

Commonwealth of Massachusetts

Actuarial Estimate of Outstanding Liability

As of June 30, 2012

FINAL REPORT

Issue Date – September 10, 2012

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Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012

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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, 2012, separately for seven clusters of agencies:

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

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

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

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 is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial report contained herein.



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

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

Respectfully submitted,

Aon Global Risk Consulting

A handwritten signature in black ink, appearing to read 'Vahan A. Mahdasian'.

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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 MDOT (excluding MTA).

Consistent with the methodology and presentation in the prior report issued in 2011, the liability amounts in the summary tables below are provided both **Gross** (including) and **Net** (excluding) of those liabilities associated with the MDOT (excluding MTA).

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

Total Gross Reserves

Based on our review, which utilized loss and exposure data valued as of June 30, 2012, we estimate that the range of reasonable undiscounted **gross** (inclusive of MDOT liability, excluding MTA) loss reserves for the Commonwealth’s aggregate workers compensation program to be: **\$314.3M to \$400.6M.**

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%: **\$237.3 to \$305.9M** | Discounted at 6%: **\$211.9M to \$274.3M**

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

Cluster	Report		Undiscounted	Discounted at 4%	Discounted at 6%
	Cluster	Section			
DMR	1	2	\$29.2 - 36.2M	\$23.4 - 29.4M	\$21.4 - 27.1M
DMH	2	3	\$25.5 - 31.2M	\$19.7 - 24.3M	\$17.7 - 22.0M
DOC	3	4	\$60.4 - 84.5M	\$45.5 - 64.5M	\$40.6 - 57.8M
UMass - Amherst	4	5	\$7.5 - 10.6M	\$5.9 - 8.4M	\$5.3 - 7.6M
UMass - Medical	4	6	\$4.0 - 5.6M	\$3.3 - 4.7M	\$3.1 - 4.3M
Other Colleges & Univ's	4	7	\$13.9 - 17.2M	\$11.5 - 14.2M	\$10.5 - 13.1M
All Other Dept's (incl. MDOT, excl. MTA)	5	8	\$173.8 - 215.4M	\$128.1 - 160.5M	\$113.2 - 142.5M
Total			\$314.3 - 400.6M	\$237.3 - 305.9M	\$211.9 - 274.3M



Total Net Reserves

Based on our review, which utilized loss and exposure data valued as of June 30, 2012, we estimate that the range of reasonable undiscounted **net** (excluding MDOT and MTA liability) loss reserves for the Commonwealth's aggregate workers compensation program to be: **\$301.6M to \$384.8M.**

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

Discounted at 4%: **\$227.9M to \$294.1M** | Discounted at 6%: **\$203.6M to \$263.9M**

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

Cluster	Report		Undiscounted	Discounted at 4%	Discounted at 6%
	Cluster	Section			
DMR	1	2	\$29.2 - 36.2M	\$23.4 - 29.4M	\$21.4 - 27.1M
DMH	2	3	\$25.5 - 31.2M	\$19.7 - 24.3M	\$17.7 - 22.0M
DOC	3	4	\$60.4 - 84.5M	\$45.5 - 64.5M	\$40.6 - 57.8M
UMass - Amherst	4	5	\$7.5 - 10.6M	\$5.9 - 8.4M	\$5.3 - 7.6M
UMass - Medical	4	6	\$4.0 - 5.6M	\$3.3 - 4.7M	\$3.1 - 4.3M
Other Colleges & Univ's	4	7	\$13.9 - 17.2M	\$11.5 - 14.2M	\$10.5 - 13.1M
All Other Dept's (excl MDOT & MTA)	5	8	\$161.1 - 199.6M	\$118.7 - 148.7M	\$104.9 - 132.0M
Total			\$301.6 - 384.8M	\$227.9 - 294.1M	\$203.6 - 263.9M

All Other Departments – Decomposition of Departmental Liability

The total gross reserve of the All Other Departments cluster contains both MDOT (excluding MTA) and Non-MDOT liabilities. As shown in the table below, approximately 7.3% of the gross reserve for All Other Departments is attributed to MDOT (excluding MTA) agencies.

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

All Other Departments	Cluster	% of	Undiscounted	Discounted at 4%	Discounted at 6%
		Cluster			
MDOT Agencies (excl. MTA)	5	7.3%	\$12.7 - 15.8M	\$9.4 - 11.8M	\$8.3 - 10.4M
Non-MDOT Agencies	5	92.7%	\$161.1 - 199.6M	\$118.7 - 148.7M	\$104.9 - 132.0M
Total			\$173.8 - 215.4M	\$128.1 - 160.5M	\$113.2 - 142.5M



Fiscal Year 2012 Loss Rates

The cost of the workers compensation program as measured by the estimated FY2012 loss rates (losses per \$100 payroll) varied significantly by cluster.

As shown in the table below, overall rates decreased by 4.3% when compared to the prior year

Cluster	Payroll (000)	Average Ult Loss	Average FY 12 Loss Rate	Prior Loss Rate	% Change
DMR	295,908	5,589,500	1.889	1.860	1.6%
DMH	177,399	3,873,000	2.183	2.622	-16.7%
DOC	348,187	11,286,775	3.242	4.271	-24.1%
UMass - Amherst	467,753	1,939,500	0.415	0.477	-13.1%
UMass - Medical	381,943	1,464,725	0.383	0.454	-15.6%
Other C & Univ's	1,202,674	4,031,000	0.335	0.379	-11.6%
All Other Dept's (excl. MTA)	3,006,849	35,108,500	1.168	1.083	7.8%
Total	5,880,714	63,293,000	1.076	1.125	-4.3%

All Other Departments – Fiscal Year 2012 Loss Rates

In the table below, we have estimated, the composition of the All Other Departments FY2012 loss rate as a function of both the MDOT (excluding MTA) and Non-MDOT departments experience and exposure:

All Other Dept's	Payroll (000)	Average Ult Loss	Average FY 12 Loss Rate	Prior Loss Rate	% Change
MDOT (excl. MTA)	207,447	2,628,575	1.267	1.135	11.7%
Non-MDOT	2,799,402	32,479,925	1.160	1.079	7.5%
Total	3,006,849	35,108,500	1.168	1.083	7.8%

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



UMass Reserves

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

A reasonable range of reserves for the aggregate UMass program is estimated at **\$14.9M to \$20.4M**.

Discounted at 4%: **\$12.0M to \$16.5M** | Discounted at 6%: **\$11.0M to \$15.2M**

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	\$7.5 - 10.6M	\$5.9 - 8.4M	\$5.3 - 7.6M
UMass - Medical	\$4.0 - 5.6M	\$3.3 - 4.7M	\$3.1 - 4.3M
UMass - Dartmouth	\$1.2 - 1.5M	\$1.0 - 1.3M	\$0.9 - 1.2M
University of Lowell	\$1.1 - 1.4M	\$0.9 - 1.2M	\$0.9 - 1.1M
UMass - Boston	\$1.1 - 1.3M	\$0.9 - 1.1M	\$0.8 - 1.0M
Total UMass	\$14.9 - 20.4M	\$12.0 - 16.5M	\$11.0 - 15.2M

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 (MDOT) was created. As part of the creation, various agencies ceased to be considered part of the Commonwealth and became part of the MDOT. The agencies, previously part of the Commonwealth, that now comprise the MDOT 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 MDOT 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, 2012 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, 2011) to derive cumulative paid figures as of June 30, 2012 found in this report.

Exposure

Exposure information for FY2012, 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 2012 implies an “open” claim and will remain open during fiscal year 2012. 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 MDOT (excl. MTA) and Non-MDOT 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 MDOT (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 MDOT (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 MDOT (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 MDOT (excl. MTA) agencies during each of the past fiscal years as a proportion of the total payroll paid to All Other Departments in Cluster 5 over the past fiscal years. Where this historical payroll split was not available, an assumption was made based upon available information.



Actuarial Assumptions

Incurred But Not Reported (IBNR)

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

1. It is impossible to estimate precisely the ultimate losses and allocated loss adjustment expenses for claims when they are initially reported.
2. It takes a period of time for some claims to be discovered, reported, and recorded. Unreported claims are referred to as “pure” IBNR claims. Claims that are reported but not yet recorded are referred to as “pipeline” IBNR claims.
3. Closed claims are sometimes reopened.

These three conditions result in the need for IBNR reserves.

Loss Trend

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

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

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

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

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

Exposure

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

As previously discussed, payroll exposure for FY1985 through FY2012 were provided by the Commonwealth. For the FY2012 non-MTA element of the MDOT payroll in Cluster 5, it was necessary to estimate the MTA-only payroll based upon prior values as a FY2012 figure was not available. This figure was then subtracted from the total MDOT 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:

<u>Summary Exhibit</u>	<u>Description</u>
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 12-13 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:

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



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

<u>Page</u>	<u>Description</u>
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 2013 Payments

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

<u>Page</u>	<u>Description</u>
DOT - FY2011	MDOT (excl. MTA) Reserve Allocation as of 06/30/11
DOT - FY2012	MDOT (excl. MTA) Reserve Allocation as of 06/30/12



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 MDOT Pages in Exhibits 1 and 2 of Section 8 ONLY

Page MDOT FY2011 shows the results of the methodology used to allocate outstanding reserve liability to the MDOT (excl. MTA) and Non-MDOT agencies. This methodology is discussed in the Overview section of this report. This page utilizes the results of the previous actuarial analysis performed in 2010 and based on loss data valued as of 6/30/11.

Page MDOT FY2012 shows the results of the methodology used to allocate outstanding reserve liability to the MDOT (excl. MTA) and Non-MDOT 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 6/30/12.

IX. Exhibits



Commonwealth of Massachusetts
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Reserve Analysis at June 30, 2012

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I. Narrative

II. Summary Exhibits

III. Supporting Exhibits

Section 1	<i>All Clusters Combined</i>	Exhibit 1 - Indemnity Exhibit 2 - Medical
Section 2	<i>Department of Mental Retardation - Cluster 1</i>	Exhibit 1 - Indemnity Exhibit 2 - Medical
Section 3	<i>Department of Mental Health - Cluster 2</i>	Exhibit 1 - Indemnity Exhibit 2 - Medical
Section 4	<i>Department of Corrections - Cluster 3</i>	Exhibit 1 - Indemnity Exhibit 2 - Medical
Section 5	<i>University of Massachusetts (Amherst) - Cluster 4</i>	Exhibit 1 - Indemnity Exhibit 2 - Medical
Section 6	<i>University of Massachusetts (Medical Center) - Cluster 4</i>	Exhibit 1 - Indemnity Exhibit 2 - Medical
Section 7	<i>Massachusetts Colleges & Universities - Cluster 4</i>	Exhibit 1 - Indemnity Exhibit 2 - Medical
Section 8	<i>All Other - Clusters 5-17 & 95</i>	Exhibit 1 - Indemnity Exhibit 2 - Medical



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Summary
Exhibit 1

Summary of Reserve Estimates - Undiscounted

<u>Cluster</u>	<u>Cluster #</u>	<u>Report Section</u>	<u>Loss Reserve Estimate</u>	
			<u>Low End</u>	<u>High End</u>
Department of Mental Retardation	1	Section 2		
Indemnity			25,853,595	31,455,439
Medical			<u>3,319,214</u>	<u>4,775,794</u>
Total			29,172,809	36,231,233
Department of Mental Health	2	Section 3		
Indemnity			21,950,290	27,152,755
Medical			<u>3,533,537</u>	<u>4,039,895</u>
Total			25,483,827	31,192,650
Department of Corrections	3	Section 4		
Indemnity			48,177,208	67,005,390
Medical			<u>12,177,817</u>	<u>17,460,796</u>
Total			60,355,024	84,466,186
UMass - Amherst	4	Section 5		
Indemnity			6,036,805	8,862,619
Medical			<u>1,491,352</u>	<u>1,718,997</u>
Total			7,528,157	10,581,616
UMass - Medical School	4	Section 6		
Indemnity			3,144,580	4,279,385
Medical			<u>809,233</u>	<u>1,296,417</u>
Total			3,953,813	5,575,802
Other Colleges & Universities	4	Section 7		
Indemnity			11,543,345	14,512,742
Medical			<u>2,404,814</u>	<u>2,674,417</u>
Total			13,948,159	17,187,159
All Others	5-17 & 95	Section 8		
Indemnity			151,977,647	184,871,422
Medical			<u>21,836,450</u>	<u>30,530,573</u>
Total			173,814,096	215,401,995
Grand Total		Section 1		
Indemnity			268,683,469	338,139,752
Medical			<u>45,572,417</u>	<u>62,496,889</u>
Total			314,255,886	400,636,641



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Summary
Exhibit 2

Summary of Reserve Estimates - Discounted at 4%

<u>Cluster</u>	<u>Cluster #</u>	<u>Report Section</u>	<u>Loss Reserve Estimate</u>	
			<u>Low End</u>	<u>High End</u>
Department of Mental Retardation	1	Section 2		
Indemnity			20,631,161	25,423,015
Medical			<u>2,774,587</u>	<u>3,986,135</u>
Total			23,405,748	29,409,150
Department of Mental Health	2	Section 3		
Indemnity			16,862,831	21,124,747
Medical			<u>2,806,264</u>	<u>3,204,801</u>
Total			19,669,094	24,329,547
Department of Corrections	3	Section 4		
Indemnity			36,228,291	50,922,450
Medical			<u>9,305,040</u>	<u>13,538,239</u>
Total			45,533,332	64,460,689
UMass - Amherst	4	Section 5		
Indemnity			4,615,264	6,939,963
Medical			<u>1,240,031</u>	<u>1,427,764</u>
Total			5,855,295	8,367,727
UMass - Medical School	4	Section 6		
Indemnity			2,607,045	3,557,863
Medical			<u>701,247</u>	<u>1,106,995</u>
Total			3,308,292	4,664,858
Other Colleges & Universities	4	Section 7		
Indemnity			9,424,701	11,908,836
Medical			<u>2,045,004</u>	<u>2,272,780</u>
Total			11,469,706	14,181,616
All Others	5-17 & 95	Section 8		
Indemnity			111,145,535	136,870,882
Medical			<u>16,922,411</u>	<u>23,615,124</u>
Total			128,067,946	160,486,006
Grand Total		Section 1		
Indemnity			201,514,829	256,747,755
Medical			<u>35,794,584</u>	<u>49,151,838</u>
Total			237,309,413	305,899,593



