,963	0.053	3	1	20,774
6/30/99-00	760,477	486,598	1.070	1.000	520,755	N/A	520,755	0.068	1	1	34,157
6/30/00-01	811,600	564,300	1.081	1.000	609,898	N/A	609,898	0.075	2	0	
6/30/01-02	835,038	533,769	1.094	1.000	583,852	N/A	583,852	0.070	2	2	25,042
6/30/02-03	825,340	580,801	1.113	1.000	646,284	N/A	646,284	0.078	2	2	32,741
6/30/03-04	849,216	690,599	1.119	1.000	772,980	N/A	772,980	0.091	2	0	
6/30/04-05	992,508	658,062	1.125	1.000	740,570	N/A	740,570	0.075	4	4	20,627
6/30/05-06	962,878	766,110	1.145	1.000	877,201	N/A	877,201	0.091	8	8	13,886
6/30/06-07	1,032,930	648,441	1.160	1.000	752,043	N/A	752,043	0.073	4	3	34,534
6/30/07-08	1,063,597	886,112	1.178	1.000	1,043,466	N/A	1,043,466	0.098	13	10	15,735
6/30/08-09	1,073,805	890,799	1.195	1.000	1,064,873	N/A	1,064,873	0.099	11	9	19,342
6/30/09-10	1,084,749	969,822	1.223	1.000	1,185,895	N/A	1,185,895	0.109	27	19	11,372
6/30/10-11	1,134,164	997,564	1.284	1.000	1,280,965	N/A	1,280,965	0.113	48	28	10,121
6/30/11-12	1,202,674	804,310	1.382	1.000	1,111,338	N/A	1,111,338	0.092	152	37	8,298
6/30/12-13	1,284,741	557,666	1.619	1.000	902,960	N/A	902,960	0.070	258	189	1,827
6/30/13-14	1,346,902	380,527	3.624	1.000	1,378,985	N/A	1,378,985	0.102	0	262	3,811
Total	23,280,147	18,218,503			21,038,049		21,038,049		551	586	

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, 2014

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	1.002	113,275	N/A	113,275	0.032	0.032
6/30/85-86	380,112	0.135	384,347	1.002	385,472	N/A	385,472	0.101	0.101
6/30/86-87	423,770	0.082	238,056	1.002	238,817	N/A	238,817	0.056	0.056
6/30/87-88	480,405	0.172	641,961	1.002	643,772	N/A	643,772	0.134	0.134
6/30/88-89	495,261	0.121	426,014	1.003	427,835	N/A	427,835	0.086	0.086
6/30/89-90	502,691	0.151	547,456	1.003	549,763	N/A	549,763	0.109	0.109
6/30/90-91	482,143	0.098	472,472	1.005	474,820	N/A	474,820	0.098	0.098
6/30/91-92	492,539	0.157	778,806	1.005	782,646	N/A	782,646	0.159	0.159
6/30/92-93	524,541	0.097	506,348	1.009	510,666	N/A	510,666	0.097	0.097
6/30/93-94	584,853	0.104	603,468	1.011	610,094	N/A	610,094	0.104	0.104
6/30/94-95	587,701	0.095	552,788	1.019	562,970	N/A	562,970	0.096	0.096
6/30/95-96	614,868	0.096	581,842	1.022	594,316	N/A	594,316	0.097	0.097
6/30/96-97	700,686	0.108	751,693	1.025	769,954	N/A	769,954	0.110	0.110
6/30/97-98	684,415	0.067	429,419	1.037	445,793	N/A	445,793	0.065	0.065
6/30/98-99	707,796	0.056	356,188	1.058	378,186	N/A	378,186	0.053	0.053
6/30/99-00	760,477	0.070	486,598	1.070	521,734	N/A	521,734	0.069	0.069
6/30/00-01	811,600	0.077	564,300	1.081	610,809	N/A	610,809	0.075	0.075
6/30/01-02	835,038	0.072	533,769	1.094	585,350	N/A	585,350	0.070	0.070
6/30/02-03	825,340	0.080	580,801	1.113	647,530	N/A	647,530	0.078	0.078
6/30/03-04	849,216	0.091	690,599	1.119	773,391	N/A	773,391	0.091	0.091
6/30/04-05	992,508	0.097	658,062	1.125	764,840	N/A	764,840	0.077	0.077
6/30/05-06	962,878	0.097	766,110	1.145	884,270	N/A	884,270	0.092	0.092
6/30/06-07	1,032,930	0.097	648,441	1.160	786,326	N/A	786,326	0.076	0.076
6/30/07-08	1,063,597	0.097	886,112	1.178	1,041,528	N/A	1,041,528	0.098	0.098
6/30/08-09	1,073,805	0.097	890,799	1.195	1,061,797	N/A	1,061,797	0.099	0.099
6/30/09-10	1,084,749	0.100	969,822	1.223	1,167,466	N/A	1,167,466	0.108	0.108
6/30/10-11	1,134,164	0.100	997,564	1.284	1,248,487	N/A	1,248,487	0.110	0.110
6/30/11-12	1,202,674	0.100	804,310	1.382	1,136,571	N/A	1,136,571	0.095	0.095
6/30/12-13	1,284,741	0.100	557,666	1.619	1,048,954	N/A	1,048,954	0.082	0.082
6/30/13-14	1,346,902	0.100	380,527	3.624	1,355,755	N/A	1,355,755	0.101	0.101
Total	23,280,147		17,799,230		21,123,188		21,123,188		

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, 2014

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	474,824	0.098	1.194	0.118	1.000	0.118	0.084	0.098	0.098
6/30/91-92	492,539	782,682	0.159	1.189	0.189	1.000	0.189	0.084	0.154	0.157
6/30/92-93	524,541	510,684	0.097	1.189	0.116	1.000	0.116	0.084	0.096	0.097
6/30/93-94	584,853	610,143	0.104	1.178	0.123	1.000	0.123	0.085	0.098	0.104
6/30/94-95	587,701	563,025	0.096	1.170	0.112	1.000	0.112	0.085	0.092	0.095
6/30/95-96	614,868	594,395	0.097	1.155	0.112	1.000	0.112	0.087	0.093	0.096
6/30/96-97	700,686	770,213	0.110	1.137	0.125	1.000	0.125	0.088	0.099	0.108
6/30/97-98	684,415	445,342	0.065	1.135	0.074	1.000	0.074	0.088	0.065	0.067
6/30/98-99	707,796	376,963	0.053	1.135	0.060	1.000	0.060	0.088	0.051	0.056
6/30/99-00	760,477	520,755	0.068	1.135	0.078	1.000	0.078	0.088	0.067	0.070
6/30/00-01	811,600	609,898	0.075	1.109	0.083	1.000	0.083	0.090	0.074	0.077
6/30/01-02	835,038	583,852	0.070	1.101	0.077	1.000	0.077	0.091	0.070	0.072
6/30/02-03	825,340	646,284	0.078	1.073	0.084	1.000	0.084	0.093	0.075	0.080
6/30/03-04	849,216	772,980	0.091	1.046	0.095	1.000	0.095	0.096	0.088	0.091
6/30/04-05	992,508	740,570	0.075	1.036	0.077	1.000	0.077	0.097	0.081	0.097
6/30/05-06	962,878	877,201	0.091	1.032	0.094	1.000	0.094	0.097	0.084	0.097
6/30/06-07	1,032,930	752,043	0.073	1.032	0.075	1.000	0.075	0.097	0.087	0.097
6/30/07-08	1,063,597	1,043,466	0.098	1.032	0.101	1.000	0.101	0.097	0.089	0.097
6/30/08-09	1,073,805	1,064,873	0.099	1.027	0.102	1.000	0.102	0.097	0.092	0.097
6/30/09-10	1,084,749	1,185,895	0.109	1.000	0.109	1.000	0.109	0.100	0.098	0.100
6/30/10-11	1,134,164	1,280,965	0.113	1.000	0.113	1.000	0.113	0.100	0.101	0.100
6/30/11-12	1,202,674	1,111,338	0.092	1.000	0.092	1.000	0.092	0.100	0.104	0.100
6/30/12-13	1,284,741	902,960	0.070	1.000	0.070	1.000	0.070	0.100	0.107	0.100
6/30/13-14	1,346,902	1,378,985	0.102	1.000	0.102	1.000	0.102	0.100		0.100
Total	20,640,160	18,600,335								

Trend Last 4 (ex 13-14):	-14.2%	Avg 3 (x13-14):	0.092
Trend Last 8 (ex 13-14):	-0.7%	Avg 5 (x13-14):	0.097
Trend Last 12 (ex 13-14):	1.2%	Avg 10 (x13-14):	0.093
Prior Selected Trend:	3.0%	Prior Sel Avg:	0.110
Selected Trend:	0.0%	Sel. Loss Cost:	0.100

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, 2013
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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 2014	0	0
(7)	Estimated Reserve	0	0
(8)	Paid to Date (82 & Prior)	338,455	338,455
(9)	Est Ult Paid for 1982 & Prior	338,455	338,455

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	1,673	5,140
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	11,714	35,979
(13)	Paid to Date (82 & Prior)	338,455	338,455
(14)	Est Ult Paid for 1982 & Prior	350,169	374,434
(14a)	Paid Counts During Fiscal Year	0	1
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	344,312	356,444
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	**344,312**	**356,444**
(18)	Implied Tail	1.017	1.053
(19)	Ult Loss Inc Lump Sums @ 6/13	371,104	384,329

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, 2013

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		
2014	23	0				
					Selected Trend:	**0.970**

NOTES:

(3) 2014 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2013

(4) LN [(3)]

(5) Eg. 2013: 0.513 = 1702 / 3318

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
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	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	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	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	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	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	641,961					
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	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	547,456							
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	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	778,806									
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	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	603,468											
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	552,788												
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	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	751,693														
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	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	356,188																
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	486,598																	
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	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	533,769																			
June-03	68,006	374,633	451,946	472,102	486,597	492,733	520,395	535,451	548,996	558,702	571,378	580,801																				
June-04	226,665	540,314	613,339	657,569	676,213	687,448	689,931	690,265	690,426	690,599	690,599																					
June-05	267,264	502,730	569,792	616,429	634,553	643,543	651,061	654,330	656,278	658,062																						
June-06	266,086	533,067	604,845	688,237	700,485	712,078	725,521	746,165	766,110																							
June-07	237,774	472,669	580,019	596,123	625,421	633,211	640,381	648,441																								
June-08	254,702	609,536	722,745	829,701	850,544	872,814	886,112																									
June-09	295,106	650,179	756,525	816,761	864,784	890,799																										
June-10	419,730	775,749	865,851	909,378	969,822																											
June-11	454,614	843,137	950,680	997,564																												
June-12	330,317	676,973	804,310																													
June-13	291,036	557,666																														
June-14	380,527																															

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
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	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	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	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	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	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	1.005						
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	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	1.008								
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	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	1.014										
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	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	1.035												
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	1.006													
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	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	1.063															
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	1.000																
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	1.051																	
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	1.003																		
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	1.000																			
June-02	2.150	1.570	1.266	1.054	1.020	1.006	1.007	1.004	1.003	1.002	1.001	1.000																				
June-03	5.509	1.206	1.045	1.031	1.013	1.056	1.029	1.025	1.018	1.023	1.016																					
June-04	2.384	1.135	1.072	1.028	1.017	1.004	1.000	1.000	1.000	1.000																						
June-05	1.881	1.133	1.082	1.029	1.014	1.012	1.005	1.003	1.003																							
June-06	2.003	1.135	1.138	1.018	1.017	1.019	1.028	1.027																								
June-07	1.988	1.227	1.028	1.049	1.012	1.011	1.013																									
June-08	2.393	1.186	1.148	1.025	1.026	1.015																										
June-09	2.203	1.164	1.080	1.059	1.030																											
June-10	1.848	1.116	1.050	1.066																												
June-11	1.855	1.128	1.049																													
June-12	2.049	1.188																														
June-13	1.916																															

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	2.587	1.254	1.131	1.084	1.044	1.039	1.027	1.025	1.017	1.010	1.010	1.017	1.012	1.008	1.011	1.011	1.012	1.004	1.005	1.005	1.002	1.002	1.001	1.002	1.001	1.001	1.000	1.000	1.000	1.000	1.000	
Latest 5	1.974	1.156	1.071	1.043	1.020	1.012	1.015	1.012	1.005	1.005	1.004	1.002	1.009	1.012	1.026	1.016	1.021	1.009	1.009	1.011	1.002	1.004	1.002	1.003	1.001	1.001	1.000					
Latest 3	1.940	1.144	1.060	1.050	1.023	1.015	1.015	1.010	1.007	1.008	1.006	1.001	1.001	1.003	1.039	1.017	1.028	1.010	1.011	1.016	1.004	1.005	1.001	1.005	1.001	1.002	1.000	1.000	1.000			
Volume Wtd																																
All Yrs	2.238	1.191	1.099	1.060	1.032	1.028	1.020	1.013	1.016	1.010	1.010	1.018	1.011	1.010	1.014	1.014	1.016	1.006	1.007	1.007	1.003	1.004	1.002	1.004	1.001	1.002	1.000	1.000	1.000	1.000	1.000	
Latest 5	1.956	1.153	1.071	1.044	1.021	1.012	1.015	1.012	1.005	1.005	1.004	1.001	1.011	1.014	1.026	1.018	1.024	1.009	1.010	1.012	1.003	1.004	1.003	1.004	1.001	1.002	1.000					
Latest 3	1.931	1.142	1.059	1.051	1.024	1.015	1.016	1.011	1.006	1.008	1.006	1.001	1.001	1.003	1.042	1.020	1.030	1.010	1.012	1.017	1.005	1.007	1.001	1.006	1.002	1.003	1.000	1.000	1.000			

Dev Factor Selection																																
Industry 1	1.954	1.133	1.050	1.027	1.015	1.012	1.011																									
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	*2.258*	*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*	
Selected	2.238	1.172	1.076	1.050	1.023	1.015	1.015	1.013	1.017	1.005	1.006	1.017	1.012	1.010	1.011	1.020	1.012	1.003	1.003	1.007	1.002	1.004	1.000	1.002	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.002
FacToUlt	3.624	1.619	1.382	1.284	1.223	1.195	1.178	1.160	1.145	1.125	1.119	1.113	1.094	1.081	1.070	1.058	1.037	1.025	1.022	1.019	1.011	1.009	1.005	1.005	1.003	1.003	1.002	1.002	1.002	1.002	1.002	1.002
Percent of Ult	27.6%	61.8%	72.4%	77.9%	81.8%	83.7%	84.9%	86.2%	87.3%	88.9%	89.3%	89.9%	91.4%	92.5%	93.4%	94.5%	96.4%	97.6%	97.9%	98.2%	98.9%	99.2%	99.5%	99.5%	99.7%	99.7%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%

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 6/13		As of 6/14		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	371,104	384,329	344,312	356,444	(26,792)	-7.2%	(27,885)	-7.3%
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	641,000	641,000	643,000	644,000	2,000	0.3%	3,000	0.5%
6/30/88-89	427,000	428,000	427,000	428,000	0	0.0%	0	0.0%
6/30/89-90	545,000	545,000	549,000	550,000	4,000	0.7%	5,000	0.9%
6/30/90-91	474,000	474,000	475,000	475,000	1,000	0.2%	1,000	0.2%
6/30/91-92	771,000	771,000	783,000	783,000	12,000	1.6%	12,000	1.6%
6/30/92-93	508,880	511,411	508,880	511,411	0	0.0%	0	0.0%
6/30/93-94	587,000	587,000	610,000	610,000	23,000	3.9%	23,000	3.9%
6/30/94-95	555,000	555,000	563,000	563,000	8,000	1.4%	8,000	1.4%
6/30/95-96	584,752	587,661	584,752	587,661	0	0.0%	0	0.0%
6/30/96-97	718,000	719,000	770,000	770,000	52,000	7.2%	51,000	7.1%
6/30/97-98	446,000	446,000	445,000	446,000	(1,000)	-0.2%	0	0.0%
6/30/98-99	355,000	355,000	377,000	378,000	22,000	6.2%	23,000	6.5%
6/30/99-00	513,000	513,000	521,000	522,000	8,000	1.6%	9,000	1.8%
6/30/00-01	604,000	605,000	610,000	611,000	6,000	1.0%	6,000	1.0%
6/30/01-02	582,000	582,000	584,000	585,000	2,000	0.3%	3,000	0.5%
6/30/02-03	623,000	623,000	646,000	648,000	23,000	3.7%	25,000	4.0%
6/30/03-04	758,000	759,000	773,000	773,000	15,000	2.0%	14,000	1.8%
6/30/04-05	734,000	742,000	741,000	765,000	7,000	1.0%	23,000	3.1%
6/30/05-06	839,000	843,000	877,000	884,000	38,000	4.5%	41,000	4.9%
6/30/06-07	731,000	752,000	752,000	786,000	21,000	2.9%	34,000	4.5%
6/30/07-08	1,003,000	1,011,000	1,042,000	1,043,000	39,000	3.9%	32,000	3.2%
6/30/08-09	1,016,000	1,020,000	1,062,000	1,065,000	46,000	4.5%	45,000	4.4%
6/30/09-10	1,109,000	1,120,000	1,167,000	1,186,000	58,000	5.2%	66,000	5.9%
6/30/10-11	1,275,000	1,328,000	1,248,000	1,281,000	(27,000)	-2.1%	(47,000)	-3.5%
6/30/11-12	1,101,000	1,157,000	1,111,000	1,137,000	10,000	0.9%	(20,000)	-1.7%
6/30/12-13	1,068,000	1,289,000	903,000	1,000,000	(165,000)	-15.4%	(289,000)	-22.4%
6/30/13-14								
Total	19,759,928	20,172,675	19,937,136	20,212,790	177,208	0.9%	40,115	0.2%

NOTES:

(2), (3) From Aon analysis as of June 30, 2013

(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%
396	100.0%	0.2%	0.0%	0.1%	0.0%	1.000	1.000
384	99.8%	0.0%	0.2%	0.0%	0.0%	1.000	1.000
372	99.8%	0.0%	0.2%	0.0%	0.0%	1.000	1.000
360	99.8%	0.0%	0.2%	0.0%	0.0%	1.000	1.000
348	99.8%	0.0%	0.2%	0.0%	0.0%	1.000	1.000
336	99.8%	0.0%	0.2%	0.0%	0.0%	1.000	1.000
324	99.8%	0.1%	0.2%	0.0%	0.0%	0.806	0.726
312	99.7%	0.0%	0.3%	0.0%	0.0%	0.832	0.765
300	99.7%	0.2%	0.3%	0.1%	0.0%	0.800	0.721
288	99.5%	0.0%	0.5%	0.0%	0.0%	0.851	0.793
276	99.5%	0.4%	0.5%	0.1%	0.1%	0.818	0.748
264	99.2%	0.2%	0.8%	0.1%	0.1%	0.868	0.816
252	98.9%	0.7%	1.1%	0.3%	0.2%	0.867	0.815
240	98.2%	0.3%	1.8%	0.1%	0.1%	0.892	0.850
228	97.9%	0.3%	2.1%	0.1%	0.1%	0.875	0.825
216	97.6%	1.2%	2.4%	0.6%	0.4%	0.858	0.802
204	96.4%	1.9%	3.6%	1.0%	0.7%	0.876	0.827
192	94.5%	1.0%	5.5%	0.6%	0.4%	0.891	0.847
180	93.4%	0.9%	6.6%	0.5%	0.4%	0.876	0.827
168	92.5%	1.1%	7.5%	0.6%	0.5%	0.860	0.803
156	91.4%	1.6%	8.6%	1.0%	0.8%	0.846	0.785
144	89.9%	0.5%	10.1%	0.3%	0.3%	0.839	0.776
132	89.3%	0.5%	10.7%	0.3%	0.3%	0.816	0.744
120	88.9%	1.5%	11.1%	1.0%	0.9%	0.793	0.714
108	87.3%	1.1%	12.7%	0.8%	0.7%	0.789	0.709
96	86.2%	1.3%	13.8%	1.0%	0.8%	0.776	0.693
84	84.9%	1.3%	15.1%	1.0%	0.9%	0.767	0.682
72	83.7%	1.9%	16.3%	1.5%	1.4%	0.756	0.668
60	81.8%	3.9%	18.2%	3.3%	3.0%	0.753	0.666
48	77.9%	5.5%	22.1%	4.8%	4.5%	0.769	0.689
36	72.4%	10.6%	27.6%	9.6%	9.2%	0.788	0.714
24	61.8%	34.2%	38.2%	32.2%	31.3%	0.819	0.756
12	27.6%	27.6%	72.4%	27.1%	26.8%	0.879	0.835
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	5,857	17,989		5,123	15,733
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	1,039	2,039	0.806	837	1,643
6/30/88-89	986	1,986	0.832	820	1,653
6/30/89-90	1,544	2,544	0.800	1,235	2,036
6/30/90-91	2,528	2,528	0.851	2,152	2,152
6/30/91-92	4,194	4,194	0.818	3,432	3,432
6/30/92-93	2,532	5,063	0.868	2,196	4,393
6/30/93-94	6,532	6,532	0.867	5,663	5,663
6/30/94-95	10,212	10,212	0.892	9,110	9,110
6/30/95-96	2,909	5,818	0.875	2,545	5,091
6/30/96-97	18,307	18,307	0.858	15,711	15,711
6/30/97-98	15,581	16,581	0.876	13,650	14,527
6/30/98-99	20,812	21,812	0.891	18,542	19,433
6/30/99-00	34,402	35,402	0.876	30,152	31,029
6/30/00-01	45,700	46,700	0.860	39,287	40,146
6/30/01-02	50,231	51,231	0.846	42,515	43,361
6/30/02-03	65,199	67,199	0.839	54,728	56,407
6/30/03-04	82,401	82,401	0.816	67,212	67,212
6/30/04-05	82,938	106,938	0.793	65,755	84,783
6/30/05-06	110,890	117,890	0.789	87,445	92,965
6/30/06-07	103,559	137,559	0.776	80,381	106,772
6/30/07-08	155,888	156,888	0.767	119,501	120,268
6/30/08-09	171,201	174,201	0.756	129,424	131,692
6/30/09-10	197,178	216,178	0.753	148,472	162,778
6/30/10-11	250,436	283,436	0.769	192,658	218,045
6/30/11-12	306,690	332,690	0.788	241,574	262,054
6/30/12-13	345,334	442,334	0.819	282,943	362,419
6/30/13-14	975,473	998,473	0.879	857,222	877,433
Total	3,074,633	3,373,286		2,524,367	2,766,100
			(7) Total Discount Factor:	0.821	0.820

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	5,857	17,989
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	837	2,570
(11) Discounted Value at 4%:	5,123	15,733

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	5,857	17,989		4,811	14,777
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	1,039	2,039	0.726	754	1,480
6/30/88-89	986	1,986	0.765	754	1,518
6/30/89-90	1,544	2,544	0.721	1,113	1,835
6/30/90-91	2,528	2,528	0.793	2,004	2,004
6/30/91-92	4,194	4,194	0.748	3,137	3,137
6/30/92-93	2,532	5,063	0.816	2,067	4,133
6/30/93-94	6,532	6,532	0.815	5,325	5,325
6/30/94-95	10,212	10,212	0.850	8,676	8,676
6/30/95-96	2,909	5,818	0.825	2,400	4,801
6/30/96-97	18,307	18,307	0.802	14,680	14,680
6/30/97-98	15,581	16,581	0.827	12,883	13,710
6/30/98-99	20,812	21,812	0.847	17,632	18,479
6/30/99-00	34,402	35,402	0.827	28,442	29,268
6/30/00-01	45,700	46,700	0.803	36,716	37,520
6/30/01-02	50,231	51,231	0.785	39,449	40,234
6/30/02-03	65,199	67,199	0.776	50,609	52,161
6/30/03-04	82,401	82,401	0.744	61,312	61,312
6/30/04-05	82,938	106,938	0.714	59,189	76,316
6/30/05-06	110,890	117,890	0.709	78,631	83,595
6/30/06-07	103,559	137,559	0.693	71,803	95,378
6/30/07-08	155,888	156,888	0.682	106,243	106,924
6/30/08-09	171,201	174,201	0.668	114,432	116,437
6/30/09-10	197,178	216,178	0.666	131,242	143,889
6/30/10-11	250,436	283,436	0.689	172,428	195,149
6/30/11-12	306,690	332,690	0.714	218,862	237,417
6/30/12-13	345,334	442,334	0.756	261,057	334,385
6/30/13-14	975,473	998,473	0.835	814,482	833,686
Total	3,074,633	3,373,286		2,325,214	2,546,387
			(7) Total Discount Factor:	0.756	0.755

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	5,857	17,989
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	837	2,570
(11) Discounted Value at 6%:	4,811	14,777

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, 2014

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		43,745,432			49,660,072	53,989,457	5,914,641	10,244,025		
6/30/82-83		5,612,181	6,047,617		5,896,427	6,349,998	284,245	737,817		
6/30/83-84		7,966,054	8,621,010		8,405,485	9,052,060	439,430	1,086,006		
6/30/84-85	732,729	16,648,888	18,175,586	17,224,198	17,224,000	18,176,000	575,112	1,527,112	2.351	2.481
6/30/85-86	787,208	19,634,808	21,214,973	20,468,858	20,469,000	21,215,000	834,192	1,580,192	2.600	2.695
6/30/86-87	902,483	20,141,236	21,967,411	21,205,463	21,205,000	21,967,000	1,063,764	1,825,764	2.350	2.434
6/30/87-88	1,366,586	27,473,700	29,512,327	29,466,179	29,466,000	30,250,000	1,992,300	2,776,300	2.156	2.214
6/30/88-89	1,486,478	25,213,667	27,361,531	27,051,712	27,052,000	28,046,000	1,838,333	2,832,333	1.820	1.887
6/30/89-90	1,494,463	23,794,100	26,185,066	26,125,571	26,126,000	26,840,000	2,331,900	3,045,900	1.748	1.796
6/30/90-91	1,405,560	20,862,061	23,289,293	23,270,704	23,271,000	23,872,000	2,408,939	3,009,939	1.656	1.698
6/30/91-92	1,364,510	12,640,235	14,358,946	14,336,150	14,336,000	15,077,000	1,695,765	2,436,765	1.051	1.105
6/30/92-93	1,347,359	9,514,834	11,927,297	11,066,990	11,067,000	12,524,000	1,552,166	3,009,166	0.821	0.930
6/30/93-94	1,424,410	10,401,449	12,191,191	12,148,034	12,148,000	12,801,000	1,746,551	2,399,551	0.853	0.899
6/30/94-95	1,497,829	9,387,330	11,135,945	11,091,824	11,092,000	11,693,000	1,704,670	2,305,670	0.741	0.781
6/30/95-96	1,582,635	9,575,094	11,658,121	11,596,282	11,596,000	12,241,000	2,020,906	2,665,906	0.733	0.773
6/30/96-97	1,979,748	10,023,896	12,327,772	12,272,826	12,273,000	12,944,000	2,249,104	2,920,104	0.620	0.654
6/30/97-98	1,917,994	8,718,110	10,722,329	10,696,352	10,696,000	11,258,000	1,977,890	2,539,890	0.558	0.587
6/30/98-99	2,081,524	8,876,179	11,171,852	11,145,555	11,146,000	11,730,000	2,269,821	2,853,821	0.535	0.564
6/30/99-00	2,207,243	10,240,734	13,285,496	13,219,287	13,219,000	13,950,000	2,978,266	3,709,266	0.599	0.632
6/30/00-01	2,201,008	9,623,338	12,828,356	12,777,763	12,778,000	13,470,000	3,154,662	3,846,662	0.581	0.612
6/30/01-02	2,292,592	10,236,146	13,846,786	13,804,684	13,805,000	14,539,000	3,568,854	4,302,854	0.602	0.634
6/30/02-03	2,260,534	9,842,955	13,696,768	13,660,246	13,660,000	14,382,000	3,817,045	4,539,045	0.604	0.636
6/30/03-04	2,255,942	8,832,140	12,637,684	12,644,327	12,638,000	13,277,000	3,805,860	4,444,860	0.560	0.589
6/30/04-05	2,309,083	10,215,809	14,798,614	14,652,179	14,652,000	14,799,000	4,436,191	4,583,191	0.635	0.641
6/30/05-06	2,480,693	9,538,214	14,158,865	14,777,970	14,159,000	14,778,000	4,620,786	5,239,786	0.571	0.596
6/30/06-07	2,612,577	8,503,144	13,167,425	14,575,386	13,167,000	14,575,000	4,663,856	6,071,856	0.504	0.558
6/30/07-08	2,783,717	12,050,866	19,571,705	19,589,993	18,593,000	19,590,000	6,542,134	7,539,134	0.668	0.704
6/30/08-09	2,750,907	12,087,784	21,147,903	20,740,477	20,532,600	21,169,148	8,444,816	9,081,364	0.746	0.770
6/30/09-10	2,806,048	11,364,337	21,875,395	21,734,542	20,648,250	21,896,875	9,283,913	10,532,538	0.736	0.780
6/30/10-11	2,942,638	11,281,747	25,189,317	24,298,696	24,056,010	25,214,189	12,774,263	13,932,442	0.817	0.857
6/30/11-12	3,006,849	9,631,355	26,718,636	25,282,930	25,030,170	26,745,719	15,398,815	17,114,364	0.832	0.889
6/30/12-13	3,138,905	6,384,394	25,433,424	25,981,207	24,161,350	26,032,962	17,776,956	19,648,568	0.770	0.829
6/30/13-14	3,311,947	3,367,283	29,152,487	29,026,368	27,574,700	29,210,304	24,207,417	25,843,021	0.833	0.882
Total	60,732,197	433,429,500	555,377,129	535,932,752	591,803,063	623,654,712	158,373,563	190,225,212		
Tot 6/30/84-14	60,732,197	376,105,833	540,708,502	535,932,752	527,841,080	554,263,197	151,735,247	178,157,364	0.869	0.913

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, 2014

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 7/1/12-13	Paid Counts 7/1/13-14	Average Outstanding Claim	Average Age
All Prior Yrs		42,085,218							16	14		82
6/30/82-83		5,568,431	1.027	1.050	6,003,320	44,297	6,047,617		2	2	217,444	75
6/30/83-84		7,482,504	1.035	1.050	8,131,415	489,594	8,621,010		1	1	648,911	68
6/30/84-85	732,729	15,902,384	1.043	1.050	17,419,751	755,835	18,175,586	2.481	3	3	505,789	82
6/30/85-86	787,208	18,528,274	1.053	1.030	20,094,608	1,120,365	21,214,973	2.695	4	3	522,111	78
6/30/86-87	902,483	18,621,372	1.065	1.030	20,428,548	1,538,862	21,967,411	2.434	7	6	301,196	73
6/30/87-88	1,366,586	25,402,296	1.079	1.000	27,413,969	2,098,358	29,512,327	2.160	8	7	287,382	69
6/30/88-89	1,486,478	22,287,434	1.095	1.000	24,395,719	2,965,812	27,361,531	1.841	10	10	210,829	73
6/30/89-90	1,494,463	21,078,475	1.111	1.000	23,428,527	2,756,539	26,185,066	1.752	9	7	335,722	66
6/30/90-91	1,405,560	18,364,459	1.130	1.000	20,750,203	2,539,090	23,289,293	1.657	6	7	340,821	74
6/30/91-92	1,364,510	11,298,499	1.149	1.000	12,986,350	1,372,596	14,358,946	1.052	7	5	337,570	68
6/30/92-93	1,347,359	8,300,461	1.169	1.100	10,677,046	1,250,251	11,927,297	0.885	6	6	396,098	70
6/30/93-94	1,424,410	9,094,927	1.192	1.000	10,839,474	1,351,717	12,191,191	0.856	8	6	290,758	72
6/30/94-95	1,497,829	7,855,113	1.215	1.000	9,546,230	1,589,715	11,135,945	0.743	5	5	338,224	75
6/30/95-96	1,582,635	8,329,411	1.242	1.000	10,345,420	1,312,701	11,658,121	0.737	4	5	403,202	65
6/30/96-97	1,979,748	8,115,077	1.272	1.000	10,319,154	2,008,618	12,327,772	0.623	4	4	551,019	69
6/30/97-98	1,917,994	6,315,915	1.298	1.000	8,196,654	2,525,675	10,722,329	0.559	1	1	1,880,740	72
6/30/98-99	2,081,524	6,778,115	1.321	1.000	8,957,146	2,214,706	11,171,852	0.537	4	4	544,758	57
6/30/99-00	2,207,243	8,347,186	1.348	1.000	11,255,615	2,029,880	13,285,496	0.602	5	5	581,686	62
6/30/00-01	2,201,008	8,020,910	1.382	1.000	11,081,978	1,746,379	12,828,356	0.583	9	8	382,633	57
6/30/01-02	2,292,592	8,235,728	1.415	1.000	11,655,145	2,191,641	13,846,786	0.604	9	7	488,488	52
6/30/02-03	2,260,534	8,045,457	1.453	1.000	11,689,673	2,007,095	13,696,768	0.606	5	5	728,843	52
6/30/03-04	2,255,942	7,170,376	1.494	1.000	10,715,851	1,921,833	12,637,684	0.560	6	5	709,095	50
6/30/04-05	2,309,083	7,893,608	1.535	1.000	12,114,627	2,683,988	14,798,614	0.641	9	5	844,204	62
6/30/05-06	2,480,693	7,277,714	1.583	1.000	11,519,844	2,639,021	14,158,865	0.571	10	7	606,019	54
6/30/06-07	2,612,577	6,722,055	1.636	1.000	10,995,297	2,172,129	13,167,425	0.504	20	12	356,103	48
6/30/07-08	2,783,717	9,567,218	1.707	1.000	16,332,695	3,239,010	19,571,705	0.703	27	23	294,151	56
6/30/08-09	2,750,907	9,939,858	1.805	1.000	17,941,143	3,206,760	21,147,903	0.769	50	34	235,332	53
6/30/09-10	2,806,048	9,377,427	1.965	1.000	18,422,214	3,453,181	21,875,395	0.780	71	42	215,352	50
6/30/10-11	2,942,638	9,693,865	2.206	1.000	21,381,746	3,807,570	25,189,317	0.856	99	65	179,814	51
6/30/11-12	3,006,849	8,927,094	2.627	1.000	23,448,911	3,269,725	26,718,636	0.889	246	111	130,827	50
6/30/12-13	3,138,905	6,219,894	3.592	1.000	22,342,131	3,091,294	25,433,424	0.810	515	235	68,605	48
6/30/13-14	3,311,947	3,352,283	7.643	1.000	25,621,622	3,530,865	29,152,487	0.880		500	44,539	48
Total	60,732,197	380,199,039			486,452,026	68,925,103	555,377,129		1,186	1,160		