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Summary
Exhibit 3

Summary of Reserve Estimates - Discounted at 6%

<u>Cluster</u>	<u>Cluster #</u>	<u>Report Section</u>	<u>Loss Reserve Estimate</u>	
			<u>Low End</u>	<u>High End</u>
Department of Mental Retardation	1	Section 2		
Indemnity			18,863,289	23,350,912
Medical			<u>2,581,473</u>	<u>3,708,558</u>
Total			21,444,762	27,059,470
Department of Mental Health	2	Section 3		
Indemnity			15,152,898	19,076,568
Medical			<u>2,555,837</u>	<u>2,917,324</u>
Total			17,708,735	21,993,892
Department of Corrections	3	Section 4		
Indemnity			32,285,268	45,594,651
Medical			<u>8,345,866</u>	<u>12,232,349</u>
Total			40,631,134	57,827,001
UMass - Amherst	4	Section 5		
Indemnity			4,133,829	6,268,420
Medical			<u>1,148,951</u>	<u>1,322,261</u>
Total			5,282,780	7,590,681
UMass - Medical School	4	Section 6		
Indemnity			2,415,963	3,295,270
Medical			<u>659,730</u>	<u>1,034,554</u>
Total			3,075,693	4,329,824
Other Colleges & Universities	4	Section 7		
Indemnity			8,635,806	10,931,610
Medical			<u>1,911,329</u>	<u>2,123,486</u>
Total			10,547,135	13,055,096
All Others	5-17 & 95	Section 8		
Indemnity			97,916,198	121,176,500
Medical			<u>15,263,452</u>	<u>21,292,992</u>
Total			113,179,650	142,469,491
Grand Total		Section 1		
Indemnity			179,403,251	229,693,930
Medical			<u>32,466,639</u>	<u>44,631,525</u>
Total			211,869,890	274,325,455



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Summary
Exhibit 4

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

<u>Cluster</u>	<u>Cluster #</u>	<u>Report Section</u>	<u>Current Ult Loss Estimate less Previous Ult Loss Estimate</u>	
			<u>Low End</u>	<u>High End</u>
Department of Mental Retardation	1	Section 2		
Indemnity			748,537	496,802
Medical			(616,553)	(543,208)
Total			131,984	(46,407)
Department of Mental Health	2	Section 3		
Indemnity			(1,444,807)	(1,860,297)
Medical			(507,894)	(792,711)
Total			(1,952,702)	(2,653,008)
Department of Corrections	3	Section 4		
Indemnity			(13,450,034)	(16,916,140)
Medical			(1,166,253)	(682,397)
Total			(14,616,288)	(17,598,537)
UMass - Amherst	4	Section 5		
Indemnity			(573,995)	(938,372)
Medical			(142,000)	(407,836)
Total			(715,995)	(1,346,207)
UMass - Medical School	4	Section 6		
Indemnity			(236,000)	(500,845)
Medical			(180,000)	(307,600)
Total			(416,000)	(808,445)
Other Colleges & Universities	4	Section 7		
Indemnity			611,444	135,512
Medical			(266,095)	(689,324)
Total			345,349	(553,811)
All Others	5-17 & 95	Section 8		
Indemnity			(669,076)	(4,273,045)
Medical			(2,476,872)	(5,039,252)
Total			(3,145,948)	(9,312,297)
Grand Total		Section 1		
Indemnity			(15,013,932)	(23,856,386)
Medical			(5,355,668)	(8,462,327)
Total			(20,369,599)	(32,318,713)



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Summary
Exhibit 5

Summary of Estimates for 2011-12 Fiscal Year

<u>Cluster</u>	<u>Cluster #</u>	<u>Report Section</u>	<u>Ultimate Loss Estimate</u>		<u>Average</u>	<u>Payroll (000)</u>	<u>Loss Rate</u>
			<u>Low End</u>	<u>High End</u>			
Department of Mental Retardation	1	Section 2					
Indemnity			3,793,000	3,995,000			
Medical			<u>1,565,000</u>	<u>1,826,000</u>			
Total			5,358,000	5,821,000	5,589,500	295,908	1.889
Department of Mental Health	2	Section 3					
Indemnity			2,799,000	3,053,000			
Medical			<u>938,000</u>	<u>956,000</u>			
Total			3,737,000	4,009,000	3,873,000	177,399	2.183
Department of Corrections	3	Section 4					
Indemnity			6,850,000	10,569,000			
Medical			<u>1,951,000</u>	<u>3,203,550</u>			
Total			8,801,000	13,772,550	11,286,775	348,187	3.242
UMass - Amherst	4	Section 5					
Indemnity			1,230,000	1,411,000			
Medical			<u>605,000</u>	<u>633,000</u>			
Total			1,835,000	2,044,000	1,939,500	467,753	0.415
UMass - Medical School	4	Section 6					
Indemnity			1,009,000	1,045,000			
Medical			<u>404,000</u>	<u>471,450</u>			
Total			1,413,000	1,516,450	1,464,725	381,943	0.383
Other Colleges & Universities	4	Section 7					
Indemnity			2,801,000	2,898,000			
Medical			<u>1,174,000</u>	<u>1,189,000</u>			
Total			3,975,000	4,087,000	4,031,000	1,202,674	0.335
All Others	5-17 & 95	Section 8					
Indemnity			24,995,000	28,674,000			
Medical			<u>7,000,000</u>	<u>9,548,000</u>			
Total			31,995,000	38,222,000	35,108,500	3,006,849	1.168
Grand Total		Section 1					
Indemnity			43,477,000	51,645,000			
Medical			<u>13,637,000</u>	<u>17,827,000</u>			
Total			57,114,000	69,472,000	63,293,000	5,880,714	1.076



**Commonwealth of Massachusetts
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Summary
Exhibit 6

Summary of Reserve Estimates by Cluster

Cluster	Cluster / Report Section	Undiscounted		Discounted at 4%		Discounted at 6%	
		Low End	High End	Low End	High End	Low End	High End
DMR	1 / 2	29,172,809	36,231,233	23,405,748	29,409,150	21,444,762	27,059,470
DMH	2 / 3	25,483,827	31,192,650	19,669,094	24,329,547	17,708,735	21,993,892
DOC	3 / 4	60,355,024	84,466,186	45,533,332	64,460,689	40,631,134	57,827,001
UMass - Amherst	4 / 5	7,528,157	10,581,616	5,855,295	8,367,727	5,282,780	7,590,681
UMass - Medical	4 / 6	3,953,813	5,575,802	3,308,292	4,664,858	3,075,693	4,329,824
Other Colleges & Univ's	4 / 7	13,948,159	17,187,159	11,469,706	14,181,616	10,547,135	13,055,096
All Other Dept's (incl. MDOT, excl. MTA)	5 / 8	173,814,096	215,401,995	128,067,946	160,486,006	113,179,650	142,469,491
Total		314,255,886	400,636,641	237,309,413	305,899,593	211,869,890	274,325,455

All Other Departments	Cluster / Report Section	Undiscounted		Discounted at 4%		Discounted at 6%	
		Low End	High End	Low End	High End	Low End	High End
MDOT Agencies (excl. MTA)	5 / 8	12,693,564	15,792,816	9,351,954	11,764,414	8,264,468	10,442,928
Non-MDOT Agencies	5 / 8	161,120,532	199,609,179	118,715,992	148,721,592	104,915,181	132,026,563



**Commonwealth of Massachusetts
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[Summary](#)
[Exhibit 7](#)

Summary of Reserve Estimates by College

Cluster	Undiscounted		Discounted at 4%		Discounted at 6%	
	Low End	High End	Low End	High End	Low End	High End
Berkshire Community College	156,000	192,226	128,280	158,611	117,962	146,012
Bridgewater State College	1,116,675	1,375,986	918,253	1,135,365	844,392	1,045,177
Bristol Community College	341,057	420,256	280,454	346,765	257,896	319,220
Bunker Hill Community College	472,043	581,660	388,166	479,944	356,944	441,820
Cape Cod Community College	202,244	249,208	166,307	205,629	152,930	189,295
Fitchburg State College	678,517	836,080	557,951	689,873	513,072	635,073
Framingham State College	553,518	682,054	455,163	562,782	418,552	518,078
Greenfield Community College	111,266	137,104	91,495	113,129	84,136	104,142
Holyoke Community College	306,613	377,813	252,130	311,744	231,850	286,981
Mass Bay Community College	203,902	251,252	167,671	207,315	154,184	190,847
Mass College of Art	362,079	446,160	297,741	368,139	273,792	338,896
Mass Maritime Academy	326,469	402,281	268,459	331,934	246,865	305,566
Massachusetts College of Liberal Arts	242,453	298,754	199,371	246,511	183,335	226,929
Massasoit Community College	642,376	791,547	528,232	653,128	485,744	601,247
Middlesex Community College	270,090	332,810	222,098	274,611	204,233	252,797
Mt Wachusett Community College	298,799	368,185	245,705	303,800	225,942	279,668
North Essex Community College	197,986	243,962	162,806	201,300	149,711	185,310
North Shore Community College	312,438	384,991	256,921	317,667	236,255	292,433
Quinsigamond Community College	472,273	581,943	388,354	480,177	357,117	442,034
Roxbury Community College	216,071	266,246	177,677	219,687	163,385	202,236
Salem State College	799,992	985,763	657,841	813,382	604,927	748,770
Springfield Tech Community College	944,403	1,163,710	776,592	960,210	714,126	883,936
UMass (Boston)	1,060,258	1,306,468	871,860	1,078,004	801,732	992,373
UMass (Dartmouth)	1,247,800	1,537,560	1,026,078	1,268,685	943,545	1,167,906
University of Lowell	1,144,549	1,410,333	941,174	1,163,706	865,470	1,071,267
Westfield State College	842,308	1,037,907	692,638	856,406	636,926	788,378
Worcester State College	425,981	524,901	350,288	433,111	322,113	398,707
Total	13,948,159	17,187,159	11,469,706	14,181,616	10,547,135	13,055,096



**Commonwealth of Massachusetts
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Summary
Exhibit 8
Page 1

**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		97,712,219			115,883,047	126,428,588	18,170,828	28,716,370		
6/30/82-83		17,770,900	19,121,694		18,705,338	19,672,157	934,438	1,901,257		
6/30/83-84		25,658,736	28,367,335		27,851,766	29,221,770	2,193,030	3,563,034		
6/30/84-85	1,823,085	38,317,600	42,489,797	39,591,905	39,855,700	41,951,557	1,538,100	3,633,957	2.186	2.301
6/30/85-86	1,952,445	51,548,281	57,582,296	53,628,249	54,402,356	56,026,060	2,854,075	4,477,779	2.786	2.870
6/30/86-87	2,220,820	56,971,275	62,153,282	59,732,200	59,058,562	61,500,422	2,087,288	4,529,147	2.659	2.769
6/30/87-88	2,885,583	82,111,884	90,719,980	87,030,943	87,441,456	89,878,709	5,329,573	7,766,825	3.030	3.115
6/30/88-89	3,098,180	81,174,218	88,061,726	86,398,999	86,791,596	88,951,024	5,617,379	7,776,806	2.801	2.871
6/30/89-90	3,079,763	78,295,168	84,874,820	84,432,181	83,348,856	85,058,479	5,053,688	6,763,311	2.706	2.762
6/30/90-91	2,914,364	64,896,289	74,857,601	71,094,903	69,758,935	74,135,696	4,862,646	9,239,407	2.394	2.544
6/30/91-92	2,880,434	43,544,958	48,388,854	47,679,674	47,409,013	48,711,766	3,864,055	5,166,807	1.646	1.691
6/30/92-93	2,887,238	29,971,712	34,180,486	33,342,772	32,947,124	34,518,630	2,975,412	4,546,918	1.141	1.196
6/30/93-94	3,056,850	32,319,402	36,746,940	36,205,145	35,863,000	36,957,000	3,543,598	4,637,598	1.173	1.209
6/30/94-95	3,158,808	29,654,537	33,868,444	33,685,848	33,587,423	34,359,476	3,932,886	4,704,939	1.063	1.088
6/30/95-96	3,301,791	28,157,568	32,568,581	32,497,022	32,144,029	32,942,516	3,986,461	4,784,949	0.974	0.998
6/30/96-97	3,902,868	28,520,097	33,411,105	33,367,419	33,252,684	33,990,912	4,732,588	5,470,815	0.852	0.871
6/30/97-98	3,776,138	31,117,920	36,620,729	36,549,543	36,447,642	37,151,756	5,329,722	6,033,836	0.965	0.984
6/30/98-99	4,017,530	29,082,684	35,072,237	35,034,941	35,025,000	35,742,000	5,942,316	6,659,316	0.872	0.890
6/30/99-00	4,221,786	32,884,259	40,600,374	40,480,767	40,472,000	41,308,000	7,587,741	8,423,741	0.959	0.978
6/30/00-01	4,310,725	38,334,179	47,787,832	47,586,338	46,896,492	48,469,000	8,562,313	10,134,821	1.088	1.124
6/30/01-02	4,438,755	33,924,619	43,468,541	43,370,556	43,358,000	44,225,000	9,433,381	10,300,381	0.977	0.996
6/30/02-03	4,423,888	33,353,202	43,603,595	43,520,234	42,828,450	44,363,000	9,475,248	11,009,798	0.968	1.003
6/30/03-04	4,482,207	33,417,015	44,319,317	44,270,686	43,615,043	45,134,850	10,198,028	11,717,835	0.973	1.007
6/30/04-05	4,639,517	34,562,523	47,443,402	46,419,544	45,588,000	47,673,850	11,025,477	13,111,327	0.983	1.028
6/30/05-06	4,938,165	30,138,853	43,051,786	44,319,665	42,509,000	44,546,100	12,370,147	14,407,247	0.861	0.902
6/30/06-07	5,183,126	27,454,257	41,129,062	43,760,159	40,466,000	44,211,350	13,011,743	16,757,093	0.781	0.853
6/30/07-08	5,508,425	29,132,319	47,448,168	50,117,439	46,445,000	50,445,850	17,312,681	21,313,531	0.843	0.916
6/30/08-09	5,447,676	26,788,024	48,735,992	51,137,566	48,252,000	52,539,350	21,463,976	25,751,326	0.886	0.964
6/30/09-10	5,525,579	23,120,370	50,965,835	53,848,282	50,169,000	56,795,300	27,048,630	33,674,930	0.908	1.028
6/30/10-11	5,712,303	20,336,831	58,663,301	59,126,541	56,071,000	63,556,100	35,734,169	43,219,269	0.982	1.113
6/30/11-12	5,880,714	9,029,730	60,274,479	62,401,203	57,114,000	69,472,000	48,084,270	60,442,270	0.971	1.181
Total	109,668,762	1,219,301,627	1,456,577,592	1,400,630,723	1,533,557,513	1,619,938,268	314,255,886	400,636,641		
Tot 6/30/84-12	109,668,762	1,078,159,772	1,409,088,563	1,400,630,723	1,371,117,361	1,444,615,753	292,957,589	366,455,980	1.250	1.317

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, 2012

Department of Mental Retardation - Cluster 1

Total Indemnity (Including Lump Sums) + Medical

Summary of Ultimate Losses

Summary

Exhibit 8

Page 2

(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		21,130,386			26,035,045	28,228,454	4,904,659	7,098,069		
6/30/82-83		4,882,760	5,367,575		5,240,254	5,503,890	357,494	621,129		
6/30/83-84		9,314,639	11,004,553		10,811,538	11,239,749	1,496,900	1,925,110		
6/30/84-85	181,560	7,521,690	7,718,396	7,724,546	7,597,041	7,672,438	75,351	150,747	4.184	4.226
6/30/85-86	195,247	11,874,262	12,303,724	12,297,578	12,206,000	12,310,000	331,739	435,739	6.252	6.305
6/30/86-87	224,370	15,376,859	16,024,975	16,036,728	15,665,316	15,819,280	288,457	442,421	6.982	7.051
6/30/87-88	262,864	21,527,607	24,355,217	22,577,234	22,573,000	23,468,000	1,045,393	1,940,393	8.587	8.928
6/30/88-89	283,884	23,647,704	24,966,947	24,971,389	24,967,000	24,971,000	1,319,296	1,323,296	8.795	8.796
6/30/89-90	285,078	18,647,750	19,790,046	19,923,512	18,834,576	19,020,384	186,826	372,634	6.607	6.672
6/30/90-91	267,732	13,753,946	14,711,430	14,704,520	13,935,000	14,044,000	181,054	290,054	5.205	5.246
6/30/91-92	261,442	9,850,688	10,567,156	10,557,970	10,558,000	10,567,000	707,312	716,312	4.038	4.042
6/30/92-93	259,992	5,942,408	6,396,598	6,390,027	6,035,000	6,078,000	92,592	135,592	2.321	2.338
6/30/93-94	257,062	4,761,076	5,131,672	5,126,667	4,871,000	4,906,000	109,924	144,924	1.895	1.908
6/30/94-95	255,854	3,009,043	3,247,179	3,247,680	3,247,000	3,248,000	237,957	238,957	1.269	1.269
6/30/95-96	255,539	3,981,910	4,333,025	4,328,204	4,328,000	4,333,000	346,090	351,090	1.694	1.696
6/30/96-97	270,071	3,349,599	3,653,789	3,653,773	3,653,000	3,654,000	303,401	304,401	1.353	1.353
6/30/97-98	245,367	3,309,685	3,662,025	3,657,950	3,658,000	3,678,000	348,315	368,315	1.491	1.499
6/30/98-99	251,453	2,901,673	3,227,852	3,228,377	3,227,000	3,242,000	325,327	340,327	1.283	1.289
6/30/99-00	255,641	3,026,058	3,404,888	3,403,274	3,403,000	3,421,000	376,942	394,942	1.331	1.338
6/30/00-01	263,918	4,376,328	4,977,269	4,959,479	4,959,000	5,004,000	582,672	627,672	1.879	1.896
6/30/01-02	267,598	3,050,329	3,502,149	3,503,224	3,502,000	3,520,000	451,671	469,671	1.309	1.315
6/30/02-03	274,465	3,741,621	4,382,703	4,372,531	4,372,000	4,401,000	630,379	659,379	1.593	1.603
6/30/03-04	272,384	3,774,416	4,495,351	4,482,726	4,482,000	4,514,000	707,584	739,584	1.645	1.657
6/30/04-05	273,647	3,628,298	4,378,161	4,307,698	4,256,000	4,378,000	627,702	749,702	1.555	1.600
6/30/05-06	285,139	3,512,627	4,485,275	4,461,982	4,413,000	4,485,000	900,373	972,373	1.548	1.573
6/30/06-07	298,516	3,499,476	4,538,839	4,554,752	4,475,000	4,559,000	975,524	1,059,524	1.499	1.527
6/30/07-08	314,231	2,193,743	3,185,218	3,613,369	3,135,000	3,613,000	941,257	1,419,257	0.998	1.150
6/30/08-09	302,998	2,807,455	4,260,675	4,463,625	4,121,000	4,545,000	1,313,545	1,737,545	1.360	1.500
6/30/09-10	297,252	3,180,188	5,648,578	5,382,772	5,267,000	5,723,000	2,086,812	2,542,812	1.772	1.925
6/30/10-11	292,432	2,127,491	5,094,406	5,019,750	4,891,000	5,167,000	2,763,509	3,039,509	1.673	1.767
6/30/11-12	295,908	1,201,247	5,733,912	5,331,180	5,358,000	5,821,000	4,156,753	4,619,753	1.811	1.967
Total	7,451,644	224,902,962	234,549,583	216,282,517	254,075,771	261,134,194	29,172,809	36,231,233		
Tot 6/30/84-12	7,451,644	189,575,177	218,177,454	216,282,517	211,988,933	216,162,101	22,413,756	26,586,924	2.845	2.901

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, 2012
Department of Mental Health - Cluster 2
Total Indemnity (Including Lump Sums) + Medical
Summary of Ultimate Losses

Summary
Exhibit 8
Page 3

(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		19,840,435			23,661,979	25,084,938	3,821,544	5,244,503		
6/30/82-83		2,639,490	2,720,967		2,656,434	2,786,897	16,945	147,407		
6/30/83-84		2,864,047	3,084,462		3,012,665	3,158,385	148,619	294,339		
6/30/84-85	142,561	4,529,831	5,097,731	4,693,552	4,694,000	5,098,000	164,169	568,169	3.293	3.576
6/30/85-86	153,298	4,891,866	5,161,468	5,148,967	5,149,000	5,162,000	257,134	270,134	3.359	3.367
6/30/86-87	176,136	6,911,248	7,337,364	7,346,496	7,054,000	7,179,000	142,752	267,752	4.005	4.076
6/30/87-88	206,319	13,104,804	14,522,699	13,928,531	14,280,985	14,523,000	1,176,180	1,418,196	6.922	7.039
6/30/88-89	222,806	14,006,331	15,595,846	14,997,178	15,356,733	15,596,000	1,350,402	1,589,669	6.892	7.000
6/30/89-90	223,751	13,298,877	14,898,801	14,347,220	14,317,000	14,888,000	1,018,123	1,589,123	6.399	6.654
6/30/90-91	210,162	9,486,260	10,625,119	10,315,802	9,785,000	9,941,000	298,740	454,740	4.656	4.730
6/30/91-92	205,241	5,518,908	5,997,331	5,993,621	5,672,000	5,770,000	153,092	251,092	2.764	2.811
6/30/92-93	176,705	4,549,833	4,985,334	4,979,452	4,979,000	4,986,000	429,167	436,167	2.818	2.822
6/30/93-94	173,075	3,009,247	3,356,263	3,352,701	3,353,000	3,356,000	343,753	346,753	1.937	1.939
6/30/94-95	178,317	3,648,607	4,228,910	4,103,395	4,103,000	4,229,000	454,393	580,393	2.301	2.372
6/30/95-96	175,996	2,720,382	3,031,258	3,031,321	2,807,000	2,846,000	86,618	125,618	1.595	1.617
6/30/96-97	190,083	2,094,352	2,335,145	2,343,449	2,335,000	2,343,000	240,648	248,648	1.228	1.233
6/30/97-98	177,278	3,418,162	3,875,360	3,868,196	3,867,000	3,876,000	448,838	457,838	2.181	2.186
6/30/98-99	189,080	2,311,900	2,640,612	2,648,954	2,641,000	2,649,000	329,100	337,100	1.397	1.401
6/30/99-00	194,494	2,908,940	3,347,646	3,351,613	3,347,000	3,352,000	438,060	443,060	1.721	1.723
6/30/00-01	201,568	4,005,912	4,694,082	4,680,875	4,598,600	4,694,000	592,688	688,088	2.281	2.329
6/30/01-02	203,105	3,220,562	3,878,108	3,875,043	3,874,000	3,880,000	653,438	659,438	1.907	1.910
6/30/02-03	202,515	2,575,320	3,126,213	3,141,411	3,126,000	3,141,000	550,680	565,680	1.544	1.551
6/30/03-04	189,588	4,465,790	5,579,598	5,543,088	5,543,000	5,579,000	1,077,210	1,113,210	2.924	2.943
6/30/04-05	186,990	3,584,877	4,575,767	4,420,296	4,420,000	4,575,000	835,123	990,123	2.364	2.447
6/30/05-06	193,254	2,624,120	3,455,108	3,598,990	3,448,000	3,606,000	823,880	981,880	1.784	1.866
6/30/06-07	203,359	2,646,961	3,714,075	3,787,620	3,715,000	3,788,000	1,068,040	1,141,040	1.827	1.863
6/30/07-08	212,083	2,157,001	3,127,376	3,480,035	3,127,000	3,480,000	969,999	1,322,999	1.474	1.641
6/30/08-09	204,679	2,222,752	3,551,417	3,811,084	3,551,000	3,811,000	1,328,248	1,588,248	1.735	1.862
6/30/09-10	184,688	1,396,606	2,518,901	2,998,653	2,718,000	2,998,000	1,321,394	1,601,394	1.472	1.623
6/30/10-11	169,689	1,716,835	3,870,721	3,755,459	3,756,000	4,009,000	2,039,165	2,292,165	2.213	2.363
6/30/11-12	177,399	831,319	3,737,359	3,863,408	3,737,000	4,009,000	2,905,681	3,177,681	2.107	2.260
Total	5,324,220	153,201,570	158,671,042	151,406,408	178,685,397	184,394,220	25,483,827	31,192,650		
Tot 6/30/84-12	5,324,220	127,857,599	152,865,612	151,406,408	149,354,318	153,364,000	21,496,719	25,506,401	2.805	2.880

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, 2012
Department of Corrections - Cluster 3
Total Indemnity (Including Lump Sums) + Medical
Summary of Ultimate Losses