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, 2014

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	15,902,384	1.043	16,468,363	755,835	17,224,198	2.351	2.248
6/30/85-86	787,208	2.072	18,528,274	1.053	19,348,493	1,120,365	20,468,858	2.600	2.458
6/30/86-87	902,483	1.895	18,621,372	1.065	19,666,601	1,538,862	21,205,463	2.350	2.179
6/30/87-88	1,366,586	1.960	25,402,296	1.079	27,367,820	2,098,358	29,466,179	2.156	2.003
6/30/88-89	1,486,478	1.400	22,287,434	1.095	24,085,900	2,965,812	27,051,712	1.820	1.620
6/30/89-90	1,494,463	1.528	21,078,475	1.111	23,369,032	2,756,539	26,125,571	1.748	1.564
6/30/90-91	1,405,560	1.465	18,364,459	1.130	20,731,613	2,539,090	23,270,704	1.656	1.475
6/30/91-92	1,364,510	0.939	11,298,499	1.149	12,963,553	1,372,596	14,336,150	1.051	0.950
6/30/92-93	1,347,359	0.777	8,300,461	1.169	9,816,740	1,250,251	11,066,990	0.821	0.729
6/30/93-94	1,424,410	0.742	9,094,927	1.192	10,796,317	1,351,717	12,148,034	0.853	0.758
6/30/94-95	1,497,829	0.621	7,855,113	1.215	9,502,109	1,589,715	11,091,824	0.741	0.634
6/30/95-96	1,582,635	0.634	8,329,411	1.242	10,283,582	1,312,701	11,596,282	0.733	0.650
6/30/96-97	1,979,748	0.508	8,115,077	1.272	10,264,208	2,008,618	12,272,826	0.620	0.518
6/30/97-98	1,917,994	0.421	6,315,915	1.298	8,170,677	2,525,675	10,696,352	0.558	0.426
6/30/98-99	2,081,524	0.425	6,778,115	1.321	8,930,849	2,214,706	11,145,555	0.535	0.429
6/30/99-00	2,207,243	0.498	8,347,186	1.348	11,189,407	2,029,880	13,219,287	0.599	0.507
6/30/00-01	2,201,008	0.495	8,020,910	1.382	11,031,385	1,746,379	12,777,763	0.581	0.501
6/30/01-02	2,292,592	0.502	8,235,728	1.415	11,613,044	2,191,641	13,804,684	0.602	0.507
6/30/02-03	2,260,534	0.512	8,045,457	1.453	11,653,150	2,007,095	13,660,246	0.604	0.516
6/30/03-04	2,255,942	0.476	7,170,376	1.494	10,722,494	1,921,833	12,644,327	0.560	0.475
6/30/04-05	2,309,083	0.506	7,893,608	1.535	11,968,191	2,683,988	14,652,179	0.635	0.518
6/30/05-06	2,480,693	0.532	7,277,714	1.583	12,138,949	2,639,021	14,777,970	0.596	0.489
6/30/06-07	2,612,577	0.560	6,722,055	1.636	12,403,257	2,172,129	14,575,386	0.558	0.475
6/30/07-08	2,783,717	0.588	9,567,218	1.707	16,350,983	3,239,010	19,589,993	0.704	0.587
6/30/08-09	2,750,907	0.619	9,939,858	1.805	17,533,717	3,206,760	20,740,477	0.754	0.637
6/30/09-10	2,806,048	0.646	9,377,427	1.965	18,281,361	3,453,181	21,734,542	0.775	0.651
6/30/10-11	2,942,638	0.671	9,693,865	2.206	20,491,126	3,807,570	24,298,696	0.826	0.696
6/30/11-12	3,006,849	0.703	8,927,094	2.627	22,013,205	3,269,725	25,282,930	0.841	0.732
6/30/12-13	3,138,905	0.736	6,219,894	3.592	22,889,913	3,091,294	25,981,207	0.828	0.729
6/30/13-14	3,311,947	0.769	3,352,283	7.643	25,495,503	3,530,865	29,026,368	0.876	0.770
Total	60,732,197		325,062,886		467,541,541	68,391,212	535,932,752		

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, 2014

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	20,750,203	1.476	0.957	1.413	2.563	3.623	0.326	1.470	1.465
6/30/91-92	1,364,510	12,986,350	0.952	1.050	1.000	2.465	2.464	0.309	0.940	0.939
6/30/92-93	1,347,359	10,677,046	0.792	1.225	0.971	2.370	2.300	0.276	0.778	0.777
6/30/93-94	1,424,410	10,839,474	0.761	1.209	0.920	2.279	2.097	0.290	0.744	0.742
6/30/94-95	1,497,829	9,546,230	0.637	1.198	0.764	2.191	1.673	0.305	0.622	0.621
6/30/95-96	1,582,635	10,345,420	0.654	1.188	0.777	2.107	1.637	0.320	0.641	0.634
6/30/96-97	1,979,748	10,319,154	0.521	1.177	0.613	2.026	1.242	0.336	0.516	0.508
6/30/97-98	1,917,994	8,196,654	0.427	1.162	0.496	1.948	0.967	0.354	0.432	0.421
6/30/98-99	2,081,524	8,957,146	0.430	1.146	0.493	1.873	0.924	0.373	0.435	0.425
6/30/99-00	2,207,243	11,255,615	0.510	1.128	0.575	1.801	1.036	0.394	0.510	0.498
6/30/00-01	2,201,008	11,081,978	0.503	1.099	0.553	1.732	0.958	0.420	0.506	0.495
6/30/01-02	2,292,592	11,655,145	0.508	1.078	0.548	1.665	0.912	0.446	0.518	0.502
6/30/02-03	2,260,534	11,689,673	0.517	1.074	0.555	1.601	0.889	0.465	0.527	0.512
6/30/03-04	2,255,942	10,715,851	0.475	1.074	0.510	1.539	0.785	0.484	0.488	0.476
6/30/04-05	2,309,083	12,114,627	0.525	1.067	0.560	1.480	0.829	0.506	0.541	0.506
6/30/05-06	2,480,693	11,519,844	0.464	1.056	0.490	1.423	0.698	0.532	0.563	0.532
6/30/06-07	2,612,577	10,995,297	0.421	1.045	0.440	1.369	0.602	0.560	0.587	0.560
6/30/07-08	2,783,717	16,332,695	0.587	1.033	0.606	1.316	0.798	0.588	0.611	0.588
6/30/08-09	2,750,907	17,941,143	0.652	1.021	0.666	1.265	0.843	0.619	0.637	0.619
6/30/09-10	2,806,048	18,422,214	0.657	1.017	0.668	1.217	0.813	0.646	0.658	0.646
6/30/10-11	2,942,638	21,381,746	0.727	1.019	0.740	1.170	0.866	0.671	0.677	0.671
6/30/11-12	3,006,849	23,448,911	0.780	1.012	0.789	1.125	0.888	0.703	0.702	0.703
6/30/12-13	3,138,905	22,342,131	0.712	1.005	0.715	1.082	0.774	0.736	0.728	0.736
6/30/13-14	3,311,947	25,621,622	0.774	1.000	0.774	1.040	0.805	0.769		0.769
Total	53,962,251	339,136,168								

Trend Last 4 (ex 13-14):	2.7%	Avg 3 (x13-14):	0.842
Trend Last 8 (ex 13-14):	7.6%	Avg 5 (x13-14):	0.837
Trend Last 12 (ex 13-14):	3.9%	Avg 10 (x13-14):	0.789
Prior Selected Trend:	3.0%	Prior Sel Avg:	0.750
Selected Trend:	4.0%	Sel. Loss Cost:	0.800

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, 2013
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

All Other - Clusters 5-17 & 95
Indemnity

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend	0.950	
(2)	Credibility	61%	
(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 2014	572,165	572,165
(7)	Estimated Reserve	10,677,108	20,619,139
(8)	Paid to Date (82 & Prior)	42,085,218	42,085,218
(9)	Est Ult Paid for 1982 & Prior	52,762,325	62,704,356

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	614,212	651,131
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	4,299,481	4,557,918
(13)	Paid to Date (82 & Prior)	42,085,218	41,513,052
(14)	Est Ult Paid for 1982 & Prior	46,384,699	46,070,971
(14a)	Paid Counts During Fiscal Year	14	16
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	47,979,106	52,308,490
(16)	Lump Sum Ultimates	1,680,967	1,680,967
(17)	Ult Loss Including Lump Sums	**49,660,072**	**53,989,457**
(18)	Implied Tail	1.140	1.243
(19)	Ult Loss Inc Lump Sums @ 6/13	49,462,894	54,188,670

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, 2013

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 =	23
2001	10	1,385,608	14.142	1.014	S(x) =	46,069
2002	11	1,127,515	13.936	0.814	S(x-sq) =	92,277,219
2003	12	1,046,115	13.861	0.928	S(xy) =	638,513
2004	13	1,007,259	13.823	0.963	S(y) =	319
2005	14	889,985	13.699	0.884	D =	23,276
2006	15	854,725	13.659	0.960	slope =	-0.053
2007	16	901,012	13.711	1.054	Avg Trend =	0.947
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		
2014	23	572,165	13.257	0.937		
					Selected Trend:	**0.950**

NOTES:

(3) 2014 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2013

(4) LN [(3)]

(5) Eg. 2014: 0.937 = 572165 / 610950

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	384
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	5,568,431
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	7,482,504	
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	15,902,384		
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	18,528,274			
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	18,621,372				
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	25,402,296					
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	22,287,434						
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	21,078,475							
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	18,364,459								
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	11,298,499									
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	8,300,461										
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	9,094,927											
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	7,855,113												
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	8,329,411													
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	8,115,077														
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	6,315,915															
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	6,778,115																
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	8,347,186																	
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	8,020,910																		
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	8,235,728																			
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	8,045,457																				
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	7,170,376																					
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	7,893,608																						
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	7,277,714																							
June-07	1,734,963	3,632,388	4,091,097	4,999,633	5,805,615	6,226,124	6,546,082	6,722,055																								
June-08	2,020,827	4,505,431	6,126,330	7,479,871	8,430,592	9,094,716	9,567,218																									
June-09	1,952,179	4,646,609	6,562,837	7,998,181	8,997,984	9,939,858																										
June-10	2,633,117	5,635,921	7,589,725	8,649,349	9,377,427																											
June-11	3,051,305	6,236,233	8,335,371	9,693,865																												
June-12	3,091,255	6,520,051	8,927,094																													
June-13	3,164,952	6,219,894																														
June-14	3,352,283																															

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
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	1.010
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	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	1.005		
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	1.009			
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	1.016				
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	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	1.016						
June-90	2.491	1.451	1.231	1.106	1.086	1.069	1.057	1.047	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	1.016							
June-91	2.414	1.422	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	1.013								
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	1.016									
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	1.019										
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	1.020											
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	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	1.016													
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	1.015														
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	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	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	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	1.022																		
June-02	2.270	1.316	1.162	1.068	1.046	1.035	1.025	1.029	1.024	1.015	1.014	1.014																			
June-03	2.126	1.303	1.098	1.054	1.031	1.032	1.022	1.015	1.013	1.010	1.016																				
June-04	2.143	1.312	1.159	1.064	1.039	1.031	1.034	1.024	1.020	1.020																					
June-05	2.161	1.345	1.135	1.053	1.055	1.066	1.048	1.030	1.028																						
June-06	2.141	1.282	1.109	1.101	1.113	1.055	1.023	1.011																							
June-07	2.094	1.126	1.222	1.161	1.072	1.051	1.027																								
June-08	2.229	1.360	1.221	1.127	1.079	1.052																									
June-09	2.380	1.412	1.219	1.125	1.105																										
June-10	2.140	1.347	1.140	1.084																											
June-11	2.044	1.337	1.163																												
June-12	2.109	1.369																													
June-13	1.965																														

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	2.284	1.387	1.206	1.136	1.095	1.068	1.057	1.045	1.041	1.036	1.037	1.035	1.031	1.029	1.028	1.028	1.025	1.025	1.024	1.023	1.020	1.019	1.018	1.017	1.016	1.014	1.013	1.012	1.008	1.009	1.010	
Latest 5	2.128	1.365	1.193	1.120	1.085	1.051	1.031	1.022	1.021	1.018	1.020	1.018	1.018	1.020	1.019	1.018	1.021	1.024	1.022	1.020	1.018	1.016	1.016	1.016	1.014	1.012	1.013					
Latest 3	2.039	1.351	1.174	1.112	1.085	1.053	1.032	1.022	1.020	1.015	1.020	1.019	1.018	1.017	1.014	1.016	1.019	1.019	1.023	1.023	1.019	1.016	1.016	1.016	1.016	1.014	1.012	1.008	1.008			
Volume Wtd																																
All Yrs	2.245	1.380	1.203	1.132	1.091	1.065	1.054	1.043	1.041	1.036	1.037	1.036	1.031	1.030	1.029	1.028	1.024	1.024	1.022	1.021	1.019	1.017	1.017	1.016	1.015	1.014	1.012	1.010	1.006	1.009	1.010	
Latest 5	2.106	1.363	1.187	1.117	1.086	1.051	1.031	1.022	1.021	1.017	1.020	1.018	1.018	1.020	1.020	1.019	1.020	1.024	1.021	1.018	1.018	1.016	1.016	1.016	1.015	1.013	1.012					
Latest 3	2.039	1.351	1.171	1.111	1.087	1.053	1.033	1.022	1.020	1.015	1.020	1.019	1.019	1.017	1.015	1.016	1.018	1.019	1.023	1.023	1.018	1.016	1.016	1.016	1.015	1.014	1.012	1.009	1.006			

Dev Factor Selection

Industry 1	2.861	1.511	1.198	1.090	1.035	1.020	1.016																									
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	*2.139*	*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	
Selected	2.128	1.368	1.191	1.123	1.088	1.057	1.044	1.033	1.031	1.027	1.029	1.027	1.024	1.025	1.020	1.018	1.021	1.024	1.022	1.020	1.019	1.017	1.017	1.017	1.015	1.014	1.013	1.012	1.009	1.008	1.008	1.027
FacToUlt	7.643	3.592	2.627	2.206	1.965	1.805	1.707	1.636	1.583	1.535	1.494	1.453	1.415	1.382	1.348	1.321	1.298	1.272	1.242	1.215	1.192	1.169	1.149	1.130	1.111	1.095	1.079	1.065	1.053	1.043	1.035	1.027
Percent of Ult	13.1%	27.8%	38.1%	45.3%	50.9%	55.4%	58.6%	61.1%	63.2%	65.2%	66.9%	68.8%	70.7%	72.4%	74.2%	75.7%	77.1%	78.6%	80.5%	82.3%	83.9%	85.5%	87.0%	88.5%	90.0%	91.4%	92.7%	93.9%	95.0%	95.9%	96.6%	97.4%

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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 6/13		As of 6/14		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	49,462,894	54,188,670	49,660,072	53,989,457	197,178	0.4%	(199,213)	-0.4%
6/30/82-83	5,840,973	6,290,279	5,896,427	6,349,998	55,453	0.9%	59,719	0.9%
6/30/83-84	8,415,681	9,063,041	8,405,485	9,052,060	(10,196)	-0.1%	(10,981)	-0.1%
6/30/84-85	17,249,000	18,226,000	17,224,000	18,176,000	(25,000)	-0.1%	(50,000)	-0.3%
6/30/85-86	20,473,000	21,254,000	20,469,000	21,215,000	(4,000)	0.0%	(39,000)	-0.2%
6/30/86-87	21,105,000	21,888,000	21,205,000	21,967,000	100,000	0.5%	79,000	0.4%
6/30/87-88	29,444,000	30,233,000	29,466,000	30,250,000	22,000	0.1%	17,000	0.1%
6/30/88-89	26,955,000	27,983,000	27,052,000	28,046,000	97,000	0.4%	63,000	0.2%
6/30/89-90	26,088,000	26,804,000	26,126,000	26,840,000	38,000	0.1%	36,000	0.1%
6/30/90-91	23,356,000	23,960,000	23,271,000	23,872,000	(85,000)	-0.4%	(88,000)	-0.4%
6/30/91-92	14,357,000	15,098,000	14,336,000	15,077,000	(21,000)	-0.1%	(21,000)	-0.1%
6/30/92-93	11,088,000	12,529,000	11,067,000	12,524,000	(21,000)	-0.2%	(5,000)	0.0%
6/30/93-94	12,152,000	12,803,000	12,148,000	12,801,000	(4,000)	0.0%	(2,000)	0.0%
6/30/94-95	11,105,000	11,702,000	11,092,000	11,693,000	(13,000)	-0.1%	(9,000)	-0.1%
6/30/95-96	11,699,000	12,345,000	11,596,000	12,241,000	(103,000)	-0.9%	(104,000)	-0.8%
6/30/96-97	12,408,000	13,075,000	12,273,000	12,944,000	(135,000)	-1.1%	(131,000)	-1.0%
6/30/97-98	10,887,000	11,444,000	10,696,000	11,258,000	(191,000)	-1.8%	(186,000)	-1.6%
6/30/98-99	11,289,000	11,861,000	11,146,000	11,730,000	(143,000)	-1.3%	(131,000)	-1.1%
6/30/99-00	13,442,000	14,163,000	13,219,000	13,950,000	(223,000)	-1.7%	(213,000)	-1.5%
6/30/00-01	12,970,000	13,649,000	12,778,000	13,470,000	(192,000)	-1.5%	(179,000)	-1.3%
6/30/01-02	14,151,000	14,882,000	13,805,000	14,539,000	(346,000)	-2.4%	(343,000)	-2.3%
6/30/02-03	13,981,000	14,698,000	13,660,000	14,382,000	(321,000)	-2.3%	(316,000)	-2.1%
6/30/03-04	12,877,000	13,553,000	12,638,000	13,277,000	(239,000)	-1.9%	(276,000)	-2.0%
6/30/04-05	15,044,000	15,120,000	14,652,000	14,799,000	(392,000)	-2.6%	(321,000)	-2.1%
6/30/05-06	14,699,000	15,510,000	14,159,000	14,778,000	(540,000)	-3.7%	(732,000)	-4.7%
6/30/06-07	13,574,000	15,263,000	13,167,000	14,575,000	(407,000)	-3.0%	(688,000)	-4.5%
6/30/07-08	18,657,000	19,804,000	18,593,000	19,590,000	(64,000)	-0.3%	(214,000)	-1.1%
6/30/08-09	20,792,000	20,965,000	20,532,600	21,169,148	(259,400)	-1.2%	204,148	1.0%
6/30/09-10	21,979,000	22,493,000	20,648,250	21,896,875	(1,330,750)	-6.1%	(596,125)	-2.7%
6/30/10-11	25,310,000	26,814,000	24,056,010	25,214,189	(1,253,990)	-5.0%	(1,599,811)	-6.0%
6/30/11-12	25,380,000	27,245,000	25,030,170	26,745,719	(349,830)	-1.4%	(499,281)	-1.8%
6/30/12-13	27,007,000	28,521,000	24,161,350	26,032,962	(2,845,650)	-10.5%	(2,488,038)	-8.7%
6/30/13-14								
Total	573,237,548	603,426,990	564,228,363	594,444,408	(9,009,185)	-1.6%	(8,982,581)	-1.5%