Summary
Exhibit 8
Page 4

(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		4,290,520			5,663,083	7,212,566	1,372,563	2,922,046		
6/30/82-83		2,912,565	3,252,354		3,170,521	3,255,901	257,956	343,336		
6/30/83-84		2,135,674	2,203,978		2,143,623	2,218,623	7,949	82,949		
6/30/84-85	115,258	4,268,609	5,551,714	4,380,850	4,737,181	4,969,000	468,571	700,391	4.110	4.311
6/30/85-86	123,937	6,947,276	9,738,315	7,166,567	8,056,185	8,455,000	1,108,909	1,507,724	6.500	6.822
6/30/86-87	142,396	4,532,911	4,719,377	4,728,320	4,720,000	4,728,000	187,089	195,089	3.315	3.320
6/30/87-88	166,792	7,243,616	7,843,403	7,587,428	7,584,000	7,847,000	340,384	603,384	4.547	4.705
6/30/88-89	180,117	8,328,858	9,447,500	8,715,882	8,715,000	9,447,000	386,142	1,118,142	4.839	5.245
6/30/89-90	180,883	10,949,384	11,587,585	11,580,433	11,580,000	11,587,000	630,616	637,616	6.402	6.406
6/30/90-91	169,902	11,850,879	16,410,688	12,987,811	12,988,000	16,411,000	1,137,121	4,560,121	7.644	9.659
6/30/91-92	165,926	6,003,883	6,517,981	6,518,709	6,517,000	6,520,000	513,117	516,117	3.928	3.929
6/30/92-93	174,198	4,479,265	4,900,117	4,905,194	4,899,000	4,906,000	419,735	426,735	2.812	2.816
6/30/93-94	185,946	6,326,608	7,013,236	7,014,071	7,012,000	7,016,000	685,392	689,392	3.771	3.773
6/30/94-95	194,051	7,472,050	8,419,268	8,412,830	8,413,000	8,419,000	940,950	946,950	4.335	4.339
6/30/95-96	205,262	6,528,672	7,407,160	7,408,453	7,405,000	7,410,000	876,328	881,328	3.608	3.610
6/30/96-97	234,073	7,745,712	8,855,393	8,857,035	8,853,000	8,860,000	1,107,288	1,114,288	3.782	3.785
6/30/97-98	221,865	9,816,106	11,465,496	11,427,747	11,427,000	11,465,000	1,610,894	1,648,894	5.150	5.168
6/30/98-99	256,071	9,332,079	11,113,980	11,088,654	11,089,000	11,114,000	1,756,921	1,781,921	4.330	4.340
6/30/99-00	268,486	10,146,176	12,261,830	12,223,482	12,223,000	12,262,000	2,076,824	2,115,824	4.553	4.567
6/30/00-01	279,182	13,383,124	16,416,744	16,314,556	15,707,892	16,417,000	2,324,768	3,033,876	5.626	5.880
6/30/01-02	283,070	10,725,098	13,356,158	13,313,008	13,313,000	13,356,000	2,587,902	2,630,902	4.703	4.718
6/30/02-03	289,846	10,855,528	13,736,054	13,692,064	13,023,450	13,736,000	2,167,922	2,880,472	4.493	4.739
6/30/03-04	293,771	9,864,841	12,749,677	12,729,834	12,101,043	12,750,000	2,236,203	2,885,159	4.119	4.340
6/30/04-05	291,382	10,678,073	14,146,822	13,588,720	13,589,000	14,147,000	2,910,927	3,468,927	4.664	4.855
6/30/05-06	294,709	7,825,917	10,688,475	11,053,112	10,611,000	11,131,000	2,785,083	3,305,083	3.600	3.777
6/30/06-07	289,603	6,122,321	8,742,884	9,693,339	9,165,000	9,694,000	3,042,679	3,571,679	3.165	3.347
6/30/07-08	354,668	5,807,518	8,746,101	10,714,678	9,582,000	10,714,000	3,774,482	4,906,482	2.702	3.021
6/30/08-09	332,413	4,740,542	7,794,788	10,135,948	8,708,000	10,517,000	3,967,458	5,776,458	2.620	3.164
6/30/09-10	336,338	2,831,389	5,452,385	9,581,948	7,213,000	9,949,000	4,381,611	7,117,611	2.145	2.958
6/30/10-11	333,783	3,086,264	8,045,233	11,745,722	9,498,000	12,332,500	6,411,736	9,246,236	2.846	3.695
6/30/11-12	348,187	921,493	5,491,279	13,116,628	8,801,000	13,772,550	7,879,507	12,851,057	2.528	3.956
Total	6,712,116	218,152,954	274,075,972	280,683,021	278,507,978	302,619,140	60,355,024	84,466,186		
Tot 6/30/84-12	6,712,116	208,814,195	268,619,640	280,683,021	267,530,751	289,932,050	58,716,556	81,117,855	3.986	4.320

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, 2012

University of Massachusetts (Amherst) - Cluster 4

Total Indemnity (Including Lump Sums) + Medical

Summary of Ultimate Losses

Summary

Exhibit 8

Page 5

(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		2,207,273			2,600,897	2,724,843	393,624	517,570		
6/30/82-83		225,530	228,499		229,124	232,625	3,594	7,095		
6/30/83-84		220,938	224,032		224,907	230,145	3,969	9,207		
6/30/84-85	176,924	1,856,966	2,242,411	1,884,998	1,884,805	2,243,546	27,839	386,580	1.065	1.268
6/30/85-86	188,662	1,676,445	2,277,774	1,697,661	1,697,741	1,988,208	21,296	311,763	0.900	1.054
6/30/86-87	212,277	2,482,506	3,346,421	2,515,202	2,515,000	3,347,000	32,494	864,494	1.185	1.577
6/30/87-88	243,118	2,277,944	2,315,421	2,314,441	2,315,000	2,316,000	37,056	38,056	0.952	0.953
6/30/88-89	248,990	2,098,825	2,142,132	2,143,021	2,142,000	2,143,000	43,175	44,175	0.860	0.861
6/30/89-90	250,404	679,355	697,064	704,674	696,890	705,463	17,535	26,108	0.278	0.282
6/30/90-91	235,170	2,750,093	2,881,447	2,880,444	2,881,000	2,882,000	130,907	131,907	1.225	1.225
6/30/91-92	235,607	2,922,997	3,347,986	3,132,086	3,132,000	3,348,000	209,003	425,003	1.329	1.421
6/30/92-93	241,161	712,440	751,164	751,318	719,696	740,317	7,256	27,877	0.298	0.307
6/30/93-94	254,321	1,195,789	1,419,787	1,301,582	1,218,000	1,246,000	22,211	50,211	0.479	0.490
6/30/94-95	256,665	1,067,175	1,176,775	1,174,596	1,078,423	1,111,476	11,248	44,301	0.420	0.433
6/30/95-96	265,739	835,707	933,684	932,546	844,425	870,865	8,718	35,158	0.318	0.328
6/30/96-97	296,336	700,495	809,588	808,962	707,847	730,726	7,352	30,232	0.239	0.247
6/30/97-98	296,982	651,817	739,209	741,283	666,000	685,000	14,183	33,183	0.224	0.231
6/30/98-99	299,530	879,447	1,023,543	1,022,216	1,022,000	1,024,000	142,553	144,553	0.341	0.342
6/30/99-00	323,627	1,572,444	1,919,591	1,900,774	1,901,000	1,919,000	328,556	346,556	0.587	0.593
6/30/00-01	338,348	1,658,822	2,051,889	2,030,682	2,031,000	2,052,000	372,178	393,178	0.600	0.606
6/30/01-02	329,555	1,179,755	1,422,868	1,417,704	1,418,000	1,423,000	238,245	243,245	0.430	0.432
6/30/02-03	329,179	1,010,210	1,255,836	1,252,044	1,252,000	1,256,000	241,790	245,790	0.380	0.382
6/30/03-04	344,547	414,340	520,502	532,515	520,000	533,000	105,660	118,660	0.151	0.155
6/30/04-05	325,530	912,330	1,177,999	1,170,181	1,169,000	1,180,000	256,670	267,670	0.359	0.362
6/30/05-06	403,750	640,143	847,293	980,130	847,000	980,000	206,857	339,857	0.210	0.243
6/30/06-07	420,219	646,248	896,299	1,047,927	896,000	1,048,000	249,752	401,752	0.213	0.249
6/30/07-08	425,998	749,181	1,080,875	1,205,427	1,077,000	1,209,000	327,819	459,819	0.253	0.284
6/30/08-09	420,566	1,150,260	1,955,691	1,859,760	1,859,000	1,955,000	708,740	804,740	0.442	0.465
6/30/09-10	433,206	630,280	1,503,028	1,693,173	1,503,000	1,694,000	872,720	1,063,720	0.347	0.391
6/30/10-11	444,673	663,244	1,743,286	1,667,987	1,668,000	1,743,000	1,004,756	1,079,756	0.375	0.392
6/30/11-12	467,753	354,598	2,044,560	1,835,386	1,835,000	2,044,000	1,480,402	1,689,402	0.392	0.437
Total	8,708,837	37,023,597	44,976,653	42,598,721	44,551,754	47,605,214	7,528,157	10,581,616		
Tot 6/30/84-12	8,708,837	34,369,856	44,524,122	42,598,721	41,496,826	44,417,601	7,126,970	10,047,744	0.476	0.510

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, 2012**

Summary
Exhibit 8
Page 6

**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	329,074		327,672	335,649	106	8,083		
6/30/83-84		1,494,800	1,501,405		1,523,932	1,553,573	29,132	58,773		
6/30/84-85	116,303	1,015,470	1,020,505	1,022,379	1,033,339	1,052,834	17,869	37,364	0.888	0.905
6/30/85-86	123,981	2,733,296	2,746,853	2,749,960	2,747,432	2,752,662	14,136	19,367	2.216	2.220
6/30/86-87	139,388	3,694,816	4,313,116	3,712,636	3,712,000	4,012,705	17,184	317,889	2.663	2.879
6/30/87-88	159,499	3,315,292	3,593,878	3,330,175	3,330,000	3,462,547	14,708	147,255	2.088	2.171
6/30/88-89	180,644	3,112,432	3,137,418	3,146,676	3,167,349	3,268,054	54,917	155,622	1.753	1.809
6/30/89-90	142,494	3,797,545	3,848,813	3,867,916	3,865,186	3,987,422	67,641	189,877	2.713	2.798
6/30/90-91	143,694	1,403,520	1,427,626	1,427,451	1,427,065	1,473,696	23,545	70,176	0.993	1.026
6/30/91-92	155,170	2,187,492	2,232,781	2,232,057	2,221,204	2,296,867	33,712	109,375	1.431	1.480
6/30/92-93	163,283	1,033,363	1,058,803	1,058,360	1,048,102	1,085,031	14,739	51,668	0.642	0.665
6/30/93-94	177,184	2,489,918	2,573,386	2,570,619	2,570,000	2,573,000	80,082	83,082	1.450	1.452
6/30/94-95	188,391	937,761	958,751	958,567	958,000	958,000	20,239	20,239	0.509	0.509
6/30/95-96	201,751	874,675	895,099	895,059	886,424	913,492	11,749	38,817	0.439	0.453
6/30/96-97	231,872	618,302	628,177	629,188	628,838	647,186	10,535	28,883	0.271	0.279
6/30/97-98	232,237	1,004,193	1,042,907	1,041,959	1,019,642	1,054,756	15,448	50,563	0.439	0.454
6/30/98-99	232,075	937,877	965,935	966,137	966,000	967,000	28,123	29,123	0.416	0.417
6/30/99-00	211,819	872,750	917,936	916,445	916,000	918,000	43,250	45,250	0.432	0.433
6/30/00-01	215,099	940,632	987,720	986,809	987,000	988,000	46,368	47,368	0.459	0.459
6/30/01-02	227,797	543,177	574,795	575,848	574,000	575,000	30,823	31,823	0.252	0.252
6/30/02-03	242,008	1,019,063	1,103,448	1,100,137	1,099,000	1,104,000	79,937	84,937	0.454	0.456
6/30/03-04	276,758	1,259,226	1,369,746	1,367,010	1,367,000	1,385,850	107,774	126,624	0.494	0.501
6/30/04-05	260,378	357,969	402,052	457,202	403,000	466,850	45,031	108,881	0.155	0.179
6/30/05-06	317,741	1,097,498	1,253,220	1,249,811	1,250,000	1,271,100	152,502	173,602	0.393	0.400
6/30/06-07	325,922	605,124	708,251	775,225	708,000	790,350	102,876	185,226	0.217	0.242
6/30/07-08	354,130	1,783,468	2,187,734	2,084,027	2,084,000	2,217,850	300,532	434,382	0.588	0.626
6/30/08-09	362,309	769,974	1,031,993	1,103,364	1,032,000	1,121,350	262,026	351,376	0.285	0.310
6/30/09-10	383,298	761,973	1,190,700	1,273,271	1,191,000	1,291,300	429,027	529,327	0.311	0.337
6/30/10-11	394,924	718,633	1,520,785	1,520,761	1,514,000	1,551,600	795,367	832,967	0.383	0.393
6/30/11-12	381,943	308,565	1,412,731	1,493,464	1,413,000	1,516,450	1,104,435	1,207,885	0.370	0.397
Total	6,542,094	43,472,183	46,935,636	44,512,511	47,425,996	49,047,985	3,953,813	5,575,802		
Tot 6/30/84-12	6,542,094	40,194,005	45,105,157	44,512,511	44,118,580	45,702,951	3,924,576	5,508,947	0.674	0.699

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, 2012
Massachusetts Colleges & Universities - Cluster 4
Total Indemnity (Including Lump Sums) + Medical
Summary of Ultimate Losses

Summary
Exhibit 8
Page 7

(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		3,304,559			3,934,062	4,271,741	629,503	967,182		
6/30/82-83		796,317	798,495		811,448	826,578	15,131	30,261		
6/30/83-84		945,504	947,917		963,997	982,491	18,493	36,987		
6/30/84-85	357,749	1,604,929	1,609,203	1,611,363	1,635,334	1,665,739	30,405	60,810	0.457	0.466
6/30/85-86	380,112	2,253,254	2,259,801	2,262,019	2,260,269	2,264,190	7,015	10,936	0.595	0.596
6/30/86-87	423,770	2,796,307	3,048,286	2,805,135	2,805,246	3,049,437	8,940	253,130	0.662	0.720
6/30/87-88	480,405	4,726,075	5,500,056	4,740,400	4,810,472	4,934,162	84,397	208,088	1.001	1.027
6/30/88-89	495,261	1,941,183	1,947,737	1,951,238	1,973,514	2,018,971	32,331	77,788	0.398	0.408
6/30/89-90	502,691	4,008,247	4,025,192	4,025,911	4,079,203	4,184,209	70,956	175,962	0.811	0.832
6/30/90-91	482,143	1,866,079	1,875,084	1,875,051	1,875,000	1,875,000	8,921	8,921	0.389	0.389
6/30/91-92	492,539	2,150,562	2,621,549	2,167,216	2,230,809	2,394,899	80,247	244,337	0.453	0.486
6/30/92-93	524,541	1,653,844	1,672,478	1,672,288	1,679,326	1,716,282	25,482	62,438	0.320	0.327
6/30/93-94	584,853	1,634,641	2,034,539	1,670,779	1,671,000	2,035,000	36,359	400,359	0.286	0.348
6/30/94-95	587,701	2,051,520	2,096,769	2,096,045	2,096,000	2,097,000	44,480	45,480	0.357	0.357
6/30/95-96	614,868	1,850,889	1,908,473	1,907,937	1,879,180	1,920,160	28,290	69,271	0.306	0.312
6/30/96-97	700,686	1,771,425	1,849,780	1,849,654	1,849,000	1,850,000	77,575	78,575	0.264	0.264
6/30/97-98	684,415	2,334,210	2,501,901	2,496,641	2,497,000	2,502,000	162,790	167,790	0.365	0.366
6/30/98-99	707,796	1,619,506	1,774,574	1,773,518	1,773,000	1,846,000	153,494	226,494	0.250	0.261
6/30/99-00	760,477	1,665,822	1,832,814	1,835,522	1,832,000	1,836,000	166,178	170,178	0.241	0.241
6/30/00-01	811,600	2,082,026	2,366,356	2,363,188	2,363,000	2,367,000	280,974	284,974	0.291	0.292
6/30/01-02	835,038	2,719,111	3,147,951	3,134,950	3,135,000	3,148,000	415,889	428,889	0.375	0.377
6/30/02-03	825,340	1,735,208	2,046,525	2,049,250	2,046,000	2,050,000	310,792	314,792	0.248	0.248
6/30/03-04	849,216	2,177,378	2,619,117	2,616,520	2,617,000	2,712,000	439,622	534,622	0.308	0.319
6/30/04-05	992,508	1,677,822	2,063,192	2,228,066	2,063,000	2,228,000	385,178	550,178	0.208	0.224
6/30/05-06	962,878	1,985,327	2,558,734	2,618,616	2,552,000	2,716,000	566,673	730,673	0.265	0.282
6/30/06-07	1,032,930	1,524,823	2,035,283	2,305,329	2,035,000	2,305,000	510,177	780,177	0.197	0.223
6/30/07-08	1,063,597	2,496,649	3,503,421	3,474,821	3,475,000	3,503,000	978,351	1,006,351	0.327	0.329
6/30/08-09	1,073,805	1,948,636	2,993,026	3,127,792	2,986,000	3,135,000	1,037,364	1,186,364	0.278	0.292
6/30/09-10	1,084,749	2,426,627	4,676,941	4,378,329	4,378,000	4,677,000	1,951,373	2,250,373	0.404	0.431
6/30/10-11	1,134,164	1,822,430	4,303,442	3,980,857	3,981,000	4,303,000	2,158,570	2,480,570	0.351	0.379
6/30/11-12	1,202,674	742,790	4,087,397	3,975,149	3,975,000	4,087,000	3,232,210	3,344,210	0.331	0.340
Total	20,648,505	64,313,701	76,706,034	72,993,583	78,261,860	81,500,860	13,948,159	17,187,159		
Tot 6/30/84-12	20,648,505	59,267,321	74,959,621	72,993,583	72,552,353	75,420,050	13,285,031	16,152,728	0.351	0.365

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, 2012

All Other - Clusters 5-17 & 95

Total Indemnity (Including Lump Sums) + Medical

Summary of Ultimate Losses

Summary

Exhibit 8

Page 8

(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		45,483,234			52,532,169	57,450,234	7,048,935	11,967,000		
6/30/82-83		5,986,672	6,424,729		6,269,885	6,730,618	283,213	743,945		
6/30/83-84		8,683,135	9,400,987		9,171,103	9,838,804	487,969	1,155,669		
6/30/84-85	732,729	17,520,104	19,249,838	18,274,217	18,274,000	19,250,000	753,896	1,729,896	2.494	2.627
6/30/85-86	787,208	21,171,883	23,094,362	22,305,497	22,285,730	23,094,000	1,113,847	1,922,117	2.831	2.934
6/30/86-87	902,483	21,176,627	23,363,744	22,587,684	22,587,000	23,365,000	1,410,373	2,188,373	2.503	2.589
6/30/87-88	1,366,586	29,916,547	32,589,306	32,552,734	32,548,000	33,328,000	2,631,453	3,411,453	2.382	2.439
6/30/88-89	1,486,478	28,038,885	30,824,147	30,473,614	30,470,000	31,507,000	2,431,115	3,468,115	2.050	2.120
6/30/89-90	1,494,463	26,914,010	30,027,319	29,982,515	29,976,000	30,686,000	3,061,990	3,771,990	2.006	2.053
6/30/90-91	1,405,560	23,785,512	26,926,207	26,903,824	26,867,870	27,509,000	3,082,358	3,723,488	1.912	1.957
6/30/91-92	1,364,510	14,910,428	17,104,071	17,078,016	17,078,000	17,815,000	2,167,572	2,904,572	1.252	1.306
6/30/92-93	1,347,359	11,600,559	14,415,992	13,586,133	13,587,000	15,007,000	1,986,441	3,406,441	1.008	1.114
6/30/93-94	1,424,410	12,902,123	15,218,056	15,168,726	15,168,000	15,825,000	2,265,877	2,922,877	1.065	1.111
6/30/94-95	1,497,829	11,468,381	13,740,792	13,692,734	13,692,000	14,297,000	2,223,619	2,828,619	0.914	0.955
6/30/95-96	1,582,635	11,365,333	14,059,883	13,993,502	13,994,000	14,649,000	2,628,667	3,283,667	0.884	0.926
6/30/96-97	1,979,748	12,240,212	15,279,233	15,225,358	15,226,000	15,906,000	2,985,788	3,665,788	0.769	0.803
6/30/97-98	1,917,994	10,583,746	13,333,831	13,315,767	13,313,000	13,891,000	2,729,254	3,307,254	0.694	0.724
6/30/98-99	2,081,524	11,100,202	14,325,742	14,307,086	14,307,000	14,900,000	3,206,798	3,799,798	0.687	0.716
6/30/99-00	2,207,243	12,692,069	16,915,669	16,849,657	16,850,000	17,600,000	4,157,931	4,907,931	0.763	0.797
6/30/00-01	2,201,008	11,887,335	16,293,772	16,250,750	16,250,000	16,947,000	4,362,665	5,059,665	0.738	0.770
6/30/01-02	2,292,592	12,486,586	17,586,512	17,550,779	17,542,000	18,323,000	5,055,414	5,836,414	0.765	0.799
6/30/02-03	2,260,534	12,416,251	17,952,816	17,912,797	17,910,000	18,675,000	5,493,749	6,258,749	0.792	0.826
6/30/03-04	2,255,942	11,461,024	16,985,326	16,998,993	16,985,000	17,661,000	5,523,976	6,199,976	0.753	0.783
6/30/04-05	2,309,083	13,723,153	20,699,410	20,247,380	19,688,000	20,699,000	5,964,847	6,975,847	0.853	0.896
6/30/05-06	2,480,693	12,453,221	19,763,680	20,357,025	19,388,000	20,357,000	6,934,779	7,903,779	0.782	0.821
6/30/06-07	2,612,577	12,409,304	20,493,432	21,595,967	19,472,000	22,027,000	7,062,696	9,617,696	0.745	0.843
6/30/07-08	2,783,717	13,944,759	25,617,443	25,545,083	23,965,000	25,709,000	10,020,241	11,764,241	0.861	0.924
6/30/08-09	2,750,907	13,148,407	27,148,401	26,635,995	25,995,000	27,455,000	12,846,593	14,306,593	0.945	0.998
6/30/09-10	2,806,048	11,893,306	29,975,302	28,540,136	27,899,000	30,463,000	16,005,694	18,569,694	0.994	1.086
6/30/10-11	2,942,638	10,201,933	34,085,427	31,436,005	30,763,000	34,450,000	20,561,067	24,248,067	1.045	1.171
6/30/11-12	3,006,849	4,669,718	37,767,242	32,785,987	31,995,000	38,222,000	27,325,282	33,552,282	1.064	1.271
Total	54,281,345	478,234,661	620,662,672	592,153,961	652,048,757	693,636,655	173,814,096	215,401,995		
Tot 6/30/84-12	54,281,345	418,081,620	604,836,956	592,153,961	584,075,600	619,617,000	165,993,980	201,535,380	1.076	1.141

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, 2012**

Summary
Exhibit 9

**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	97,712,219	1.240	121,155,818
6/30/82-83	17,770,900	1.080	19,188,748
6/30/83-84	25,658,736	1.112	28,536,768
6/30/84-85	38,317,600	1.067	40,903,628
6/30/85-86	51,548,281	1.071	55,214,208
6/30/86-87	56,971,275	1.058	60,279,492
6/30/87-88	82,111,884	1.080	88,660,083
6/30/88-89	81,174,218	1.083	87,871,310
6/30/89-90	78,295,168	1.075	84,203,667
6/30/90-91	64,896,289	1.109	71,947,315
6/30/91-92	43,544,958	1.104	48,060,389
6/30/92-93	29,971,712	1.125	33,732,877
6/30/93-94	32,319,402	1.127	36,410,000
6/30/94-95	29,654,537	1.146	33,973,450
6/30/95-96	28,157,568	1.156	32,543,273
6/30/96-97	28,520,097	1.179	33,621,798
6/30/97-98	31,117,920	1.183	36,799,699
6/30/98-99	29,082,684	1.217	35,383,500
6/30/99-00	32,884,259	1.243	40,890,000
6/30/00-01	38,334,179	1.244	47,682,746
6/30/01-02	33,924,619	1.291	43,791,500
6/30/02-03	33,353,202	1.307	43,595,725
6/30/03-04	33,417,015	1.328	44,374,947
6/30/04-05	34,562,523	1.349	46,630,925
6/30/05-06	30,138,853	1.444	43,527,550
6/30/06-07	27,454,257	1.542	42,338,675
6/30/07-08	29,132,319	1.663	48,445,425
6/30/08-09	26,788,024	1.881	50,395,675
6/30/09-10	23,120,370	2.313	53,482,150
6/30/10-11	20,336,831	2.941	59,813,550
6/30/11-12	9,029,730	7.009	63,293,000
Total	1,219,301,627		1,576,747,891

NOTES:

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

(3) = (4) / (2)

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



Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012

Summary
Exhibit 10
Page 1

Massachusetts Colleges & Universities - Cluster 4

Allocation Methodology

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Cluster	5 Year	Initial Loss Costs		Expected Losses			Credibility	5 Year	Credibility	Distribution	CURRENT		PRIOR	
	Average	Indemnity	Medical	Indemnity	Medical	Total		Average	Weighted	of Total	Reserve Estimate		Reserve Estimate	
	Payroll							Ult Loss	Ult Loss	Losses	Low End	High End	Low End	High End
Berkshire Community College	12,760,978	0.20	0.10	25,522	12,761	38,283	20.3%	37,877	38,200	1.1%	156,000	192,226	133,581	174,282
Bridgewater State College	71,166,231	0.20	0.10	142,332	71,166	213,499	78.1%	290,291	273,445	8.0%	1,116,675	1,375,986	992,319	1,294,673
Bristol Community College	32,084,258	0.20	0.10	64,169	32,084	96,253	39.1%	63,667	83,516	2.4%	341,057	420,256	282,507	368,586
Bunker Hill Community College	37,038,920	0.20	0.10	74,078	37,039	111,117	64.9%	118,007	115,591	3.4%	472,043	581,660	439,941	573,989
Cape Cod Community College	17,455,035	0.20	0.10	34,910	17,455	52,365	25.9%	41,386	49,524	1.4%	202,244	249,208	242,400	316,258
Fitchburg State College	34,185,459	0.20	0.10	68,371	34,185	102,556	63.1%	203,357	166,151	4.9%	678,517	836,080	752,198	981,389
Framingham State College	34,036,270	0.20	0.10	68,073	34,036	102,109	40.5%	184,656	135,542	4.0%	553,518	682,054	555,960	725,358
Greenfield Community College	13,791,528	0.20	0.10	27,583	13,792	41,375	40.8%	6,758	27,246	0.8%	111,266	137,104	114,943	149,965
Holyoke Community College	30,429,053	0.20	0.10	60,858	30,429	91,287	37.8%	48,453	75,081	2.2%	306,613	377,813	280,012	365,330
Mass Bay Community College	20,886,145	0.20	0.10	41,772	20,886	62,658	29.5%	19,460	49,930	1.5%	203,902	251,252	206,607	269,559
Mass College of Art	25,939,100	0.20	0.10	51,878	25,939	77,817	56.5%	97,027	88,664	2.6%	362,079	446,160	299,128	390,271
Mass Maritime Academy	17,211,359	0.20	0.10	34,423	17,211	51,634	25.6%	162,185	79,944	2.3%	326,469	402,281	297,492	388,136
Massachusetts College of Liberal Arts	18,916,704	0.20	0.10	37,833	18,917	56,750	27.4%	66,296	59,370	1.7%	242,453	298,754	250,744	327,144
Massasoit Community College	30,227,466	0.20	0.10	60,455	30,227	90,682	60.2%	201,380	157,301	4.6%	642,376	791,547	573,621	748,401
Middlesex Community College	41,823,682	0.20	0.10	83,647	41,824	125,471	67.6%	37,765	66,138	1.9%	270,090	332,810	214,873	280,343
Mt Wachusett Community College	23,677,030	0.20	0.10	47,354	23,677	71,031	32.1%	77,681	73,168	2.1%	298,799	368,185	270,318	352,683
North Essex Community College	27,425,995	0.20	0.10	54,852	27,426	82,278	57.8%	23,836	48,482	1.4%	197,986	243,962	205,522	268,143
North Shore Community College	31,717,586	0.20	0.10	63,435	31,718	95,153	38.8%	47,116	76,508	2.2%	312,438	384,991	323,518	422,092
Quinsigamond Community College	32,586,030	0.20	0.10	65,172	32,586	97,758	39.5%	143,096	115,647	3.4%	472,273	581,943	412,683	538,426
Roxbury Community College	15,166,288	0.20	0.10	30,333	15,166	45,499	23.3%	77,343	52,910	1.5%	216,071	266,246	219,624	286,543
Salem State College	67,968,327	0.20	0.10	135,937	67,968	203,905	77.3%	193,541	195,897	5.7%	799,992	985,763	1,004,030	1,309,953
Springfield Tech Community College	30,148,113	0.20	0.10	60,296	30,148	90,444	60.1%	324,675	231,260	6.8%	944,403	1,163,710	834,315	1,088,527
UMass (Boston)	145,341,733	0.20	0.10	290,683	145,342	436,025	87.9%	235,356	259,630	7.6%	1,060,258	1,306,468	999,389	1,303,897
UMass (Dartmouth)	95,282,359	0.20	0.10	190,565	95,282	285,847	82.7%	309,690	305,554	8.9%	1,247,800	1,537,560	1,053,396	1,374,360
University of Lowell	127,956,403	0.20	0.10	255,913	127,956	383,869	86.5%	264,077	280,270	8.2%	1,144,549	1,410,333	1,049,719	1,369,563
Westfield State College	41,221,589	0.20	0.10	82,443	41,222	123,665	67.3%	246,333	206,259	6.0%	842,308	1,037,907	797,241	1,040,156
Worcester State College	35,354,380	0.20	0.10	70,709	35,354	106,063	63.9%	103,321	104,312	3.1%	425,981	524,901	407,665	531,878
Total	1,111,798,021			2,223,596	1,111,798			3,624,631	3,415,540		13,948,159	17,187,159	13,213,745	17,239,905