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, 2014

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	42,085,218	1.191	50,143,798	0.0%	0.0%	0	1,660,214	1,660,214	3.3%	1.025	1,701,719	1,680,967	1,685,117
6/30/82-83	5,568,431	1.078	6,003,320	0.0%	0.0%	0	43,750	43,750	0.7%	1.025	44,844	44,297	44,406
6/30/83-84	7,482,504	1.087	8,131,415	0.0%	0.0%	0	483,550	483,550	5.9%	1.025	495,639	489,594	490,803
6/30/84-85	15,902,384	1.095	17,419,751	0.0%	0.0%	0	746,504	746,504	4.3%	1.025	765,167	755,835	757,702
6/30/85-86	18,528,274	1.085	20,094,608	0.0%	0.0%	0	1,106,534	1,106,534	5.5%	1.025	1,134,197	1,120,365	1,123,132
6/30/86-87	18,621,372	1.097	20,428,548	0.0%	0.0%	0	1,519,864	1,519,864	7.4%	1.025	1,557,861	1,538,862	1,542,662
6/30/87-88	25,402,296	1.079	27,413,969	0.0%	0.0%	0	2,071,404	2,071,404	7.6%	1.026	2,125,312	2,098,358	2,102,475
6/30/88-89	22,287,434	1.095	24,395,719	0.0%	0.0%	0	2,926,233	2,926,233	12.0%	1.027	3,005,391	2,965,812	2,977,662
6/30/89-90	21,078,475	1.111	23,428,527	0.0%	0.0%	0	2,715,625	2,715,625	11.6%	1.030	2,797,453	2,756,539	2,770,380
6/30/90-91	18,364,459	1.130	20,750,203	0.0%	0.0%	0	2,497,602	2,497,602	12.0%	1.033	2,580,579	2,539,090	2,564,862
6/30/91-92	11,298,499	1.149	12,986,350	0.1%	0.1%	12,986	1,341,736	1,354,722	10.4%	1.036	1,390,471	1,372,596	1,388,776
6/30/92-93	8,300,461	1.286	10,677,046	0.1%	0.2%	21,354	1,214,373	1,235,727	11.6%	1.042	1,264,774	1,250,251	1,262,831
6/30/93-94	9,094,927	1.192	10,839,474	0.1%	0.3%	29,361	1,306,522	1,335,883	12.3%	1.047	1,367,551	1,351,717	1,366,199
6/30/94-95	7,855,113	1.215	9,546,230	0.1%	0.4%	35,404	1,532,217	1,567,621	16.4%	1.052	1,611,808	1,589,715	1,615,862
6/30/95-96	8,329,411	1.242	10,345,420	0.1%	0.5%	49,673	1,245,683	1,295,356	12.5%	1.068	1,330,046	1,312,701	1,332,667
6/30/96-97	8,115,077	1.272	10,319,154	0.0%	0.5%	49,547	1,908,819	1,958,366	19.0%	1.079	2,058,870	2,008,618	2,038,832
6/30/97-98	6,315,915	1.298	8,196,654	0.0%	0.5%	39,356	2,402,195	2,441,551	29.8%	1.086	2,609,799	2,525,675	2,564,326
6/30/98-99	6,778,115	1.321	8,957,146	0.1%	0.6%	51,964	2,098,064	2,150,028	24.0%	1.086	2,279,384	2,214,706	2,210,014
6/30/99-00	8,347,186	1.348	11,255,615	0.2%	0.8%	87,810	1,893,548	1,981,358	17.6%	1.098	2,078,403	2,029,880	2,066,057
6/30/00-01	8,020,910	1.382	11,081,978	0.2%	1.0%	108,619	1,602,428	1,711,047	15.4%	1.112	1,781,710	1,746,379	1,774,163
6/30/01-02	8,235,728	1.415	11,655,145	0.2%	1.2%	136,042	2,000,418	2,136,460	18.3%	1.123	2,246,822	2,191,641	2,238,435
6/30/02-03	8,045,457	1.453	11,689,673	0.2%	1.4%	158,601	1,797,498	1,956,099	16.7%	1.145	2,058,092	2,007,095	2,025,593
6/30/03-04	7,170,376	1.494	10,715,851	0.4%	1.8%	189,055	1,661,764	1,850,819	17.3%	1.199	1,992,848	1,921,833	1,955,032
6/30/04-05	7,893,608	1.535	12,114,627	0.1%	1.9%	230,848	2,322,201	2,553,049	21.1%	1.212	2,814,927	2,683,988	2,745,170
6/30/05-06	7,277,714	1.583	11,519,844	0.2%	2.1%	244,526	2,260,500	2,505,026	21.7%	1.227	2,773,016	2,639,021	2,771,690
6/30/06-07	6,722,055	1.636	10,995,297	0.5%	2.6%	285,064	1,781,089	2,066,153	18.8%	1.279	2,278,104	2,172,129	2,251,303
6/30/07-08	9,567,218	1.707	16,332,695	1.1%	3.7%	607,553	2,483,648	3,091,201	18.9%	1.364	3,386,819	3,239,010	2,999,110
6/30/08-09	9,939,858	1.805	17,941,143	1.4%	5.2%	926,265	2,147,926	3,074,191	17.1%	1.555	3,339,329	3,206,760	3,105,540
6/30/09-10	9,377,427	1.965	18,422,214	1.7%	6.8%	1,257,533	1,986,910	3,244,443	17.6%	1.843	3,661,919	3,453,181	3,095,149
6/30/10-11	9,693,865	2.206	21,381,746	2.5%	9.3%	1,987,883	1,587,882	3,575,765	16.7%	2.544	4,039,375	3,807,570	4,490,394
6/30/11-12	8,927,094	2.627	23,448,911	3.1%	12.4%	2,905,769	704,261	3,610,030	15.4%	4.160	2,929,420	3,269,725	3,561,579
6/30/12-13	6,219,894	3.592	22,342,131	2.6%	15.0%	3,341,114	164,500	3,505,614	15.7%	11.236	1,848,334	3,091,294	3,927,137
6/30/13-14	3,352,283	7.643	25,621,622	1.5%	16.4%	4,213,647	15,000	4,228,647	16.5%	49.316	739,740	3,530,865	
Total	380,199,039		536,595,824			16,969,972	53,230,461	70,200,433	13.1%		68,089,722	70,606,070	68,845,058

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, 2013

Commonwealth of Massachusetts Workers Compensatio
All Other - Clusters 5-17 & 95
INDEMNITY
Lump Sum Developmen
Incremental Lump Sum Payment

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	384-396
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	45,000																
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	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	0																		
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	0																			
Jun-03	0	77,201	596,801	430,835	218,160	255,001	75,000	65,000	6,000	6,000	7,500	60,000																				
Jun-04	47,500	25,277	294,987	520,000	358,000	189,000	27,000	100,000	100,000	0	0																					
Jun-05	6,157	60,866	417,500	949,001	378,677	150,000	105,000	105,000	150,000	0																						
Jun-06	0	159,500	370,000	715,000	208,000	359,500	359,500	89,000	0																							
Jun-07	26,000	238,583	574,002	426,500	153,002	153,002	120,000	90,000																								
Jun-08	0	282,500	346,648	610,000	610,000	174,962	459,538																									
Jun-09	250,000	140,000	501,500	501,500	370,926	384,000																										
Jun-10	0	385,501	385,501	536,711	679,197																											
Jun-11	307,191	319,191	604,218	357,283																												
Jun-12	0	294,800	409,461																													
Jun-13	37,000	127,500																														
Jun-14	15,000																															

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	396
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	1,113,182	1,148,183	1,210,683	1,210,683	1,229,083	1,245,683	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	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	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	2,098,064																	
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	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	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	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	1,797,498																				
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	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	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	2,260,500																							
Jun-07	26,000	264,583	838,585	1,265,085	1,418,087	1,571,089	1,691,089	1,781,089																								
Jun-08	0	282,500	629,148	1,239,148	1,849,148	2,024,110	2,483,648																									
Jun-09	250,000	390,000	891,500	1,393,000	1,763,926	2,147,926																										
Jun-10	0	385,501	771,002	1,307,713	1,986,910																											
Jun-11	307,191	626,381	1,230,599	1,587,882																												
Jun-12	0	294,800	704,261																													
Jun-13	37,000	164,500																														
Jun-14	15,000																															

Commonwealth of Massachusetts Workers Compensatio
All Other - Clusters 5-17 & 95
INDEMNITY
Lump Sum Developmen
Incremental Lump Sums as a % of Ultimate Losses Excluding Lump Sum

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	384-396
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	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	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	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	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	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	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	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	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	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	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	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	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	0.000												
Jun-95	0.019	0.023	0.039	0.029	0.010	0.012	0.002	0.000	0.000	0.006	0.006	0.004	0.000	0.008	0.000	0.001	0.000	0.000	0.000	0.000													
Jun-96	0.001	0.024	0.045	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	0.000														
Jun-97	0.002	0.048	0.031	0.031	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	0.000															
Jun-98	0.035	0.044	0.035	0.061	0.034	0.010	0.008	0.011	0.002	0.000	0.001	0.025	0.009	0.008	0.008	0.000	0.000																
Jun-99	0.023	0.014	0.054	0.027	0.021	0.019	0.022	0.013	0.007	0.019	0.002	0.007	0.000	0.000	0.000	0.005																	
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	0.000																		
Jun-01	0.001	0.016	0.030	0.006	0.022	0.023	0.013	0.020	0.007	0.000	0.000	0.000	0.006	0.000																			
Jun-02	0.000	0.010	0.031	0.024	0.038	0.025	0.009	0.023	0.002	0.004	0.004	0.001	0.000																				
Jun-03	0.000	0.007	0.051	0.037	0.019	0.022	0.006	0.006	0.001	0.001	0.001	0.005																					
Jun-04	0.004	0.002	0.028	0.049	0.033	0.018	0.003	0.009	0.009	0.000	0.000																						
Jun-05	0.001	0.005	0.034	0.078	0.031	0.012	0.009	0.009	0.012	0.000																							
Jun-06	0.000	0.014	0.032	0.062	0.018	0.031	0.031	0.008	0.000																								
Jun-07	0.002	0.022	0.052	0.039	0.014	0.014	0.011	0.008																									
Jun-08	0.000	0.017	0.021	0.037	0.037	0.011	0.028																										
Jun-09	0.014	0.008	0.028	0.028	0.021	0.021																											
Jun-10	0.000	0.021	0.021	0.029	0.037																												
Jun-11	0.014	0.015	0.028	0.017																													
Jun-12	0.000	0.013	0.017																														
Jun-13	0.002	0.006																															
Jun-14	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	384-396
Simple Avg																																	
All Yrs (ex P	0.004	0.013	0.023	0.024	0.017	0.012	0.009	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	0.000	0.000	
Latest 5	0.003	0.012	0.023	0.030	0.025	0.018	0.016	0.008	0.005	0.001	0.001	0.003	0.003	0.002	0.003	0.002	0.000	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			
Latest 3	0.001	0.011	0.022	0.025	0.032	0.015	0.023	0.008	0.007	0.000	0.002	0.002	0.002	0.000	0.003	0.003	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			
Olympic Avg																																	
All Yrs (ex P	0.003	0.013	0.023	0.023	0.017	0.012	0.008	0.008	0.005	0.004	0.003	0.004	0.001	0.002	0.001	0.002	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	0.000			
Latest 10	0.002	0.012	0.030	0.038	0.027	0.019	0.014	0.011	0.005	0.002	0.003	0.006	0.001	0.002	0.001	0.002	0.002	0.002	0.001	0.001	0.000	0.000	0.000										
Latest 5	0.001	0.012	0.023	0.031	0.025	0.016	0.016	0.008	0.004	0.000	0.001	0.002	0.002	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	0.000	0.000					

Dev Factor Selection																																	
Prior	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	
Selected	NA	0.015	0.026	0.031	0.025	0.017	0.014	0.011	0.005	0.002	0.001	0.004	0.002	0.002	0.002	0.002	0.001	0.000	0.000	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	0.000
FacToUlt	NA	0.164	0.150	0.124	0.093	0.068	0.052	0.037	0.026	0.021	0.019	0.018	0.014	0.012	0.010	0.008	0.006	0.005	0.005	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

Commonwealth of Massachusetts Workers Compensatio
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*	*396*
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	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	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	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	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	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	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	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	1,706,404	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	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	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	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	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	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	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	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	1,285,418	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	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	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	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	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	2,098,064																	
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	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	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	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	1,797,498																					
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	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	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	2,260,500																								
Jun-07	26,000	264,583	838,585	1,265,085	1,418,087	1,571,089	1,691,089	1,781,089																									
Jun-08	0	282,500	629,148	1,239,148	1,849,148	2,024,110	2,483,648																										
Jun-09	250,000	390,000	891,500	1,393,000	1,763,926	2,147,926																											
Jun-10	0	385,501	771,002	1,307,713	1,986,910																												
Jun-11	307,191	626,381	1,230,599	1,587,882																													
Jun-12	0	294,800	704,261																														
Jun-13	37,000	164,500																															
Jun-14	15,000																																

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*	*384-396*	*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	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	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	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	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	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	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	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	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	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	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	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	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	1.022																		
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	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	1.000																				
Jun-02		4.161	1.595	1.579	1.239	1.073	1.166	1.013	1.027	1.026	1.008	1.000																					
Jun-03		8.730	1.639	1.197	1.193	1.048	1.039	1.003	1.003	1.004	1.035																						
Jun-04	1.532	5.053	2.414	1.403	1.152	1.019	1.068	1.064	1.000	1.000																							
Jun-05	10.886	7.229	2.959	1.264	1.083	1.054	1.051	1.069	1.000																								
Jun-06		3.320	2.350	1.167	1.248	1.198	1.041	1.000																									
Jun-07	10.176	3.169	1.509	1.121	1.108	1.076	1.053																										
Jun-08		2.227	1.970	1.492	1.095	1.227																											
Jun-09	1.560	2.286	1.563	1.266	1.218																												
Jun-10		2.000	1.696	1.519																													
Jun-11	2.039	1.965	1.290																														
Jun-12		2.389																															
Jun-13	4.446																																

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*	*384-396*	*To Ult*
Simple Avg																																	
All Yrs (ex P)	12.486	3.229	1.784	1.402	1.266	1.138	1.157	1.088	1.095	1.045	1.064	1.021	1.027	1.008	1.022	1.025	1.041	1.019	1.016	1.007	1.004	1.006	1.012	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
Latest 5	5.821	2.173	1.605	1.313	1.150	1.115	1.051	1.030	1.006	1.009	1.015	1.015	1.006	1.013	1.010	1.000	1.007	1.006	1.006	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
Latest 3	2.682	2.118	1.516	1.426	1.140	1.167	1.048	1.044	1.001	1.010	1.014	1.014	1.000	1.010	1.014	1.000	1.000	1.000	1.010	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)	4.424	2.372	1.609	1.299	1.170	1.109	1.101	1.057	1.043	1.029	1.041	1.018	1.017	1.009	1.021	1.027	1.038	1.019	1.018	1.010	1.003	1.004	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
Latest 5		2.135	1.558	1.313	1.147	1.122	1.050	1.029	1.006	1.009	1.015	1.014	1.007	1.013	1.011	1.000	1.006	1.005	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
Latest 3		2.071	1.482	1.421	1.142	1.174	1.048	1.042	1.001	1.011	1.014	1.012	1.000	1.011	1.013	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	1.000				

Dev Factor Selection																																	
Prior	*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*	
Selected	4.389	2.701	1.635	1.380	1.185	1.140	1.066	1.043	1.012	1.011	1.047	1.019	1.010	1.013	1.010	1.000	1.007	1.010	1.015	1.005	1.005	1.005	1.003	1.003	1.003	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.025
FacToUlt	49.316	11.236	4.160	2.544	1.843	1.555	1.364	1.279	1.227	1.212	1.199	1.145	1.123	1.112	1.098	1.086	1.086	1.079	1.068	1.052	1.047	1.042	1.036	1.033	1.030	1.027	1.026	1.025	1.025	1.025	1.025	1.025	1.025
Percent of Ult	2.0%	8.9%	24.0%	39.3%	54.3%	64.3%	73.3%	78.2%	81.5%	82.5%	83.4%	87.3%	89.0%	89.9%	91.1%	92.0%	92.0%	92.7%	93.7%	95.1%	95.5%	96.0%	96.5%	96.8%	97.1%	97.4%	97.5%	97.6%	97.6%	97.6%	97.6%	97.6%	97.6%

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%
396	100.0%	2.6%	0.0%	0.7%	0.4%	1.000	1.000
384	97.4%	0.8%	2.6%	0.2%	0.1%	0.981	0.971
372	96.6%	0.8%	3.4%	0.2%	0.1%	0.951	0.929
360	95.9%	0.9%	4.1%	0.3%	0.2%	0.927	0.894
348	95.0%	1.1%	5.0%	0.4%	0.2%	0.907	0.866
336	93.9%	1.2%	6.1%	0.4%	0.2%	0.891	0.844
324	92.7%	1.3%	7.3%	0.5%	0.3%	0.878	0.826
312	91.4%	1.4%	8.6%	0.5%	0.3%	0.865	0.808
300	90.0%	1.5%	10.0%	0.6%	0.4%	0.852	0.791
288	88.5%	1.5%	11.5%	0.6%	0.4%	0.840	0.775
276	87.0%	1.5%	13.0%	0.6%	0.4%	0.827	0.759
264	85.5%	1.6%	14.5%	0.7%	0.5%	0.815	0.742
252	83.9%	1.6%	16.1%	0.7%	0.5%	0.803	0.727
240	82.3%	1.8%	17.7%	0.8%	0.6%	0.791	0.712
228	80.5%	1.9%	19.5%	0.9%	0.6%	0.781	0.699
216	78.6%	1.6%	21.4%	0.8%	0.6%	0.771	0.687
204	77.1%	1.4%	22.9%	0.7%	0.5%	0.758	0.670
192	75.7%	1.5%	24.3%	0.8%	0.6%	0.743	0.652
180	74.2%	1.8%	25.8%	1.0%	0.8%	0.730	0.636
168	72.4%	1.7%	27.6%	1.0%	0.8%	0.720	0.624
156	70.7%	1.8%	29.3%	1.1%	0.9%	0.709	0.611
144	68.8%	1.9%	31.2%	1.2%	1.0%	0.699	0.599
132	66.9%	1.8%	33.1%	1.2%	1.0%	0.690	0.589
120	65.2%	2.0%	34.8%	1.4%	1.1%	0.680	0.577
108	63.2%	2.0%	36.8%	1.5%	1.2%	0.671	0.567
96	61.1%	2.6%	38.9%	1.9%	1.7%	0.663	0.558
84	58.6%	3.2%	41.4%	2.5%	2.2%	0.659	0.554
72	55.4%	4.5%	44.6%	3.6%	3.3%	0.658	0.554
60	50.9%	5.6%	49.1%	4.7%	4.3%	0.665	0.564
48	45.3%	7.3%	54.7%	6.3%	5.9%	0.674	0.577
36	38.1%	10.2%	61.9%	9.3%	8.8%	0.687	0.594
24	27.8%	14.8%	72.2%	13.9%	13.5%	0.706	0.619
12	13.1%	13.1%	86.9%	12.8%	12.7%	0.730	0.650
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, 2014

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	5,914,641	10,244,025		5,172,857	8,959,272
6/30/82-83	284,245	737,817	0.981	278,725	723,489
6/30/83-84	439,430	1,086,006	0.951	418,115	1,033,327
6/30/84-85	575,112	1,527,112	0.927	533,155	1,415,702
6/30/85-86	834,192	1,580,192	0.907	756,647	1,433,301
6/30/86-87	1,063,764	1,825,764	0.891	948,207	1,627,431
6/30/87-88	1,992,300	2,776,300	0.878	1,748,694	2,436,831
6/30/88-89	1,838,333	2,832,333	0.865	1,589,385	2,448,776
6/30/89-90	2,331,900	3,045,900	0.852	1,986,755	2,595,076
6/30/90-91	2,408,939	3,009,939	0.840	2,023,040	2,527,763
6/30/91-92	1,695,765	2,436,765	0.827	1,403,204	2,016,364
6/30/92-93	1,552,166	3,009,166	0.815	1,264,460	2,451,393
6/30/93-94	1,746,551	2,399,551	0.803	1,402,550	1,926,935
6/30/94-95	1,704,670	2,305,670	0.791	1,348,772	1,824,296
6/30/95-96	2,020,906	2,665,906	0.781	1,577,873	2,081,473
6/30/96-97	2,249,104	2,920,104	0.771	1,733,813	2,251,081
6/30/97-98	1,977,890	2,539,890	0.758	1,498,817	1,924,692
6/30/98-99	2,269,821	2,853,821	0.743	1,686,371	2,120,255
6/30/99-00	2,978,266	3,709,266	0.730	2,174,015	2,707,616
6/30/00-01	3,154,662	3,846,662	0.720	2,270,936	2,769,084
6/30/01-02	3,568,854	4,302,854	0.709	2,530,497	3,050,940
6/30/02-03	3,817,045	4,539,045	0.699	2,669,567	3,174,520
6/30/03-04	3,805,860	4,444,860	0.690	2,627,117	3,068,208
6/30/04-05	4,436,191	4,583,191	0.680	3,015,289	3,115,205
6/30/05-06	4,620,786	5,239,786	0.671	3,101,300	3,516,750
6/30/06-07	4,663,856	6,071,856	0.663	3,091,871	4,025,294
6/30/07-08	6,542,134	7,539,134	0.659	4,308,912	4,965,576
6/30/08-09	8,444,816	9,081,364	0.658	5,556,918	5,975,784
6/30/09-10	9,283,913	10,532,538	0.665	6,170,090	6,999,926
6/30/10-11	12,774,263	13,932,442	0.674	8,607,477	9,387,875
6/30/11-12	15,398,815	17,114,364	0.687	10,577,976	11,756,446
6/30/12-13	17,776,956	19,648,568	0.706	12,548,640	13,869,799
6/30/13-14	24,207,417	25,843,021	0.730	17,671,071	18,865,039
Total	158,373,563	190,225,212		114,293,117	139,045,519
			(7) Total Discount Factor:	0.722	0.731

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	5,914,641	10,244,025
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	844,949	1,463,432
(11) Discounted Value at 4%:	5,172,857	8,959,272

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, 2014

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	5,914,641	10,244,025		4,858,330	8,414,520
6/30/82-83	284,245	737,817	0.971	276,083	716,631
6/30/83-84	439,430	1,086,006	0.929	408,179	1,008,772
6/30/84-85	575,112	1,527,112	0.894	514,076	1,365,042
6/30/85-86	834,192	1,580,192	0.866	722,193	1,368,036
6/30/86-87	1,063,764	1,825,764	0.844	897,949	1,541,171
6/30/87-88	1,992,300	2,776,300	0.826	1,644,806	2,292,062
6/30/88-89	1,838,333	2,832,333	0.808	1,485,161	2,288,199
6/30/89-90	2,331,900	3,045,900	0.791	1,844,786	2,409,638
6/30/90-91	2,408,939	3,009,939	0.775	1,866,991	2,332,782
6/30/91-92	1,695,765	2,436,765	0.759	1,286,855	1,849,174
6/30/92-93	1,552,166	3,009,166	0.742	1,151,920	2,233,213
6/30/93-94	1,746,551	2,399,551	0.727	1,270,177	1,745,071
6/30/94-95	1,704,670	2,305,670	0.712	1,214,024	1,642,041
6/30/95-96	2,020,906	2,665,906	0.699	1,412,795	1,863,708
6/30/96-97	2,249,104	2,920,104	0.687	1,544,786	2,005,659
6/30/97-98	1,977,890	2,539,890	0.670	1,325,813	1,702,531
6/30/98-99	2,269,821	2,853,821	0.652	1,479,080	1,859,631
6/30/99-00	2,978,266	3,709,266	0.636	1,893,027	2,357,661
6/30/00-01	3,154,662	3,846,662	0.624	1,967,296	2,398,838
6/30/01-02	3,568,854	4,302,854	0.611	2,179,568	2,627,836
6/30/02-03	3,817,045	4,539,045	0.599	2,288,038	2,720,824
6/30/03-04	3,805,860	4,444,860	0.589	2,241,429	2,617,763
6/30/04-05	4,436,191	4,583,191	0.577	2,557,712	2,642,466
6/30/05-06	4,620,786	5,239,786	0.567	2,619,639	2,970,566
6/30/06-07	4,663,856	6,071,856	0.558	2,601,225	3,386,525
6/30/07-08	6,542,134	7,539,134	0.554	3,622,152	4,174,156
6/30/08-09	8,444,816	9,081,364	0.554	4,680,820	5,033,648
6/30/09-10	9,283,913	10,532,538	0.564	5,236,151	5,940,379
6/30/10-11	12,774,263	13,932,442	0.577	7,368,164	8,036,199
6/30/11-12	15,398,815	17,114,364	0.594	9,151,025	10,170,521
6/30/12-13	17,776,956	19,648,568	0.619	11,001,339	12,159,594
6/30/13-14	24,207,417	25,843,021	0.650	15,725,202	16,787,695
Total	158,373,563	190,225,212		100,336,796	122,662,552
			(7) Total Discount Factor:	0.634	0.645

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	5,914,641	10,244,025
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	844,949	1,463,432
(11) Discounted Value at 6%:	4,858,330	8,414,520

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, 2014

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

Calculation of Fiscal Year 7/1/14 - 15 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Cumulative	Incremental Paid		Estimated Payments from		FY 7/1/14 - 6/30/15	
Accident	Est Ult Losses	Est Ult Losses	Paid Losses	Reserves	Reserves	Percent	as a % of	as a % of	7/1/14 - 6/30/15		as a % of Reserves	
Year	(Low)	(High)	to Date	(Low)	(High)	Paid	Ultimates	Reserves	(Low)	(High)	(Low)	(High)
All Prior Yrs	52,974,896	57,562,051	46,746,128	6,228,768	10,815,923				587,653	646,419	9.4%	6.0%
6/30/82-83	6,408,566	6,878,751	6,124,321	284,245	754,430	92.2%	1.5%	19.2%	54,543	144,766	19.2%	19.2%
6/30/83-84	9,196,298	9,864,565	8,756,867	439,430	1,107,698	91.9%	1.5%	18.5%	81,208	204,705	18.5%	18.5%
6/30/84-85	18,373,000	19,325,000	17,772,709	600,291	1,552,291	94.3%	1.5%	26.3%	157,693	407,777	26.3%	26.3%
6/30/85-86	22,383,660	23,149,000	21,516,914	866,746	1,632,086	94.5%	1.0%	18.2%	157,935	297,392	18.2%	18.2%
6/30/86-87	22,926,000	23,689,000	21,808,566	1,117,434	1,880,434	93.6%	1.0%	15.5%	173,754	292,396	15.5%	15.5%
6/30/87-88	32,733,000	33,521,000	30,622,156	2,110,844	2,898,844	92.4%	1.0%	13.2%	279,163	383,377	13.2%	13.2%
6/30/88-89	30,757,000	31,755,000	28,766,376	1,990,624	2,988,624	92.0%	1.0%	12.6%	249,913	375,207	12.6%	12.6%
6/30/89-90	30,130,000	30,850,000	27,614,603	2,515,397	3,235,397	90.6%	1.5%	15.9%	400,090	514,610	15.9%	15.9%
6/30/90-91	26,882,520	27,521,000	24,326,265	2,556,255	3,194,735	89.4%	1.5%	14.2%	362,727	453,326	14.2%	14.2%
6/30/91-92	17,275,000	18,018,000	15,417,905	1,857,095	2,600,095	87.4%	1.5%	11.9%	220,573	308,822	11.9%	11.9%
6/30/92-93	13,694,000	15,152,000	11,984,792	1,709,208	3,167,208	83.1%	1.5%	8.9%	151,660	281,030	8.9%	8.9%
6/30/93-94	15,242,000	15,898,000	13,294,601	1,947,399	2,603,399	85.4%	1.5%	10.3%	199,884	267,216	10.3%	10.3%
6/30/94-95	13,744,000	14,347,000	11,847,085	1,896,915	2,499,915	84.3%	1.5%	9.6%	181,789	239,576	9.6%	9.6%
6/30/95-96	13,842,000	14,487,000	11,640,231	2,201,769	2,846,769	82.2%	1.5%	8.4%	185,323	239,612	8.4%	8.4%
6/30/96-97	15,278,000	15,949,000	12,767,490	2,510,510	3,181,510	81.8%	1.5%	8.2%	206,594	261,811	8.2%	8.2%
6/30/97-98	12,910,000	13,479,000	10,701,018	2,208,982	2,777,982	81.1%	1.5%	7.9%	175,336	220,499	7.9%	7.9%
6/30/98-99	13,995,000	14,584,000	11,382,724	2,612,276	3,201,276	79.7%	1.4%	7.1%	185,455	227,270	7.1%	7.1%
6/30/99-00	16,573,000	17,308,000	13,150,230	3,422,770	4,157,770	77.6%	2.0%	9.1%	310,851	377,603	9.1%	9.1%
6/30/00-01	16,083,000	16,782,000	12,447,545	3,635,455	4,334,455	75.7%	1.9%	7.7%	281,302	335,388	7.7%	7.7%
6/30/01-02	16,986,000	17,734,000	12,888,467	4,097,533	4,845,533	74.2%	1.5%	5.9%	239,770	283,539	5.9%	5.9%
6/30/02-03	17,308,000	18,039,000	12,824,721	4,483,279	5,214,279	72.6%	1.7%	6.1%	274,146	318,846	6.1%	6.1%
6/30/03-04	16,416,000	17,066,000	11,835,761	4,580,239	5,230,239	70.7%	1.9%	6.4%	291,603	332,986	6.4%	6.4%
6/30/04-05	19,452,000	20,352,000	14,519,592	4,932,408	5,832,408	73.0%	2.0%	7.4%	364,762	431,318	7.4%	7.4%
6/30/05-06	18,159,000	19,387,000	12,914,370	5,244,630	6,472,630	68.8%	2.0%	6.4%	336,111	414,809	6.4%	6.4%
6/30/06-07	18,867,000	21,201,000	13,363,145	5,503,855	7,837,855	66.7%	2.1%	6.3%	345,449	491,942	6.3%	6.3%
6/30/07-08	23,493,000	25,184,000	15,951,107	7,541,893	9,232,893	65.5%	1.2%	3.4%	254,687	311,792	3.4%	3.4%
6/30/08-09	25,832,600	27,112,148	16,164,118	9,668,482	10,948,030	61.1%	4.5%	11.5%	1,111,923	1,259,077	11.5%	11.5%
6/30/09-10	26,148,250	28,109,875	15,415,856	10,732,394	12,694,019	56.8%	4.2%	9.8%	1,053,006	1,245,470	9.8%	9.8%
6/30/10-11	30,256,010	32,196,189	15,642,675	14,613,335	16,553,514	50.1%	6.7%	13.5%	1,970,479	2,232,095	13.5%	13.5%
6/30/11-12	31,830,170	33,922,719	13,753,651	18,076,519	20,169,068	41.8%	8.3%	14.2%	2,567,174	2,864,351	14.2%	14.2%
6/30/12-13	30,561,350	33,268,962	9,446,267	21,115,083	23,822,695	29.6%	10.0%	14.2%	2,999,219	3,383,812	14.2%	14.2%
6/30/13-14	35,374,700	37,670,304	4,833,640	30,541,060	32,836,664	13.2%	16.4%	18.9%	5,759,844	6,192,780	18.9%	18.9%
Total	712,085,020	751,362,565	528,241,895	183,843,125	223,120,670				22,171,615	26,241,621	12.1%	11.8%

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
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**					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)	7/1/12-13	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	0	0.0%	0	0				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 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, 2014