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, 2011



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Summary
Exhibit 10
Page 2

Massachusetts Colleges & Universities - Cluster 4

Estimated Loss Costs (Indemnity and Medical Combined)

	(1)	(2)	(3)	(4)	(5)	(6)
Cluster	2012	2011	2010	2009	2008	Coefficient of Variation
Berkshire Community College	0.078	0.815	0.158	0.038	0.388	1.084
Bridgewater State College	0.522	0.457	0.407	0.132	0.506	0.393
Bristol Community College	0.073	0.152	0.578	0.189	0.008	1.113
Bunker Hill Community College	0.397	0.563	0.433	0.053	0.107	0.709
Cape Cod Community College	0.281	0.635	0.086	0.008	0.195	1.010
Fitchburg State College	0.323	0.759	0.736	0.525	0.647	0.299
Framingham State College	0.372	0.312	0.509	0.009	1.527	1.059
Greenfield Community College	0.040	0.018	0.039	0.116	0.032	0.792
Holyoke Community College	0.016	0.476	0.216	0.069	0.017	1.229
Mass Bay Community College	0.057	0.034	0.081	0.008	0.300	1.220
Mass College of Art	0.530	0.657	0.109	0.477	0.054	0.734
Mass Maritime Academy	0.345	0.190	1.722	2.564	0.043	1.146
Massachusetts College of Liberal Arts	0.041	0.006	0.890	0.800	0.034	1.268
Massasoit Community College	0.663	0.482	1.016	0.476	0.718	0.329
Middlesex Community College	0.233	0.102	0.015	0.073	0.037	0.933
Mt Wachusett Community College	0.119	0.755	0.656	0.088	0.012	1.075
North Essex Community College	0.073	0.035	0.128	0.062	0.140	0.510
North Shore Community College	0.220	0.011	0.476	0.019	0.012	1.385
Quinsigamond Community College	0.576	0.097	0.058	0.063	1.484	1.350
Roxbury Community College	0.000	0.022	1.462	0.004	1.111	1.368
Salem State College	0.224	0.756	0.090	0.209	0.125	0.967
Springfield Tech Community College	0.582	0.878	1.242	1.683	1.011	0.383
UMass (Boston)	0.234	0.209	0.156	0.150	0.038	0.482
UMass (Dartmouth)	0.581	0.252	0.357	0.127	0.279	0.527
University of Lowell	0.183	0.202	0.262	0.246	0.144	0.232
Westfield State College	0.577	0.334	0.793	0.360	0.964	0.451
Worcester State College	0.131	0.192	0.359	0.441	0.364	0.437

NOTES:

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

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



Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012

Summary
Exhibit 10
Page 3

Massachusetts Colleges & Universities - Cluster 4

Payroll

Cluster	2012	2011	2010	2009	2008	2007	2006	2005
Berkshire Community College	12,961,874	12,765,728	12,608,194	12,477,038	12,992,058	11,898,851	11,571,324	10,685,054
Bridgewater State College	76,987,472	73,247,587	69,620,026	68,323,197	67,652,873	64,261,538	61,047,713	56,048,979
Bristol Community College	35,468,250	33,155,586	31,455,847	30,708,796	29,632,813	28,018,495	27,162,772	26,258,267
Bunker Hill Community College	41,205,115	38,164,922	35,956,105	34,871,020	34,997,441	33,161,774	31,541,772	29,120,838
Cape Cod Community College	17,381,338	17,148,486	17,159,865	18,672,490	16,912,998	15,950,229	15,226,570	14,770,711
Fitchburg State College	35,976,187	34,204,248	33,842,950	33,451,439	33,452,473	32,301,042	31,062,131	29,328,148
Framingham State College	37,321,481	33,532,654	32,772,606	33,174,219	33,380,388	30,833,277	29,662,046	27,998,424
Greenfield Community College	14,351,088	13,421,721	13,089,560	13,957,686	14,137,583	13,176,176	12,124,207	12,506,074
Holyoke Community College	31,361,111	30,596,223	30,303,801	30,190,866	29,693,264	27,429,195	26,202,662	24,123,482
Mass Bay Community College	22,339,575	21,205,789	20,707,657	20,503,198	19,674,504	19,109,225	17,901,584	17,257,398
Mass College of Art	28,328,979	26,762,645	25,447,450	24,847,648	24,308,780	22,974,607	21,431,467	19,601,643
Mass Maritime Academy	18,578,003	17,378,246	16,347,571	16,574,691	17,178,285	15,082,818	14,253,305	14,025,416
Massachusetts College of Liberal Arts	20,035,251	18,732,309	18,675,839	18,685,437	18,454,686	18,630,165	17,120,021	15,805,473
Massasoit Community College	31,525,419	30,340,130	28,826,366	31,145,834	29,299,579	27,145,154	26,147,478	25,079,665
Middlesex Community College	40,195,957	39,162,007	38,762,758	44,276,269	46,721,418	40,306,485	39,854,733	39,229,106
Mt Wachusett Community College	25,995,624	24,563,097	22,854,199	22,358,426	22,613,805	21,506,104	20,291,041	19,252,044
North Essex Community College	28,927,197	27,447,993	26,978,801	27,092,760	26,683,224	25,763,800	24,367,949	23,275,783
North Shore Community College	33,319,965	32,328,218	31,394,592	31,025,948	30,519,208	29,162,993	27,735,649	26,225,595
Quinsigamond Community College	36,409,993	34,059,973	32,268,537	30,912,984	29,278,660	27,416,465	26,247,469	24,838,269
Roxbury Community College	15,935,833	15,402,953	15,082,812	14,798,159	14,611,682	13,898,017	13,523,360	13,022,388
Salem State College	72,888,033	69,431,901	65,990,811	66,268,106	65,262,785	61,444,512	58,062,968	52,736,558
Springfield Tech Community College	30,853,455	29,918,442	29,428,123	30,327,286	30,213,259	28,750,170	28,506,180	27,834,525
UMass (Boston)	163,491,368	152,917,036	142,970,614	134,516,405	132,813,241	128,623,720	122,484,538	106,714,813
UMass (Dartmouth)	102,971,786	98,435,825	92,935,564	90,902,061	91,166,561	88,363,987	83,231,754	68,337,324
University of Lowell	144,359,303	131,389,765	122,995,978	119,667,601	121,369,367	119,277,790	111,802,758	94,257,544
Westfield State College	45,096,498	42,505,518	41,760,360	39,918,536	36,827,031	35,142,912	33,641,879	31,400,791
Worcester State College	38,408,159	35,944,721	34,512,511	34,156,985	33,749,525	31,849,376	30,672,750	28,556,062
UMass (Amherst)	467,753,393	444,672,991	433,205,775	420,565,863	425,998,100	420,218,656	403,750,092	325,529,837
UMass (Medical Center)	381,942,827	394,924,203	383,297,750	362,308,924	354,130,286	325,921,625	317,740,675	260,378,409
Total	2,052,370,532	1,973,760,916	1,901,253,022	1,856,679,871	1,843,725,875	1,757,619,156	1,684,368,848	1,464,198,619



**Commonwealth of Massachusetts
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Page 4

Massachusetts Colleges & Universities - Cluster 4

Estimated Ultimate Losses

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Indemnity					Medical				
Cluster	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
Berkshire Community College	18,528	114	15,536	71,888	0	31,857	4,666	4,429	32,192	10,174
Bridgewater State College	282,388	50,637	163,842	271,344	303,305	59,688	39,289	119,342	63,433	98,187
Bristol Community College	0	35,694	158,223	82	1,144	2,512	22,210	23,470	50,231	24,767
Bunker Hill Community College	16,932	8,446	122,260	144,683	111,475	20,507	10,155	33,436	70,140	52,001
Cape Cod Community College	6,314	0	-4,496	84,861	16,189	26,751	1,414	19,288	23,959	32,652
Fitchburg State College	191,542	104,544	176,648	213,054	64,677	24,871	71,085	72,442	46,421	51,499
Framingham State College	318,831	0	98,864	75,718	78,197	190,866	3,098	68,087	28,940	60,679
Greenfield Community College	482	5,583	0	0	0	3,975	10,601	5,097	2,362	5,690
Holyoke Community College	0	5,474	29,828	99,817	4,513	5,167	15,397	35,758	45,928	382
Mass Bay Community College	39,225	0	10,196	0	8,015	19,727	1,683	6,557	7,124	4,772
Mass College of Art	3,206	80,600	15,609	156,399	87,199	9,813	37,830	12,130	19,493	62,854
Mass Maritime Academy	3,552	267,125	256,916	22,427	38,088	3,824	157,912	24,590	10,567	25,925
Massachusetts College of Liberal Arts	0	123,981	137,506	0	0	6,292	25,561	28,777	1,056	8,306
Massasoit Community College	124,525	107,893	244,385	78,563	160,307	85,910	40,298	48,503	67,777	48,736
Middlesex Community College	1,599	16,606	0	31,327	51,341	15,883	15,535	5,655	8,471	42,409
Mt Wachusett Community College	0	5,409	111,257	160,509	2,709	2,709	14,157	38,555	24,884	28,215
North Essex Community College	17,229	6,070	17,705	3,263	9,307	20,015	10,635	16,739	6,381	11,836
North Shore Community College	0	0	93,642	0	14,868	3,521	5,810	55,774	3,533	58,432
Quinsigamond Community College	378,747	7,480	11,528	19,862	161,802	55,745	11,848	7,321	13,126	48,025
Roxbury Community College	136,346	0	207,302	10	0	25,963	557	13,199	3,340	0
Salem State College	35,517	55,227	25,530	233,967	111,068	46,149	83,211	33,619	291,117	52,298
Springfield Tech Community College	177,578	377,669	308,385	209,024	105,687	127,868	132,855	57,045	53,537	73,731
UMass (Boston)	28,611	144,980	161,133	215,795	321,905	21,386	56,463	61,499	104,341	60,669
UMass (Dartmouth)	210,344	55,337	241,647	143,382	431,489	44,338	59,904	90,428	104,624	166,957
University of Lowell	121,084	210,252	182,521	202,171	164,729	53,273	84,530	139,931	63,005	98,890
Westfield State College	296,264	113,333	244,762	67,360	224,408	58,664	30,315	86,286	74,456	35,815
Worcester State College	104,021	121,392	55,013	18,403	24,831	18,994	29,139	68,820	50,591	25,399
Total	2,512,867	1,903,846	3,085,742	2,523,910	2,497,253	986,267	976,159	1,176,778	1,271,030	1,189,301
Age to Ultimate LDF's	1.527	1.682	1.977	2.689	6.054	1.160	1.195	1.359	1.584	3.600

NOTES:

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



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Massachusetts Colleges & Universities - Cluster 4

Cumulative Paid Losses as of 6/30/12

Cluster	Indemnity					Medical				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
Berkshire Community College	12,137	68	7,858	26,734	0	27,473	3,904	3,259	20,324	2,826
Bridgewater State College	184,984	30,105	82,872	100,908	50,097	51,474	32,874	87,810	40,047	27,270
Bristol Community College	0	21,221	80,030	31	189	2,166	18,584	17,269	31,712	6,879
Bunker Hill Community College	11,092	5,021	61,839	53,805	18,412	17,685	8,497	24,602	44,282	14,443
Cape Cod Community College	4,136	0	-2,274	31,558	2,674	23,070	1,183	14,192	15,126	9,069
Fitchburg State College	125,473	62,154	89,349	79,231	10,683	21,449	59,477	53,301	29,307	14,303
Framingham State College	208,857	0	50,006	28,158	12,916	164,600	2,592	50,097	18,271	16,853
Greenfield Community College	316	3,319	0	0	0	3,428	8,870	3,750	1,491	1,580
Holyoke Community College	0	3,254	15,087	37,120	745	4,456	12,883	26,310	28,996	106
Mass Bay Community College	25,695	0	5,157	0	1,324	17,012	1,408	4,825	4,498	1,325
Mass College of Art	2,100	47,918	7,895	58,162	14,403	8,462	31,653	8,925	12,306	17,457
Mass Maritime Academy	2,327	158,811	129,949	8,340	6,291	3,298	132,127	18,093	6,671	7,200
Massachusetts College of Liberal Arts	0	73,709	69,551	0	0	5,426	21,387	21,173	667	2,307
Massasoit Community College	81,573	64,144	123,611	29,216	26,478	74,088	33,718	35,687	42,790	13,536
Middlesex Community College	1,047	9,873	0	11,650	8,480	13,697	12,998	4,161	5,348	11,779
Mt Wachusett Community College	0	3,216	56,274	59,691	447	2,336	11,846	28,368	15,710	7,836
North Essex Community College	11,286	3,609	8,955	1,214	1,537	17,261	8,899	12,316	4,029	3,287
North Shore Community College	0	0	47,364	0	2,456	3,037	4,862	41,037	2,230	16,229
Quinsigamond Community College	248,106	4,447	5,831	7,386	26,725	48,073	9,913	5,387	8,287	13,338
Roxbury Community College	89,316	0	104,854	4	0	22,390	466	9,711	2,109	0
Salem State College	23,266	32,834	12,913	87,008	18,345	39,799	69,624	24,737	183,792	14,525
Springfield Tech Community College	116,326	224,532	155,982	77,732	17,456	110,271	111,161	41,973	33,800	20,478
UMass (Boston)	18,742	86,194	81,501	80,250	53,169	18,443	47,243	45,250	65,874	16,850
UMass (Dartmouth)	137,790	32,899	122,226	53,321	71,269	38,236	50,122	66,535	66,053	46,371
University of Lowell	79,319	124,999	92,320	75,184	27,208	45,942	70,727	102,959	39,777	27,466
Westfield State College	194,074	67,379	123,801	25,050	37,066	50,591	25,365	63,487	47,006	9,947
Worcester State College	68,141	72,170	27,826	6,844	4,101	16,380	24,381	50,637	31,940	7,054
Total	1,646,106	1,131,874	1,560,776	938,598	412,473	850,544	816,761	865,851	802,442	330,317



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Massachusetts Colleges & Universities - Cluster 4

Fiscal Year 2012 Paid Losses

Cluster	Indemnity					Medical				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
Berkshire Community College	0	0	0	24,650	0	98	0	2,368	19,490	2,826
Bridgewater State College	25,013	0	17,299	57,543	50,097	0	0	17,777	20,614	27,270
Bristol Community College	0	0	50,285	0	189	0	0	3,720	13,113	6,879
Bunker Hill Community College	0	0	24,569	26,234	18,412	0	238	1,936	8,032	14,443
Cape Cod Community College	0	0	0	30,178	2,674	0	0	137	8,736	9,069
Fitchburg State College	22,081	19,421	25,862	29,892	10,683	2,083	4,748	6,860	14,256	14,303
Framingham State College	6,152	0	21,246	16,535	12,916	10,089	0	12,495	7,654	16,853
Greenfield Community College	0	0	0	0	0	0	0	0	292	1,580
Holyoke Community College	0	0	0	33,532	745	0	0	261	10,092	106
Mass Bay Community College	0	0	0	0	1,324	0	0	750	3,148	1,325
Mass College of Art	0	8,059	0	37,643	14,403	0	1,877	241	4,065	17,457
Mass Maritime Academy	0	52,782	79,941	221	6,291	0	11,830	0	2,450	7,200
Massachusetts College of Liberal Arts	0	0	21,758	0	0	0	939	100	157	2,307
Massasoit Community College	14,559	19,304	16,949	15,739	26,478	1,531	1,970	1,211	27,511	13,536
Middlesex Community College	0	0	0	9,150	8,480	0	9,559	0	3,964	11,779
Mt Wachusett Community College	0	0	50,643	36,673	447	0	0	4,196	2,515	7,836
North Essex Community College	0	0	0	0	1,537	0	0	0	266	3,287
North Shore Community College	0	0	-13,189	0	2,456	0	0	77	1,470	16,229
Quinsigamond Community College	32,450	0	0	-400	26,725	4,016	3,639	443	1,942	13,338
Roxbury Community College	0	0	30,031	4	0	0	76	1,166	2,109	0
Salem State College	0	0	60	49,178	18,345	945	5,221	3,402	98,353	14,525
Springfield Tech Community College	54,868	85,110	49,277	37,802	17,456	1,007	14,840	4,278	7,141	20,478
UMass (Boston)	0	0	11,332	48,274	53,169	0	0	7,456	31,455	16,850
UMass (Dartmouth)	0	0	28,551	28,804	71,269	0	77	4,966	37,885	46,371
University of Lowell	0	38,000	35,124	50,116	27,208	0	2,205	7,884	24,225	27,466
Westfield State College	47,426	34,607	34,726	2,842	37,066	1,075	3,016	2,134	17,748	9,947
Worcester State College	36,389	0	7,782	3,579	4,101	0	0	6,244	19,841	7,054
Total	238,938	257,283	492,249	538,187	412,473	20,843	60,236	90,102	388,523	330,317



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Section 3	<i>Department of Mental Health - Cluster 2</i>	Exhibit 1 - Indemnity Exhibit 2 - Medical
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Exhibit 1
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**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		91,614,600			108,747,179	118,155,925	17,132,579	26,541,326		
6/30/82-83		16,537,467	17,871,370		17,467,009	18,396,525	929,542	1,859,058		
6/30/83-84		22,413,630	25,063,685		24,588,692	25,847,387	2,175,062	3,433,757		
6/30/84-85	1,823,085	35,178,530	39,286,439	36,393,213	36,659,859	38,738,574	1,481,330	3,560,045	2.011	2.125
6/30/85-86	1,952,445	46,603,960	52,527,433	48,576,099	49,371,185	50,963,945	2,767,225	4,359,985	2.529	2.610
6/30/86-87	2,220,820	51,263,811	56,305,297	53,878,887	53,223,000	55,642,705	1,959,189	4,378,894	2.397	2.506
6/30/87-88	2,885,583	72,433,896	80,757,817	77,062,599	77,486,456	79,902,709	5,052,560	7,468,813	2.685	2.769
6/30/88-89	3,098,180	69,286,250	75,794,776	74,126,277	74,525,366	76,654,799	5,239,117	7,368,549	2.405	2.474
6/30/89-90	3,079,763	65,774,665	71,895,159	71,437,651	70,449,658	72,066,971	4,674,993	6,292,306	2.288	2.340
6/30/90-91	2,914,364	53,130,051	62,594,063	58,834,557	57,534,859	61,857,914	4,404,809	8,727,864	1.974	2.123
6/30/91-92	2,880,434	33,382,781	37,795,249	37,090,781	36,848,479	38,104,118	3,465,698	4,721,337	1.279	1.323
6/30/92-93	2,887,238	22,256,984	26,055,199	25,222,627	24,832,376	26,375,946	2,575,392	4,118,962	0.860	0.914
6/30/93-94	3,056,850	24,344,760	28,285,968	27,751,948	27,410,000	28,497,000	3,065,240	4,152,240	0.897	0.932
6/30/94-95	3,158,808	22,890,093	26,626,285	26,450,202	26,360,000	27,122,000	3,469,907	4,231,907	0.834	0.859
6/30/95-96	3,301,791	21,636,497	25,529,287	25,463,738	25,126,985	25,896,891	3,490,488	4,260,394	0.761	0.784
6/30/96-97	3,902,868	21,855,244	26,120,463	26,081,921	25,974,838	26,694,286	4,119,593	4,839,041	0.666	0.684
6/30/97-98	3,776,138	24,926,558	29,777,782	29,710,237	29,612,642	30,266,556	4,686,084	5,339,998	0.784	0.802
6/30/98-99	4,017,530	22,680,100	27,870,524	27,836,606	27,828,000	28,525,000	5,147,900	5,844,900	0.693	0.710
6/30/99-00	4,221,786	25,745,470	32,444,581	32,334,441	32,328,000	33,135,000	6,582,530	7,389,530	0.766	0.785
6/30/00-01	4,310,725	29,630,405	37,727,059	37,552,454	36,945,892	38,382,000	7,315,487	8,751,595	0.857	0.890
6/30/01-02	4,438,755	27,006,940	35,352,010	35,246,732	35,244,000	36,080,000	8,237,060	9,073,060	0.794	0.813
6/30/02-03	4,423,888	25,805,739	34,525,006	34,446,087	33,899,450	35,261,000	8,093,711	9,455,261	0.766	0.797
6/30/03-04	4,482,207	25,324,070	34,403,491	34,360,392	33,841,043	35,178,000	8,516,973	9,853,930	0.755	0.785
6/30/04-05	4,639,517	25,017,850	35,306,841	34,802,929	34,597,000	35,512,000	9,579,150	10,494,150	0.746	0.765
6/30/05-06	4,938,165	21,638,827	31,999,415	33,281,170	31,988,000	33,384,000	10,349,173	11,745,173	0.648	0.676
6/30/06-07	5,183,126	18,501,850	28,938,571	31,800,383	29,360,000	31,800,000	10,858,150	13,298,150	0.566	0.614
6/30/07-08	5,508,425	20,768,231	35,718,972	37,951,827	35,305,000	38,203,000	14,536,769	17,434,769	0.641	0.694
6/30/08-09	5,447,676	18,387,556	36,291,513	38,404,502	36,751,000	39,349,000	18,363,444	20,961,444	0.675	0.722
6/30/09-10	5,525,579	15,907,243	39,235,092	41,112,631	39,028,000	43,571,000	23,120,757	27,663,757	0.706	0.789
6/30/10-11	5,712,303	13,320,087	44,326,381	44,534,654	42,977,000	48,035,000	29,656,913	34,714,913	0.752	0.841
6/30/11-12	5,880,714	5,840,358	44,420,431	46,837,682	43,477,000	51,645,000	37,636,642	45,804,642	0.739	0.878
Total	109,668,762	991,104,501	1,180,846,159	1,128,583,226	1,259,787,969	1,329,244,252	268,683,469	338,139,752		
Tot 6/30/84-12	109,668,762	860,538,804	1,137,911,103	1,128,583,226	1,108,985,090	1,166,844,415	248,446,286	306,305,611	1.011	1.064

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



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**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 7/1/10-11	Paid Counts 7/1/11-12	Average Outstanding Claim	Average Age
All Prior Yrs		87,672,918							46	43		79
6/30/82-83		15,766,236	1.085	N/A	17,098,778	772,592	17,871,370		6	4	333,136	79
6/30/83-84		20,620,991	1.128	N/A	23,260,718	1,802,967	25,063,685		4	5	527,946	64
6/30/84-85	1,823,085	32,412,266	1.126	N/A	36,504,845	2,781,595	39,286,439	2.155	7	8	511,572	74
6/30/85-86	1,952,445	43,312,360	1.136	N/A	49,214,840	3,312,593	52,527,433	2.690	10	7	843,211	77
6/30/86-87	2,220,820	45,816,061	1.109	N/A	50,827,472	5,477,825	56,305,297	2.535	10	10	501,141	75
6/30/87-88	2,885,583	64,434,879	1.128	N/A	72,705,561	8,052,256	80,757,817	2.799	22	19	435,299	72
6/30/88-89	3,098,180	59,460,012	1.108	N/A	65,885,606	9,909,170	75,794,776	2.446	22	21	305,981	73
6/30/89-90	3,079,763	55,910,367	1.107	N/A	61,918,990	9,976,169	71,895,159	2.334	15	15	400,575	67
6/30/90-91	2,914,364	44,863,611	1.208	N/A	54,202,518	8,391,545	62,594,063	2.148	13	13	718,377	70
6/30/91-92	2,880,434	27,962,307	1.155	N/A	32,284,489	5,510,759	37,795,249	1.312	13	12	360,182	67
6/30/92-93	2,887,238	18,169,867	1.204	N/A	21,878,606	4,176,594	26,055,199	0.902	10	9	412,082	63
6/30/93-94	3,056,850	20,167,726	1.190	N/A	23,997,598	4,288,369	28,285,968	0.925	12	11	348,170	64
6/30/94-95	3,158,808	18,839,234	1.191	N/A	22,444,812	4,181,473	26,626,285	0.843	9	9	400,620	68
6/30/95-96	3,301,791	18,012,627	1.207	N/A	21,741,309	3,787,979	25,529,287	0.773	10	9	414,298	65
6/30/96-97	3,902,868	17,411,092	1.231	N/A	21,438,077	4,682,386	26,120,463	0.669	6	12	335,582	65
6/30/97-98	3,776,138	20,239,681	1.225	N/A	24,784,712	4,993,070	29,777,782	0.789	14	14	324,645	62
6/30/98-99	4,017,530	18,768,162	1.261	N/A	23,659,514	4,211,010	27,870,524	0.694	9	12	407,613	56
6/30/99-00	4,221,786	21,850,101	1.291	N/A	28,204,638	4,239,944	32,444,581	0.769	11	11	577,685	56
6/30/00-01	4,310,725	25,878,042	1.297	N/A	33,560,374	4,166,685	37,727,059	0.875	16	17	451,902	58
6/30/01-02	4,438,755	23,221,272	1.335	N/A	31,007,110	4,344,900	35,352,010	0.796	14	14	556,131	56
6/30/02-03	4,423,888	22,423,326	1.362	N/A	30,534,975	3,990,031	34,525,006	0.780	20	18	450,647	53
6/30/03-04	4,482,207	21,767,551	1.384	N/A	30,129,147	4,274,344	34,403,491	0.768	24	13	643,200	53
6/30/04-05	4,639,517	21,201,896	1.439	N/A	30,507,051	4,799,790	35,306,841	0.761	48	30	310,172	53
6/30/05-06	4,938,165	17,913,398	1.501	N/A	26,896,637	5,102,778	31,999,415	0.648	63	42	213,887	52
6/30/06-07	5,183,126	15,786,760	1.573	N/A	24,838,017	4,100,555	28,938,571	0.558	80	48	188,568	52
6/30/07-08	5,508,425	17,473,101	1.716	N/A	29,978,434	5,740,538	35,718,972	0.648	137	94	133,035	52
6/30/08-09	5,447,676	16,148,288	1.912	N/A	30,879,028	5,412,485	36,291,513	0.666	194	155	95,037	51
6/30/09-10	5,525,579	14,508,772	2.284	N/A	33,140,567	6,094,524	39,235,092	0.710	468	211	88,302	51
6/30/10-11	5,712,303	12,542,403	3.047	N/A	38,216,451	6,109,930	44,326,381	0.776	1,318	508	50,539	48
6/30/11-12	5,880,714	5,840,358	6.525	N/A	38,106,178	6,314,253	44,420,431	0.755		1,288	25,051	46
Total	109,668,762	866,395,666			1,029,847,051	150,999,108	1,180,846,159		2,631	2,682		