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)	7/1/13-14	7/1/13-14	Paid Counts	(Low)	(High)	7/1/13-14	7/1/13-14	Total Paid	(Low)	(High)	($000)	($000)	Total Payroll	(Low)	(High)	(Low)	(High)	(Low)	(High)
All Prior Yrs	43,745,432	49,660,072	53,989,457	5,914,641	10,244,025	14					572,165								386,199	668,889	128,733	222,963	5,785,907	10,021,062
6/30/82-83	5,612,181	5,896,427	6,349,998	284,245	737,817	2					55,220								18,560	48,176	6,187	16,059	278,059	721,758
6/30/83-84	7,966,054	8,405,485	9,052,060	439,430	1,086,006	1					37,303								28,693	70,911	9,564	23,637	429,866	1,062,369
6/30/84-85	16,648,888	17,224,000	18,176,000	575,112	1,527,112	3	1	33.3%	191,704	509,037	73,550	59,597	81.0%	466,010	1,237,411				37,552	99,714	114,628	304,375	460,484	1,222,737
6/30/85-86	19,634,808	20,469,000	21,215,000	834,192	1,580,192	3	1	33.3%	278,064	526,731	160,986	61,026	37.9%	316,224	599,016				54,469	103,179	216,252	409,642	617,940	1,170,550
6/30/86-87	20,141,236	21,205,000	21,967,000	1,063,764	1,825,764	6	1	16.7%	177,294	304,294	289,379	61,026	21.1%	224,333	385,028				69,459	119,214	157,029	269,512	906,735	1,556,252
6/30/87-88	27,473,700	29,466,000	30,250,000	1,992,300	2,776,300	7	1	14.3%	284,614	396,614	341,069	46,090	13.5%	269,229	375,174				130,088	181,280	227,977	317,689	1,764,323	2,458,611
6/30/88-89	25,213,667	27,052,000	28,046,000	1,838,333	2,832,333	10	2	20.0%	367,667	566,467	359,023	37,897	10.6%	194,048	298,971				120,035	184,939	227,250	350,125	1,611,083	2,482,207
6/30/89-90	23,794,100	26,126,000	26,840,000	2,331,900	3,045,900	7	1	14.3%	333,129	435,129	338,245	53,207	15.7%	366,818	479,133				152,263	198,884	284,070	371,048	2,047,830	2,674,852
6/30/90-91	20,862,061	23,271,000	23,872,000	2,408,939	3,009,939	7	1	14.3%	344,134	429,991	234,615	37,905	16.2%	389,200	486,300				157,293	196,535	296,876	370,942	2,112,063	2,638,997
6/30/91-92	12,640,235	14,336,000	15,077,000	1,695,765	2,436,765	5					176,827								110,726	159,110	36,909	53,037	1,658,857	2,383,729
6/30/92-93	9,514,834	11,067,000	12,524,000	1,552,166	3,009,166	6	1	16.7%	258,694	501,528	151,952	31,267	20.6%	319,384	619,186				101,349	196,485	226,476	439,066	1,325,690	2,570,100
6/30/93-94	10,401,449	12,148,000	12,801,000	1,746,551	2,399,551	6	2	33.3%	582,184	799,850	174,824	41,150	23.5%	411,099	564,801				114,042	156,680	262,571	360,740	1,483,980	2,038,811
6/30/94-95	9,387,330	11,092,000	11,693,000	1,704,670	2,305,670	5	1	20.0%	340,934	461,134	165,763	22,704	13.7%	233,483	315,800				111,307	150,550	228,575	309,161	1,476,096	1,996,509
6/30/95-96	9,575,094	11,596,000	12,241,000	2,020,906	2,665,906	5					130,101								131,956	174,072	43,985	58,024	1,976,921	2,607,882
6/30/96-97	10,023,896	12,273,000	12,944,000	2,249,104	2,920,104	4					116,366								146,856	190,670	48,952	63,557	2,200,152	2,856,548
6/30/97-98	8,718,110	10,696,000	11,258,000	1,977,890	2,539,890	1					46,453					1,917,994	137,500	7.2%	141,794	182,083	141,794	182,083	1,836,097	2,357,807
6/30/98-99	8,876,179	11,146,000	11,730,000	2,269,821	2,853,821	4					140,827	45,000	32.0%	725,301	911,913	2,081,524	136,688	6.6%	149,053	187,403	74,527	93,701	2,195,294	2,760,120
6/30/99-00	10,240,734	13,219,000	13,950,000	2,978,266	3,709,266	5	1	20.0%	595,653	741,853	154,413	430	0.3%	8,302	10,339	2,207,243	137,892	6.2%	186,060	231,728	186,060	231,728	2,792,206	3,477,538
6/30/00-01	9,623,338	12,778,000	13,470,000	3,154,662	3,846,662	8	1	12.5%	394,333	480,833	171,049	21,358	12.5%	393,913	480,321	2,201,008	145,149	6.6%	208,039	253,674	332,095	404,942	2,822,568	3,441,720
6/30/01-02	10,236,146	13,805,000	14,539,000	3,568,854	4,302,854	7	1	14.3%	509,836	614,693	112,509	107	0.1%	3,390	4,088	2,292,592	140,223	6.1%	218,284	263,178	110,837	133,633	3,458,017	4,169,221
6/30/02-03	9,842,955	13,660,000	14,382,000	3,817,045	4,539,045	5					188,073					2,260,534	140,250	6.2%	236,821	281,616	78,940	93,872	3,738,105	4,445,173
6/30/03-04	8,832,140	12,638,000	13,277,000	3,805,860	4,444,860	5					142,406					2,255,942	137,408	6.1%	231,812	270,733	231,812	270,733	3,574,048	4,174,127
6/30/04-05	10,215,809	14,652,000	14,799,000	4,436,191	4,583,191	5					216,826					2,309,083	145,033	6.3%	278,636	287,869	92,879	95,956	4,343,312	4,487,235
6/30/05-06	9,538,214	14,159,000	14,778,000	4,620,786	5,239,786	7	1	14.3%	660,112	748,541	77,957	2,781	3.6%	164,837	186,918	2,480,693	156,390	6.3%	291,308	330,332	249,151	282,527	4,371,635	4,957,259
6/30/06-07	8,503,144	13,167,000	14,575,000	4,663,856	6,071,856	12	4	33.3%	1,554,619	2,023,952	265,973	65,087	24.5%	1,141,314	1,485,873	2,612,577	157,146	6.0%	280,529	365,220	567,458	738,771	4,096,398	5,333,085
6/30/07-08	12,050,866	18,593,000	19,590,000	6,542,134	7,539,134	23	2	8.7%	568,881	655,577	932,041	93,181	10.0%	654,048	753,723	2,783,717	168,663	6.1%	396,381	456,788	539,770	622,029	6,002,363	6,917,104
6/30/08-09	12,087,784	20,532,600	21,169,148	8,444,816	9,081,364	34	4	11.8%	993,508	1,068,396	1,325,874	132,972	10.0%	846,934	910,773	2,750,907	180,456	6.6%	553,968	595,725	798,136	858,298	7,646,679	8,223,066
6/30/09-10	11,364,337	20,648,250	21,896,875	9,283,913	10,532,538	42	2	4.8%	442,091	501,549	1,407,275	6,925	0.5%	45,684	51,828	2,806,048	203,138	7.2%	672,088	762,479	386,621	438,619	8,897,292	10,093,919
6/30/10-11	11,281,747	24,056,010	25,214,189	12,774,263	13,932,442	65	3	4.6%	589,581	643,036	1,715,777	105,175	6.1%	783,043	854,038	2,942,638	197,766	6.7%	858,523	936,361	743,716	811,145	12,030,547	13,121,297
6/30/11-12	9,631,355	25,030,170	26,745,719	15,398,815	17,114,364	111	11	9.9%	1,526,009	1,696,018	2,816,504	220,805	7.8%	1,207,216	1,341,709	3,006,849	207,447	6.9%	1,062,388	1,180,747	1,265,204	1,406,158	14,133,610	15,708,206
6/30/12-13	6,384,394	24,161,350	26,032,962	17,776,956	19,648,568	235	26	11.1%	1,966,812	2,173,884	3,182,442	210,743	6.6%	1,177,200	1,301,140	3,138,905	217,415	6.9%	1,231,315	1,360,951	1,458,442	1,611,992	16,318,514	18,036,576
6/30/13-14	3,367,283	27,574,700	29,210,304	24,207,417	25,843,021	500	35	7.0%	1,694,519	1,809,011	3,367,283	278,964	8.3%	2,005,476	2,140,978	3,311,947	232,120	7.0%	1,696,593	1,811,226	1,696,593	1,811,226	22,510,824	24,031,796
Total	433,429,500	591,803,063	623,654,712	158,373,563	190,225,212	1,160	103	8.9%	14,654,372	18,088,118	19,641,070	1,635,398	8.3%	12,346,484	15,794,459						11,470,067	14,026,991	146,903,496	176,198,221

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, 2014

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		3,000,696			3,314,823	3,572,594	314,127	571,898		
6/30/82-83		512,140	518,386		512,140	528,754	0	16,614		
6/30/83-84		790,813	804,460		790,813	812,505	0	21,692		
6/30/84-85	732,729	1,123,821	1,148,932	1,149,284	1,149,000	1,149,000	25,179	25,179	0.157	0.157
6/30/85-86	787,208	1,882,106	1,933,779	1,933,642	1,914,660	1,934,000	32,554	51,894	0.243	0.246
6/30/86-87	902,483	1,667,330	1,721,672	1,721,452	1,721,000	1,722,000	53,670	54,670	0.191	0.191
6/30/87-88	1,366,586	3,148,456	3,267,328	3,271,262	3,267,000	3,271,000	118,544	122,544	0.239	0.239
6/30/88-89	1,486,478	3,552,709	3,705,277	3,708,787	3,705,000	3,709,000	152,291	156,291	0.249	0.250
6/30/89-90	1,494,463	3,820,503	4,004,494	4,010,018	4,004,000	4,010,000	183,497	189,497	0.268	0.268
6/30/90-91	1,405,560	3,464,204	3,649,191	3,648,269	3,611,520	3,649,000	147,316	184,796	0.257	0.260
6/30/91-92	1,364,510	2,777,670	2,940,627	2,939,385	2,939,000	2,941,000	161,330	163,330	0.215	0.216
6/30/92-93	1,347,359	2,469,958	2,627,937	2,626,502	2,627,000	2,628,000	157,042	158,042	0.195	0.195
6/30/93-94	1,424,410	2,893,152	3,096,667	3,093,768	3,094,000	3,097,000	200,848	203,848	0.217	0.217
6/30/94-95	1,497,829	2,459,756	2,653,847	2,652,018	2,652,000	2,654,000	192,244	194,244	0.177	0.177
6/30/95-96	1,582,635	2,065,137	2,245,915	2,246,420	2,246,000	2,246,000	180,863	180,863	0.142	0.142
6/30/96-97	1,979,748	2,743,595	3,004,953	3,005,219	3,005,000	3,005,000	261,405	261,405	0.152	0.152
6/30/97-98	1,917,994	1,982,909	2,213,880	2,220,584	2,214,000	2,221,000	231,092	238,092	0.115	0.116
6/30/98-99	2,081,524	2,506,545	2,848,594	2,853,903	2,849,000	2,854,000	342,455	347,455	0.137	0.137
6/30/99-00	2,207,243	2,909,495	3,354,418	3,357,840	3,354,000	3,358,000	444,505	448,505	0.152	0.152
6/30/00-01	2,201,008	2,824,207	3,304,929	3,311,543	3,305,000	3,312,000	480,793	487,793	0.150	0.150
6/30/01-02	2,292,592	2,652,321	3,181,380	3,195,404	3,181,000	3,195,000	528,679	542,679	0.139	0.139
6/30/02-03	2,260,534	2,981,766	3,648,070	3,657,292	3,648,000	3,657,000	666,234	675,234	0.161	0.162
6/30/03-04	2,255,942	3,003,620	3,777,794	3,789,204	3,778,000	3,789,000	774,380	785,380	0.167	0.168
6/30/04-05	2,309,083	4,303,783	5,552,651	5,332,303	4,800,000	5,553,000	496,217	1,249,217	0.208	0.240
6/30/05-06	2,480,693	3,376,156	4,473,329	4,609,477	4,000,000	4,609,000	623,844	1,232,844	0.161	0.186
6/30/06-07	2,612,577	4,860,001	6,625,691	6,299,500	5,700,000	6,626,000	839,999	1,765,999	0.218	0.254
6/30/07-08	2,783,717	3,900,241	5,481,175	5,593,503	4,900,000	5,594,000	999,759	1,693,759	0.176	0.201
6/30/08-09	2,750,907	4,076,333	5,940,322	5,943,051	5,300,000	5,943,000	1,223,667	1,866,667	0.193	0.216
6/30/09-10	2,806,048	4,051,519	6,140,832	6,213,295	5,500,000	6,213,000	1,448,481	2,161,481	0.196	0.221
6/30/10-11	2,942,638	4,360,928	6,982,468	6,912,593	6,200,000	6,982,000	1,839,072	2,621,072	0.211	0.237
6/30/11-12	3,006,849	4,122,296	7,177,149	7,137,311	6,800,000	7,177,000	2,677,704	3,054,704	0.226	0.239
6/30/12-13	3,138,905	3,061,873	6,714,263	7,164,827	6,400,000	7,236,000	3,338,127	4,174,127	0.204	0.231
6/30/13-14	3,311,947	1,466,358	8,375,946	8,162,760	7,800,000	8,460,000	6,333,643	6,993,643	0.236	0.255
Total	60,732,197	94,812,394	123,116,354	121,760,416	120,281,956	127,707,852	25,469,562	32,895,458		
Tot 6/30/84-14	60,732,197	90,508,745	121,793,508	121,760,416	115,664,180	122,794,000	25,155,435	32,285,255	0.190	0.202

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, 2014

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 7/1/12-13	Paid Counts 7/1/13-14	Average Outstanding Claim
All Prior Yrs		3,000,696							2	5	
6/30/82-83		512,140	1.012	1.000	518,386	N/A	518,386		1	1	6,246
6/30/83-84		790,813	1.017	1.000	804,460	N/A	804,460		0	0	
6/30/84-85	732,729	1,123,821	1.022	1.000	1,148,932	N/A	1,148,932	0.157	1	0	
6/30/85-86	787,208	1,882,106	1.027	1.000	1,933,779	N/A	1,933,779	0.246	3	1	51,674
6/30/86-87	902,483	1,667,330	1.033	1.000	1,721,672	N/A	1,721,672	0.191	3	2	27,171
6/30/87-88	1,366,586	3,148,456	1.038	1.000	3,267,328	N/A	3,267,328	0.239	8	6	19,812
6/30/88-89	1,486,478	3,552,709	1.043	1.000	3,705,277	N/A	3,705,277	0.249	7	6	25,428
6/30/89-90	1,494,463	3,820,503	1.048	1.000	4,004,494	N/A	4,004,494	0.268	7	5	36,798
6/30/90-91	1,405,560	3,464,204	1.053	1.000	3,649,191	N/A	3,649,191	0.260	7	7	26,427
6/30/91-92	1,364,510	2,777,670	1.059	1.000	2,940,627	N/A	2,940,627	0.216	4	4	40,739
6/30/92-93	1,347,359	2,469,958	1.064	1.000	2,627,937	N/A	2,627,937	0.195	6	6	26,330
6/30/93-94	1,424,410	2,893,152	1.070	1.000	3,096,667	N/A	3,096,667	0.217	6	6	33,919
6/30/94-95	1,497,829	2,459,756	1.079	1.000	2,653,847	N/A	2,653,847	0.177	14	9	21,566
6/30/95-96	1,582,635	2,065,137	1.088	1.000	2,245,915	N/A	2,245,915	0.142	4	4	45,194
6/30/96-97	1,979,748	2,743,595	1.095	1.000	3,004,953	N/A	3,004,953	0.152	8	3	87,119
6/30/97-98	1,917,994	1,982,909	1.116	1.000	2,213,880	N/A	2,213,880	0.115	7	6	38,495
6/30/98-99	2,081,524	2,506,545	1.136	1.000	2,848,594	N/A	2,848,594	0.137	8	7	48,864
6/30/99-00	2,207,243	2,909,495	1.153	1.000	3,354,418	N/A	3,354,418	0.152	11	11	40,448
6/30/00-01	2,201,008	2,824,207	1.170	1.000	3,304,929	N/A	3,304,929	0.150	14	13	36,979
6/30/01-02	2,292,592	2,652,321	1.199	1.000	3,181,380	N/A	3,181,380	0.139	23	17	31,121
6/30/02-03	2,260,534	2,981,766	1.223	1.000	3,648,070	N/A	3,648,070	0.161	24	20	33,315
6/30/03-04	2,255,942	3,003,620	1.258	1.000	3,777,794	N/A	3,777,794	0.167	24	22	35,190
6/30/04-05	2,309,083	4,303,783	1.290	1.000	5,552,651	N/A	5,552,651	0.240	24	23	54,299
6/30/05-06	2,480,693	3,376,156	1.325	1.000	4,473,329	N/A	4,473,329	0.180	34	29	37,834
6/30/06-07	2,612,577	4,860,001	1.363	1.000	6,625,691	N/A	6,625,691	0.254	39	29	60,886
6/30/07-08	2,783,717	3,900,241	1.405	1.000	5,481,175	N/A	5,481,175	0.197	60	37	42,728
6/30/08-09	2,750,907	4,076,333	1.457	1.000	5,940,322	N/A	5,940,322	0.216	73	52	35,846
6/30/09-10	2,806,048	4,051,519	1.516	1.000	6,140,832	N/A	6,140,832	0.219	87	62	33,699
6/30/10-11	2,942,638	4,360,928	1.601	1.000	6,982,468	N/A	6,982,468	0.237	206	105	24,967
6/30/11-12	3,006,849	4,122,296	1.741	1.000	7,177,149	N/A	7,177,149	0.239	715	218	14,013
6/30/12-13	3,138,905	3,061,873	2.193	1.000	6,714,263	N/A	6,714,263	0.214	865	689	5,301
6/30/13-14	3,311,947	1,466,358	5.712	1.000	8,375,946	N/A	8,375,946	0.253		909	7,601
Total	60,732,197	94,812,394			123,116,354		123,116,354		2,295	2,314	

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, 2014

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	1.022	1,149,284	N/A	1,149,284	0.157	0.157
6/30/85-86	787,208	0.245	1,882,106	1.027	1,933,642	N/A	1,933,642	0.246	0.246
6/30/86-87	902,483	0.190	1,667,330	1.033	1,721,452	N/A	1,721,452	0.191	0.191
6/30/87-88	1,366,586	0.247	3,148,456	1.038	3,271,262	N/A	3,271,262	0.239	0.239
6/30/88-89	1,486,478	0.255	3,552,709	1.043	3,708,787	N/A	3,708,787	0.250	0.250
6/30/89-90	1,494,463	0.276	3,820,503	1.048	4,010,018	N/A	4,010,018	0.268	0.268
6/30/90-91	1,405,560	0.258	3,464,204	1.053	3,648,269	N/A	3,648,269	0.260	0.260
6/30/91-92	1,364,510	0.214	2,777,670	1.059	2,939,385	N/A	2,939,385	0.215	0.215
6/30/92-93	1,347,359	0.193	2,469,958	1.064	2,626,502	N/A	2,626,502	0.195	0.195
6/30/93-94	1,424,410	0.214	2,893,152	1.070	3,093,768	N/A	3,093,768	0.217	0.217
6/30/94-95	1,497,829	0.176	2,459,756	1.079	2,652,018	N/A	2,652,018	0.177	0.177
6/30/95-96	1,582,635	0.142	2,065,137	1.088	2,246,420	N/A	2,246,420	0.142	0.142
6/30/96-97	1,979,748	0.152	2,743,595	1.095	3,005,219	N/A	3,005,219	0.152	0.152
6/30/97-98	1,917,994	0.119	1,982,909	1.116	2,220,584	N/A	2,220,584	0.116	0.116
6/30/98-99	2,081,524	0.139	2,506,545	1.136	2,853,903	N/A	2,853,903	0.137	0.137
6/30/99-00	2,207,243	0.153	2,909,495	1.153	3,357,840	N/A	3,357,840	0.152	0.152
6/30/00-01	2,201,008	0.152	2,824,207	1.170	3,311,543	N/A	3,311,543	0.150	0.150
6/30/01-02	2,292,592	0.142	2,652,321	1.199	3,195,404	N/A	3,195,404	0.139	0.139
6/30/02-03	2,260,534	0.164	2,981,766	1.223	3,657,292	N/A	3,657,292	0.162	0.162
6/30/03-04	2,255,942	0.170	3,003,620	1.258	3,789,204	N/A	3,789,204	0.168	0.168
6/30/04-05	2,309,083	0.198	4,303,783	1.290	5,332,303	N/A	5,332,303	0.231	0.231
6/30/05-06	2,480,693	0.203	3,376,156	1.325	4,609,477	N/A	4,609,477	0.186	0.186
6/30/06-07	2,612,577	0.207	4,860,001	1.363	6,299,500	N/A	6,299,500	0.241	0.241
6/30/07-08	2,783,717	0.211	3,900,241	1.405	5,593,503	N/A	5,593,503	0.201	0.201
6/30/08-09	2,750,907	0.216	4,076,333	1.457	5,943,051	N/A	5,943,051	0.216	0.216
6/30/09-10	2,806,048	0.226	4,051,519	1.516	6,213,295	N/A	6,213,295	0.221	0.221
6/30/10-11	2,942,638	0.231	4,360,928	1.601	6,912,593	N/A	6,912,593	0.235	0.235
6/30/11-12	3,006,849	0.236	4,122,296	1.741	7,137,311	N/A	7,137,311	0.237	0.237
6/30/12-13	3,138,905	0.240	3,061,873	2.193	7,164,827	N/A	7,164,827	0.228	0.228
6/30/13-14	3,311,947	0.245	1,466,358	5.712	8,162,760	N/A	8,162,760	0.246	0.246
Total	60,732,197		90,508,745		121,760,416		121,760,416		

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, 2014

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	3,649,191	0.260	1.194	0.310	1.608	0.499	0.130	0.257	0.258
6/30/91-92	1,364,510	2,940,627	0.216	1.189	0.256	1.577	0.404	0.133	0.212	0.214
6/30/92-93	1,347,359	2,627,937	0.195	1.189	0.232	1.546	0.359	0.136	0.191	0.193
6/30/93-94	1,424,410	3,096,667	0.217	1.178	0.256	1.516	0.388	0.140	0.212	0.214
6/30/94-95	1,497,829	2,653,847	0.177	1.170	0.207	1.486	0.308	0.144	0.173	0.176
6/30/95-96	1,582,635	2,245,915	0.142	1.155	0.164	1.457	0.239	0.149	0.141	0.142
6/30/96-97	1,979,748	3,004,953	0.152	1.137	0.173	1.428	0.246	0.154	0.144	0.152
6/30/97-98	1,917,994	2,213,880	0.115	1.135	0.131	1.400	0.183	0.157	0.117	0.119
6/30/98-99	2,081,524	2,848,594	0.137	1.135	0.155	1.373	0.213	0.160	0.137	0.139
6/30/99-00	2,207,243	3,354,418	0.152	1.135	0.172	1.346	0.232	0.164	0.148	0.153
6/30/00-01	2,201,008	3,304,929	0.150	1.109	0.167	1.319	0.220	0.171	0.148	0.152
6/30/01-02	2,292,592	3,181,380	0.139	1.101	0.153	1.294	0.198	0.176	0.138	0.142
6/30/02-03	2,260,534	3,648,070	0.161	1.073	0.173	1.268	0.220	0.184	0.158	0.164
6/30/03-04	2,255,942	3,777,794	0.167	1.046	0.175	1.243	0.218	0.192	0.168	0.170
6/30/04-05	2,309,083	5,552,651	0.240	1.036	0.249	1.219	0.304	0.198	0.183	0.198
6/30/05-06	2,480,693	4,473,329	0.180	1.032	0.186	1.195	0.222	0.203	0.191	0.203
6/30/06-07	2,612,577	6,625,691	0.254	1.032	0.262	1.172	0.307	0.207	0.199	0.207
6/30/07-08	2,783,717	5,481,175	0.197	1.032	0.203	1.149	0.233	0.211	0.207	0.211
6/30/08-09	2,750,907	5,940,322	0.216	1.027	0.222	1.126	0.250	0.216	0.216	0.216
6/30/09-10	2,806,048	6,140,832	0.219	1.000	0.219	1.104	0.242	0.226	0.231	0.226
6/30/10-11	2,942,638	6,982,468	0.237	1.000	0.237	1.082	0.257	0.231	0.240	0.231
6/30/11-12	3,006,849	7,177,149	0.239	1.000	0.239	1.061	0.253	0.236	0.250	0.236
6/30/12-13	3,138,905	6,714,263	0.214	1.000	0.214	1.040	0.223	0.240	0.260	0.240
6/30/13-14	3,311,947	8,375,946	0.253	1.000	0.253	1.020	0.258	0.245		0.245
Total	53,962,251	106,012,026								

Trend Last 4 (ex 13-14):	-0.6%	Avg 3 (x13-14):	0.244
Trend Last 8 (ex 13-14):	1.2%	Avg 5 (x13-14):	0.245
Trend Last 12 (ex 13-14):	3.0%	Avg 10 (x13-14):	0.251
Prior Selected Trend:	4.0%	Prior Sel Avg:	0.270
Selected Trend:	2.0%	Sel. Loss Cost:	0.250

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, 2013
(11) Selected based on (9) and (4)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

All Other - Clusters 5-17 & 95
Medical

Calculation of 1982 & Prior Reserves (Page 1)

Method 1

(1)	Average Payment Trend	0.925	
(2)	Credibility	58%	
(3)	Average Pmt Trend Statewide	0.950	
(4)	Credibility Weighted Trend	0.935	
		(Low)	(High)
(5)	Selected Range	0.898	0.954
(6)	Incremental Paid for 2014	47,672	47,672
(7)	Estimated Reserve	419,929	992,710
(8)	Paid to Date (82 & Prior)	3,000,696	3,000,696
(9)	Est Ult Paid for 1982 & Prior	3,420,626	3,993,406

Method 2

		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	34,721	28,394
(11)	Projected Number of Years	6	7
(12)	Estimated Reserve	208,325	198,757
(13)	Paid to Date (82 & Prior)	3,000,696	2,953,025
(14)	Est Ult Paid for 1982 & Prior	3,209,021	3,151,782
(14a)	Paid Counts During Fiscal Year	5	2
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	3,314,823	3,572,594
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	**3,314,823**	**3,572,594**
(18)	Implied Tail	1.105	1.191
(19)	Ult Loss Inc Lump Sums @ 6/13	3,217,959	3,241,572

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, 2013

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 =	23
2001	10	26,076	10.169	0.858	S(x) =	46,069
2002	11	28,013	10.240	1.074	S(x-sq) =	92,277,219
2003	12	24,232	10.095	0.865	S(xy) =	492,708
2004	13	32,198	10.380	1.329	S(y) =	246
2005	14	42,136	10.649	1.309	D =	23,276
2006	15	33,882	10.431	0.804	slope =	-0.075
2007	16	22,266	10.011	0.657	Avg Trend =	0.925
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		
2014	23	47,672	10.772	1.485		
					Selected Trend:	**0.925**

NOTES:

(3) 2014 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2013

(4) LN [(3)]

(5) Eg. 2014: 1.485 = 47672 / 32108

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	384
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	512,140
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	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	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	1,882,106			
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	1,667,330				
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	3,148,456					
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	3,552,709						
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	3,820,503							
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	3,464,204								
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	2,777,670									
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	2,469,958										
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	2,893,152											
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	2,459,756												
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	2,065,137													
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	2,743,595														
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	1,982,909															
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	2,506,545																
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	2,909,495																	
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	2,824,207																		
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	2,652,321																			
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	2,981,766																				
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	3,003,620																					
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	4,303,783																						
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	3,376,156																							
June-07	1,118,370	3,111,007	3,990,645	4,226,540	4,465,130	4,612,091	4,787,482	4,860,001																								
June-08	1,399,818	2,842,788	3,291,021	3,540,051	3,665,019	3,833,245	3,900,241																									
June-09	1,326,874	2,783,994	3,440,192	3,757,225	3,955,223	4,076,333																										
June-10	1,396,833	3,068,894	3,532,579	3,829,758	4,051,519																											
June-11	1,591,468	3,339,318	3,962,771	4,360,928																												
June-12	1,578,463	3,469,608	4,122,296																													
June-13	1,503,155	3,061,873																														
June-14	1,466,358																															

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
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	1.008
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	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	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	1.002			
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	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	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	1.003						
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	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	1.004								
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	1.006									
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	1.008										
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	1.006											
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	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	1.002													
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	1.055														
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	1.005															
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	1.007																
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	1.026																	
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	1.028																		
June-02	2.757	1.337	1.133	1.064	1.035	1.019	1.034	1.030	1.025	1.066	1.033	1.031																			
June-03	4.526	1.410	1.142	1.049	1.046	1.038	1.027	1.028	1.033	1.013	1.035																				
June-04	2.898	1.279	1.098	1.047	1.048	1.022	1.040	1.023	1.016	1.017																					
June-05	3.109	1.309	1.125	1.068	1.045	1.049	1.027	1.030	1.018																						
June-06	2.272	1.183	1.086	1.063	1.046	1.028	1.023	1.019																							
June-07	2.782	1.283	1.059	1.056	1.033	1.038	1.015																								
June-08	2.031	1.158	1.076	1.035	1.046	1.017																									
June-09	2.098	1.236	1.092	1.053	1.031																										
June-10	2.197	1.151	1.084	1.058																											
June-11	2.098	1.187	1.100																												
June-12	2.198	1.188																													
June-13	2.037																														

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	2.605	1.304	1.144	1.088	1.068	1.052	1.044	1.037	1.031	1.023	1.018	1.017	1.026	1.020	1.012	1.012	1.013	1.008	1.007	1.007	1.009	1.006	1.005	1.007	1.007	1.005	1.004	1.002	1.002	1.004	1.008	
Latest 5	2.126	1.184	1.082	1.053	1.040	1.031	1.026	1.026	1.027	1.026	1.028	1.021	1.026	1.017	1.014	1.017	1.025	1.007	1.009	1.006	1.009	1.005	1.006	1.007	1.008	1.004	1.004					
Latest 3	2.111	1.175	1.092	1.049	1.036	1.028	1.022	1.024	1.023	1.032	1.029	1.026	1.028	1.020	1.018	1.023	1.034	1.006	1.007	1.006	1.012	1.005	1.004	1.003	1.006	1.006	1.005	1.001	1.002			
Volume Wtd																																
All Yrs	2.449	1.260	1.120	1.067	1.053	1.038	1.033	1.028	1.024	1.019	1.017	1.015	1.017	1.014	1.012	1.012	1.013	1.009	1.007	1.006	1.007	1.005	1.005	1.006	1.007	1.005	1.005	1.002	1.001	1.003	1.008	
Latest 5	2.126	1.183	1.082	1.053	1.039	1.032	1.025	1.026	1.026	1.024	1.028	1.022	1.026	1.017	1.015	1.018	1.025	1.007	1.009	1.006	1.008	1.005	1.005	1.005	1.007	1.004	1.005					
Latest 3	2.112	1.176	1.093	1.049	1.036	1.028	1.021	1.025	1.022	1.030	1.029	1.026	1.028	1.020	1.018	1.026	1.036	1.006	1.007	1.006	1.011	1.005	1.004	1.003	1.005	1.006	1.005	1.001	1.001			

Dev Factor Selection																																
Industry 1	1.954	1.133	1.050	1.027	1.015	1.012	1.011																									
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	2.624	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	
Selected	2.605	1.260	1.087	1.056	1.040	1.037	1.031	1.029	1.027	1.026	1.028	1.020	1.025	1.015	1.014	1.018	1.019	1.007	1.008	1.008	1.006	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.012
FacToUlt	5.712	2.193	1.741	1.601	1.516	1.457	1.405	1.363	1.325	1.290	1.258	1.223	1.199	1.170	1.153	1.136	1.116	1.095	1.088	1.079	1.070	1.064	1.059	1.053	1.048	1.043	1.038	1.033	1.027	1.022	1.017	1.012
Percent of Ult	17.5%	45.6%	57.4%	62.5%	66.0%	68.6%	71.2%	73.4%	75.5%	77.5%	79.5%	81.7%	83.4%	85.5%	86.7%	88.0%	89.6%	91.3%	92.0%	92.7%	93.4%	94.0%	94.5%	94.9%	95.4%	95.9%	96.4%	96.8%	97.3%	97.8%	98.3%	98.8%

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

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 6/13		As of 6/14		(Dollar)	(Percent)	(Dollar)	(Percent)
Year	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	3,217,959	3,241,572	3,314,823	3,572,594	96,864	3.0%	331,022	10.2%
6/30/82-83	508,182	525,047	512,140	528,754	3,958	0.8%	3,707	0.7%
6/30/83-84	790,813	813,092	790,813	812,505	0	0.0%	(588)	-0.1%
6/30/84-85	1,150,000	1,150,000	1,149,000	1,149,000	(1,000)	-0.1%	(1,000)	-0.1%
6/30/85-86	1,911,690	1,931,000	1,914,660	1,934,000	2,970	0.2%	3,000	0.2%
6/30/86-87	1,703,000	1,704,000	1,721,000	1,722,000	18,000	1.1%	18,000	1.1%
6/30/87-88	3,257,000	3,261,000	3,267,000	3,271,000	10,000	0.3%	10,000	0.3%
6/30/88-89	3,698,000	3,701,000	3,705,000	3,709,000	7,000	0.2%	8,000	0.2%
6/30/89-90	3,993,000	3,999,000	4,004,000	4,010,000	11,000	0.3%	11,000	0.3%
6/30/90-91	3,597,660	3,636,000	3,611,520	3,649,000	13,860	0.4%	13,000	0.4%
6/30/91-92	2,924,000	2,926,000	2,939,000	2,941,000	15,000	0.5%	15,000	0.5%
6/30/92-93	2,609,000	2,612,000	2,627,000	2,628,000	18,000	0.7%	16,000	0.6%
6/30/93-94	3,085,000	3,089,000	3,094,000	3,097,000	9,000	0.3%	8,000	0.3%
6/30/94-95	2,634,000	2,638,000	2,652,000	2,654,000	18,000	0.7%	16,000	0.6%
6/30/95-96	2,249,000	2,251,000	2,246,000	2,246,000	(3,000)	-0.1%	(5,000)	-0.2%
6/30/96-97	2,879,000	2,882,000	3,005,000	3,005,000	126,000	4.4%	123,000	4.3%
6/30/97-98	2,233,000	2,235,000	2,214,000	2,221,000	(19,000)	-0.9%	(14,000)	-0.6%
6/30/98-99	2,855,000	2,856,000	2,849,000	2,854,000	(6,000)	-0.2%	(2,000)	-0.1%
6/30/99-00	3,296,000	3,300,000	3,354,000	3,358,000	58,000	1.8%	58,000	1.8%
6/30/00-01	3,268,000	3,268,000	3,305,000	3,312,000	37,000	1.1%	44,000	1.3%
6/30/01-02	3,115,000	3,122,000	3,181,000	3,195,000	66,000	2.1%	73,000	2.3%
6/30/02-03	3,568,000	3,571,000	3,648,000	3,657,000	80,000	2.2%	86,000	2.4%
6/30/03-04	3,767,000	3,771,000	3,778,000	3,789,000	11,000	0.3%	18,000	0.5%
6/30/04-05	4,700,000	5,541,000	4,800,000	5,553,000	100,000	2.1%	12,000	0.2%
6/30/05-06	4,100,000	4,550,000	4,000,000	4,609,000	(100,000)	-2.4%	59,000	1.3%
6/30/06-07	5,600,000	6,703,000	5,700,000	6,626,000	100,000	1.8%	(77,000)	-1.1%
6/30/07-08	5,100,000	5,645,000	4,900,000	5,594,000	(200,000)	-3.9%	(51,000)	-0.9%
6/30/08-09	5,400,000	6,324,000	5,300,000	5,943,000	(100,000)	-1.9%	(381,000)	-6.0%
6/30/09-10	5,600,000	6,589,000	5,500,000	6,213,000	(100,000)	-1.8%	(376,000)	-5.7%
6/30/10-11	6,300,000	7,301,000	6,200,000	6,982,000	(100,000)	-1.6%	(319,000)	-4.4%
6/30/11-12	6,800,000	7,993,000	6,800,000	7,177,000	0	0.0%	(816,000)	-10.2%
6/30/12-13	7,400,000	9,085,000	6,400,000	7,236,000	(1,000,000)	-13.5%	(1,849,000)	-20.4%
6/30/13-14								
Total	113,309,304	122,213,711	112,481,956	119,247,852	(827,348)	-0.7%	(2,965,859)	-2.4%

NOTES:

(2), (3) From Aon analysis as of June 30, 2013

(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%
396	100.0%	1.2%	0.0%	0.3%	0.2%	1.000	1.000
384	98.8%	0.5%	1.2%	0.1%	0.1%	0.981	0.971
372	98.3%	0.5%	1.7%	0.1%	0.1%	0.954	0.932
360	97.8%	0.5%	2.2%	0.2%	0.1%	0.931	0.900
348	97.3%	0.5%	2.7%	0.2%	0.1%	0.911	0.871
336	96.8%	0.5%	3.2%	0.2%	0.1%	0.892	0.845
324	96.4%	0.5%	3.6%	0.2%	0.1%	0.874	0.820
312	95.9%	0.5%	4.1%	0.2%	0.1%	0.857	0.797
300	95.4%	0.5%	4.6%	0.2%	0.1%	0.840	0.774
288	94.9%	0.5%	5.1%	0.2%	0.1%	0.824	0.753
276	94.5%	0.5%	5.5%	0.2%	0.1%	0.808	0.733
264	94.0%	0.6%	6.0%	0.2%	0.2%	0.793	0.713
252	93.4%	0.7%	6.6%	0.3%	0.2%	0.781	0.698
240	92.7%	0.7%	7.3%	0.3%	0.2%	0.774	0.690
228	92.0%	0.6%	8.0%	0.3%	0.2%	0.766	0.681
216	91.3%	1.7%	8.7%	0.9%	0.6%	0.755	0.667
204	89.6%	1.6%	10.4%	0.8%	0.6%	0.768	0.686
192	88.0%	1.3%	12.0%	0.7%	0.5%	0.770	0.690
180	86.7%	1.3%	13.3%	0.7%	0.6%	0.763	0.681
168	85.5%	2.1%	14.5%	1.2%	0.9%	0.756	0.671
156	83.4%	1.6%	16.6%	1.0%	0.8%	0.759	0.676
144	81.7%	2.2%	18.3%	1.4%	1.1%	0.752	0.667
132	79.5%	2.0%	20.5%	1.3%	1.1%	0.751	0.667
120	77.5%	2.0%	22.5%	1.4%	1.2%	0.745	0.659
108	75.5%	2.1%	24.5%	1.5%	1.3%	0.738	0.651
96	73.4%	2.2%	26.6%	1.6%	1.4%	0.731	0.643
84	71.2%	2.5%	28.8%	2.0%	1.7%	0.724	0.634
72	68.6%	2.6%	31.4%	2.1%	1.9%	0.720	0.628
60	66.0%	3.5%	34.0%	3.0%	2.7%	0.714	0.622
48	62.5%	5.0%	37.5%	4.4%	4.1%	0.714	0.623
36	57.4%	11.8%	42.6%	10.7%	10.2%	0.722	0.633
24	45.6%	28.1%	54.4%	26.5%	25.7%	0.756	0.679
12	17.5%	17.5%	82.5%	17.2%	17.0%	0.813	0.753
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
Reserve Analysis at June 30, 2014

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	314,127	571,898		279,938	509,654
6/30/82-83	0	16,614	0.981	0	16,291
6/30/83-84	0	21,692	0.954	0	20,690
6/30/84-85	25,179	25,179	0.931	23,449	23,449
6/30/85-86	32,554	51,894	0.911	29,657	47,275
6/30/86-87	53,670	54,670	0.892	47,874	48,766
6/30/87-88	118,544	122,544	0.874	103,603	107,099
6/30/88-89	152,291	156,291	0.857	130,465	133,892
6/30/89-90	183,497	189,497	0.840	154,140	159,180
6/30/90-91	147,316	184,796	0.824	121,373	152,253
6/30/91-92	161,330	163,330	0.808	130,397	132,013
6/30/92-93	157,042	158,042	0.793	124,546	125,339
6/30/93-94	200,848	203,848	0.781	156,896	159,240
6/30/94-95	192,244	194,244	0.774	148,871	150,420
6/30/95-96	180,863	180,863	0.766	138,571	138,571
6/30/96-97	261,405	261,405	0.755	197,330	197,330
6/30/97-98	231,092	238,092	0.768	177,528	182,906
6/30/98-99	342,455	347,455	0.770	263,826	267,678
6/30/99-00	444,505	448,505	0.763	339,369	342,423
6/30/00-01	480,793	487,793	0.756	363,399	368,690
6/30/01-02	528,679	542,679	0.759	401,042	411,662
6/30/02-03	666,234	675,234	0.752	500,927	507,694
6/30/03-04	774,380	785,380	0.751	581,537	589,798
6/30/04-05	496,217	1,249,217	0.745	369,711	930,740
6/30/05-06	623,844	1,232,844	0.738	460,601	910,243
6/30/06-07	839,999	1,765,999	0.731	614,445	1,291,798
6/30/07-08	999,759	1,693,759	0.724	724,261	1,227,020
6/30/08-09	1,223,667	1,866,667	0.720	880,456	1,343,109
6/30/09-10	1,448,481	2,161,481	0.714	1,034,639	1,543,929
6/30/10-11	1,839,072	2,621,072	0.714	1,313,781	1,872,419
6/30/11-12	2,677,704	3,054,704	0.722	1,932,034	2,204,050
6/30/12-13	3,338,127	4,174,127	0.756	2,524,186	3,156,343
6/30/13-14	6,333,643	6,993,643	0.813	5,151,919	5,688,776
Total	25,469,562	32,895,458		19,420,772	24,960,740
			(7) Total Discount Factor:	0.763	0.759

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	314,127	571,898
(9) Projected Number of Years:	6	6
(10) Projected Paid Loss per Year:	52,355	95,316
(11) Discounted Value at 4%:	279,938	509,654

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)

Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2014

All Other - Clusters 5-17 & 95
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	314,127	571,898		265,167	482,762
6/30/82-83	0	16,614	0.971	0	16,137
6/30/83-84	0	21,692	0.932	0	20,222
6/30/84-85	25,179	25,179	0.900	22,661	22,661
6/30/85-86	32,554	51,894	0.871	28,366	45,217
6/30/86-87	53,670	54,670	0.845	45,347	46,191
6/30/87-88	118,544	122,544	0.820	97,224	100,505
6/30/88-89	152,291	156,291	0.797	121,335	124,522
6/30/89-90	183,497	189,497	0.774	142,107	146,754
6/30/90-91	147,316	184,796	0.753	110,949	139,177
6/30/91-92	161,330	163,330	0.733	118,212	119,677
6/30/92-93	157,042	158,042	0.713	111,994	112,707
6/30/93-94	200,848	203,848	0.698	140,241	142,336
6/30/94-95	192,244	194,244	0.690	132,727	134,108
6/30/95-96	180,863	180,863	0.681	123,090	123,090
6/30/96-97	261,405	261,405	0.667	174,251	174,251
6/30/97-98	231,092	238,092	0.686	158,486	163,287
6/30/98-99	342,455	347,455	0.690	236,132	239,579
6/30/99-00	444,505	448,505	0.681	302,652	305,376
6/30/00-01	480,793	487,793	0.671	322,768	327,467
6/30/01-02	528,679	542,679	0.676	357,219	366,678
6/30/02-03	666,234	675,234	0.667	444,589	450,595
6/30/03-04	774,380	785,380	0.667	516,280	523,614
6/30/04-05	496,217	1,249,217	0.659	327,197	823,713
6/30/05-06	623,844	1,232,844	0.651	406,150	802,635
6/30/06-07	839,999	1,765,999	0.643	539,807	1,134,881
6/30/07-08	999,759	1,693,759	0.634	633,866	1,073,874
6/30/08-09	1,223,667	1,866,667	0.628	768,810	1,172,796
6/30/09-10	1,448,481	2,161,481	0.622	901,168	1,344,759
6/30/10-11	1,839,072	2,621,072	0.623	1,145,705	1,632,876
6/30/11-12	2,677,704	3,054,704	0.633	1,694,844	1,933,465
6/30/12-13	3,338,127	4,174,127	0.679	2,264,977	2,832,217
6/30/13-14	6,333,643	6,993,643	0.753	4,768,619	5,265,535
Total	25,469,562	32,895,458		17,422,940	22,343,664
			(7) Total Discount Factor:	0.684	0.679

	Discount Calculation for All Prior Years	
	(Low)	(High)
(8) Estimated Total Reserve:	314,127	571,898
(9) Projected Number of Years:	6	6
(10) Projected Paid Loss per Year:	52,355	95,316
(11) Discounted Value at 6%:	265,167	482,762

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, 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)
						MassDOT Allocation - Method 1						**MassDOT Allocation - Method 2**					**MassDOT Allocation - Method 3**				MassDOT	MassDOT	All Other	All Other
Accident		Aon	Aon	Outstanding	Outstanding		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)	Paid Counts 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. FY'97 & 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, 2014

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)	7/1/13-14	7/1/13-14	Paid Counts	(Low)	(High)	7/1/13-14	7/1/13-14	Total Paid	(Low)	(High)	($000)	($000)	Total Payroll	(Low)	(High)	(Low)	(High)	(Low)	(High)
All Prior Yrs	3,000,696	3,314,823	3,572,594	314,127	571,898	5					47,672								20,511	37,342	20,511	37,342	293,616	534,555
6/30/82-83	512,140	512,140	528,754	0	16,614	1					3,958								0	1,085	0	1,085	0	15,529
6/30/83-84	790,813	790,813	812,505	0	21,692	0					0								0	1,416	0	472	0	21,220
6/30/84-85	1,123,821	1,149,000	1,149,000	25,179	25,179	0					0								1,644	1,644	548	548	24,631	24,631
6/30/85-86	1,882,106	1,914,660	1,934,000	32,554	51,894	1					4,117								2,126	3,388	709	1,129	31,846	50,765
6/30/86-87	1,667,330	1,721,000	1,722,000	53,670	54,670	2					19,021								3,504	3,570	1,168	1,190	52,502	53,480
6/30/87-88	3,148,456	3,267,000	3,271,000	118,544	122,544	6					12,605								7,740	8,002	2,580	2,667	115,964	119,877
6/30/88-89	3,552,709	3,705,000	3,709,000	152,291	156,291	6					10,000								9,944	10,205	3,315	3,402	148,977	152,889
6/30/89-90	3,820,503	4,004,000	4,010,000	183,497	189,497	5					14,045								11,982	12,373	3,994	4,124	179,503	185,373
6/30/90-91	3,464,204	3,611,520	3,649,000	147,316	184,796	7					15,366								9,619	12,066	3,206	4,022	144,110	180,774
6/30/91-92	2,777,670	2,939,000	2,941,000	161,330	163,330	4					16,218								10,534	10,665	3,511	3,555	157,819	159,775
6/30/92-93	2,469,958	2,627,000	2,628,000	157,042	158,042	6	1	16.7%	26,174	26,340	19,424	241	1.2%	1,951	1,964				10,254	10,319	12,793	12,875	144,249	145,168
6/30/93-94	2,893,152	3,094,000	3,097,000	200,848	203,848	6	3	50.0%	100,424	101,924	17,514	2,281	13.0%	26,160	26,551				13,114	13,310	13,114	13,310	187,734	190,538
6/30/94-95	2,459,756	2,652,000	2,654,000	192,244	194,244	9	1	11.1%	21,360	21,583	24,388	2,500	10.3%	19,707	19,912				12,553	12,683	17,873	18,059	174,371	176,185
6/30/95-96	2,065,137	2,246,000	2,246,000	180,863	180,863	4					3,864								11,810	11,810	3,937	3,937	176,926	176,926
6/30/96-97	2,743,595	3,005,000	3,005,000	261,405	261,405	3					142,877								17,069	17,069	8,534	8,534	252,871	252,871
6/30/97-98	1,982,909	2,214,000	2,221,000	231,092	238,092	6	2	33.3%	77,031	79,364	8,975	382	4.3%	9,838	10,135	1,917,994	137,500	7.2%	16,567	17,069	16,567	17,069	214,525	221,023
6/30/98-99	2,506,545	2,849,000	2,854,000	342,455	347,455	7	1	14.3%	48,922	49,636	17,559	3,068	17.5%	59,834	60,707	2,081,524	136,688	6.6%	22,488	22,816	35,705	36,226	306,750	311,229
6/30/99-00	2,909,495	3,354,000	3,358,000	444,505	448,505	11	2	18.2%	80,819	81,546	74,683	32,184	43.1%	191,558	193,282	2,207,243	137,892	6.2%	27,769	28,019	27,769	28,019	416,735	420,485
6/30/00-01	2,824,207	3,305,000	3,312,000	480,793	487,793	13	4	30.8%	147,936	150,090	77,139	2,484	3.2%	15,482	15,707	2,201,008	145,149	6.6%	31,707	32,168	65,042	65,989	415,751	421,804
6/30/01-02	2,652,321	3,181,000	3,195,000	528,679	542,679	17	2	11.8%	62,197	63,845	78,618	904	1.2%	6,081	6,242	2,292,592	140,223	6.1%	32,336	33,192	33,538	34,426	495,141	508,252
6/30/02-03	2,981,766	3,648,000	3,657,000	666,234	675,234	20	2	10.0%	66,623	67,523	101,503	13,704	13.5%	89,947	91,162	2,260,534	140,250	6.2%	41,335	41,893	65,969	66,860	600,265	608,374
6/30/03-04	3,003,620	3,778,000	3,789,000	774,380	785,380	22	4	18.2%	140,796	142,796	49,862	17,807	35.7%	276,555	280,483	2,255,942	137,408	6.1%	47,167	47,837	93,982	95,317	680,398	690,063
6/30/04-05	4,303,783	4,800,000	5,553,000	496,217	1,249,217	23	3	13.0%	64,724	162,941	77,764	4,594	5.9%	29,317	73,805	2,309,083	145,033	6.3%	31,167	78,463	41,736	105,070	454,481	1,144,147
6/30/05-06	3,376,156	4,000,000	4,609,000	623,844	1,232,844	29	3	10.3%	64,536	127,536	61,733	14,040	22.7%	141,879	280,383	2,480,693	156,390	6.3%	39,329	77,722	51,932	102,629	571,912	1,130,215
6/30/06-07	4,860,001	5,700,000	6,626,000	839,999	1,765,999	29	7	24.1%	202,758	426,276	72,519	25,970	35.8%	300,816	632,431	2,612,577	157,146	6.0%	50,526	106,224	50,526	106,224	789,473	1,659,775
6/30/07-08	3,900,241	4,900,000	5,594,000	999,759	1,693,759	37	3	8.1%	81,062	137,332	66,995	18,250	27.2%	272,336	461,383	2,783,717	168,663	6.1%	60,574	102,623	70,818	119,978	928,941	1,573,782
6/30/08-09	4,076,333	5,300,000	5,943,000	1,223,667	1,866,667	52	7	13.5%	164,724	251,282	121,111	12,785	10.6%	129,175	197,052	2,750,907	180,456	6.6%	80,271	122,451	122,498	186,866	1,101,169	1,679,800
6/30/09-10	4,051,519	5,500,000	6,213,000	1,448,481	2,161,481	62	5	8.1%	116,813	174,313	221,761	18,408	8.3%	120,234	179,418	2,806,048	203,138	7.2%	104,860	156,476	113,969	170,069	1,334,512	1,991,412
6/30/10-11	4,360,928	6,200,000	6,982,000	1,839,072	2,621,072	105	8	7.6%	140,120	199,701	398,156	14,359	3.6%	66,324	94,526	2,942,638	197,766	6.7%	123,599	176,155	110,014	156,794	1,729,058	2,464,278
6/30/11-12	4,122,296	6,800,000	7,177,000	2,677,704	3,054,704	218	25	11.5%	307,076	350,310	652,687	52,815	8.1%	216,677	247,184	3,006,849	207,447	6.9%	184,739	210,749	236,164	269,414	2,441,540	2,785,290
6/30/12-13	3,061,873	6,400,000	7,236,000	3,338,127	4,174,127	689	67	9.7%	324,607	405,902	1,558,718	167,941	10.8%	359,661	449,734	3,138,905	217,415	6.9%	231,214	289,119	305,161	381,585	3,032,966	3,792,542
6/30/13-14	1,466,358	7,800,000	8,460,000	6,333,643	6,993,643	909	83	9.1%	578,319	638,583	1,466,358	101,638	6.9%	439,005	484,751	3,311,947	232,120	7.0%	443,898	490,154	487,074	537,830	5,846,569	6,455,813
Total	94,812,394	120,281,956	127,707,852	25,469,562	32,895,458	2,314	233	10.1%	2,817,023	3,658,824	5,457,209	506,356	9.3%	2,772,537	3,806,813						2,024,257	2,596,616	23,445,305	30,298,842

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)