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 WCRI. 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, 2012**

Section 1

Exhibit 1

Page 3

All Clusters Combined

Indemnity

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident Year	Payroll (000's)	A Priori Loss Rate	Paid Loss Excluding Lump Sum	Paid LDF	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Ultimate Loss Cost Excluding Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	1,823,085	2.991	32,412,266	1.126	33,611,618	2,781,595	36,393,213	1.996	1.844
6/30/85-86	1,952,445	3.712	43,312,360	1.136	45,263,506	3,312,593	48,576,099	2.488	2.318
6/30/86-87	2,220,820	3.485	45,816,061	1.109	48,401,062	5,477,825	53,878,887	2.426	2.179
6/30/87-88	2,885,583	3.526	64,434,879	1.128	69,010,343	8,052,256	77,062,599	2.671	2.392
6/30/88-89	3,098,180	2.963	59,460,012	1.108	64,217,107	9,909,170	74,126,277	2.393	2.073
6/30/89-90	3,079,763	2.802	55,910,367	1.107	61,461,482	9,976,169	71,437,651	2.320	1.996
6/30/90-91	2,914,364	1.848	44,863,611	1.208	50,443,012	8,391,545	58,834,557	2.019	1.731
6/30/91-92	2,880,434	1.110	27,962,307	1.155	31,580,022	5,510,759	37,090,781	1.288	1.096
6/30/92-93	2,887,238	0.750	18,169,867	1.204	21,046,034	4,176,594	25,222,627	0.874	0.729
6/30/93-94	3,056,850	0.774	20,167,726	1.190	23,463,578	4,288,369	27,751,948	0.908	0.768
6/30/94-95	3,158,808	0.702	18,839,234	1.191	22,268,729	4,181,473	26,450,202	0.837	0.705
6/30/95-96	3,301,791	0.651	18,012,627	1.207	21,675,759	3,787,979	25,463,738	0.771	0.656
6/30/96-97	3,902,868	0.549	17,411,092	1.231	21,399,535	4,682,386	26,081,921	0.668	0.548
6/30/97-98	3,776,138	0.649	20,239,681	1.225	24,717,167	4,993,070	29,710,237	0.787	0.655
6/30/98-99	4,017,530	0.588	18,768,162	1.261	23,625,596	4,211,010	27,836,606	0.693	0.588
6/30/99-00	4,221,786	0.660	21,850,101	1.291	28,094,498	4,239,944	32,334,441	0.766	0.665
6/30/00-01	4,310,725	0.762	25,878,042	1.297	33,385,769	4,166,685	37,552,454	0.871	0.774
6/30/01-02	4,438,755	0.692	23,221,272	1.335	30,901,831	4,344,900	35,246,732	0.794	0.696
6/30/02-03	4,423,888	0.685	22,423,326	1.362	30,456,056	3,990,031	34,446,087	0.779	0.688
6/30/03-04	4,482,207	0.670	21,767,551	1.384	30,086,048	4,274,344	34,360,392	0.767	0.671
6/30/04-05	4,639,517	0.657	21,201,896	1.439	30,003,138	4,799,790	34,802,929	0.750	0.647
6/30/05-06	4,938,165	0.670	17,913,398	1.501	28,178,392	5,102,778	33,281,170	0.674	0.571
6/30/06-07	5,183,126	0.684	15,786,760	1.573	27,699,828	4,100,555	31,800,383	0.614	0.534
6/30/07-08	5,508,425	0.699	17,473,101	1.716	32,211,289	5,740,538	37,951,827	0.689	0.585
6/30/08-09	5,447,676	0.714	16,148,288	1.912	32,992,018	5,412,485	38,404,502	0.705	0.606
6/30/09-10	5,525,579	0.724	14,508,772	2.284	35,018,107	6,094,524	41,112,631	0.744	0.634
6/30/10-11	5,712,303	0.730	12,542,403	3.047	38,424,724	6,109,930	44,534,654	0.780	0.673
6/30/11-12	5,880,714	0.743	5,840,358	6.525	40,523,429	6,314,253	46,837,682	0.796	0.689
Total	109,668,762		742,335,521		980,159,678	148,423,548	1,128,583,226		

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, 2012**

Section 1
Exhibit 1
Page 4

**All Clusters Combined
Indemnity**

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Exp Ult Loss Excluding Lump Sum	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									2.991	2.991
6/30/85-86									3.712	3.712
6/30/86-87									3.485	3.485
6/30/87-88									3.526	3.526
6/30/88-89									2.963	2.963
6/30/89-90									2.802	2.802
6/30/90-91	2,914,364	54,202,518	1.860	0.946	1.760	1.245	2.190	0.637	1.905	1.848
6/30/91-92	2,880,434	32,284,489	1.121	1.038	1.163	1.232	1.434	0.586	1.120	1.110
6/30/92-93	2,887,238	21,878,606	0.758	1.210	0.917	1.220	1.119	0.508	0.758	0.750
6/30/93-94	3,056,850	23,997,598	0.785	1.195	0.938	1.208	1.133	0.520	0.784	0.774
6/30/94-95	3,158,808	22,444,812	0.711	1.184	0.841	1.196	1.006	0.530	0.713	0.702
6/30/95-96	3,301,791	21,741,309	0.658	1.174	0.773	1.184	0.916	0.539	0.664	0.651
6/30/96-97	3,902,868	21,438,077	0.549	1.163	0.639	1.173	0.749	0.550	0.565	0.549
6/30/97-98	3,776,138	24,784,712	0.656	1.148	0.753	1.161	0.875	0.563	0.662	0.649
6/30/98-99	4,017,530	23,659,514	0.589	1.133	0.667	1.149	0.767	0.576	0.606	0.588
6/30/99-00	4,221,786	28,204,638	0.668	1.114	0.745	1.138	0.847	0.591	0.681	0.660
6/30/00-01	4,310,725	33,560,374	0.779	1.086	0.846	1.127	0.953	0.613	0.781	0.762
6/30/01-02	4,438,755	31,007,110	0.699	1.065	0.744	1.116	0.830	0.631	0.716	0.692
6/30/02-03	4,423,888	30,534,975	0.690	1.061	0.732	1.105	0.809	0.640	0.710	0.685
6/30/03-04	4,482,207	30,129,147	0.672	1.061	0.713	1.094	0.780	0.646	0.695	0.670
6/30/04-05	4,639,517	30,507,051	0.658	1.054	0.693	1.083	0.751	0.657	0.707	0.657
6/30/05-06	4,938,165	26,896,637	0.545	1.044	0.568	1.072	0.609	0.670	0.722	0.670
6/30/06-07	5,183,126	24,838,017	0.479	1.032	0.495	1.062	0.525	0.684	0.737	0.684
6/30/07-08	5,508,425	29,978,434	0.544	1.021	0.556	1.051	0.584	0.699	0.752	0.699
6/30/08-09	5,447,676	30,879,028	0.567	1.009	0.572	1.041	0.595	0.714	0.769	0.714
6/30/09-10	5,525,579	33,140,567	0.600	1.005	0.603	1.030	0.621	0.724	0.780	0.724
6/30/10-11	5,712,303	38,216,451	0.669	1.007	0.673	1.020	0.687	0.730	0.792	0.730
6/30/11-12	5,880,714	38,106,178	0.648	1.000	0.648	1.010	0.654	0.743		0.743
Total	94,608,887	652,430,241								
Trend Last 4 (ex 11-12):					6.5%	Avg 3 (x11-12):	0.635			
Trend Last 8 (ex 11-12):					-1.1%	Avg 5 (x11-12):	0.603			
Trend Last 12 (ex 11-12):					-3.0%	Avg 10 (x11-12):	0.679			
Prior Selected Trend:					1.0%	Prior Sel Avg:	0.800			
Selected Trend:					1.0%	Sel. Loss Cost:	0.750			

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, 2011
- (11) Selected based on (9) and (4)



Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012

Section 1
Exhibit 1
Page 5

All Clusters Combined
Indemnity

Calculation of 1982 & Prior Reserves (Page 1)

Method 1			
(1)	Average Payment Trend	0.960	
(2)	Credibility	93%	
(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 2012	1,565,889	1,565,889
(7)	Estimated Reserve	24,532,258	50,630,405
(8)	Paid to Date (82 & Prior)	87,672,918	87,672,918
(9)	Est Ult Paid for 1982 & Prior	112,205,176	138,303,323
Method 2			
		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	1,678,237	1,737,548
(11)	Projected Number of Years	2	2
(12)	Estimated Reserve	3,356,475	3,475,095
(13)	Paid to Date (82 & Prior)	87,672,918	86,107,029
(14)	Est Ult Paid for 1982 & Prior	91,029,393	89,582,124
(14a)	Paid Counts During Fiscal Year	43	46
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	101,617,284	113,942,724
(16)	Lump Sum Ultimates	3,971,578	3,971,578
(17)	Ult Loss Including Lump Sums	105,588,862	117,914,302
(18)	Implied Tail	1.159	1.300
(19)	Ult Loss Inc Lump Sums @ 6/11	104,773,485	117,793,796

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, 2011



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 1
Exhibit 1
Page 6

**All Clusters Combined
Indemnity**

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paid	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 =	21
2001	10	2,865,446	14.868	0.985	S(x) =	42,042
2002	11	2,547,239	14.751	0.889	S(x-sq) =	84,168,854
2003	12	2,422,167	14.700	0.951	S(xy) =	619,208
2004	13	2,289,077	14.644	0.945	S(y) =	309
2005	14	2,336,964	14.664	1.021	D =	16,170
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		
				Selected Trend:	0.960	

NOTES:

(3) 2012 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2011

(4) LN [(3)]

(5) Eg. 2012: 0.946 = 1565889 / 1656071



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

Section 1
Exhibit 1
Page 7

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	
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	
June-84	1,522,336	3,696,363	5,363,672	6,757,899	8,148,086	9,606,045	10,911,357	12,126,179	13,057,198	13,815,581	14,430,389	14,959,403	15,419,688	15,772,255	16,197,151	16,539,612	17,122,286	17,516,764	17,977,580	18,438,292	18,893,464	19,139,323	19,459,610	19,716,217	19,937,128	20,149,887	20,327,863	20,472,356	20,620,891		
June-85	2,512,722	6,084,789	8,830,455	11,054,438	13,342,359	15,590,069	17,427,365	18,998,017	20,488,344	21,563,372	22,525,232	23,442,205	24,219,803	25,046,022	25,816,487	26,459,414	27,121,279	27,778,658	28,406,491	28,976,876	29,543,002	30,030,413	30,523,952	30,983,182	31,363,675	31,712,251	32,055,755	32,412,266			
June-86	3,828,307	9,270,600	13,395,875	16,854,774	20,186,912	22,858,610	24,903,526	26,819,536	28,134,649	29,661,018	30,865,387	32,219,696	33,488,982	34,570,174	35,702,155	36,866,038	37,770,882	38,520,460	39,153,946	39,794,497	40,432,599	41,063,216	41,644,745	42,241,569	42,712,869	43,097,941	43,312,360				
June-87	4,540,457	10,913,697	15,583,325	19,957,432	23,712,874	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					
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	54,756,162	56,029,196	57,216,310	58,242,787	59,272,196	60,251,502	61,225,020	62,100,854	62,859,543	63,676,981	64,434,879						
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	46,555,526	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							
June-90	8,325,393	19,198,639	27,299,181	32,979,315	36,467,113	39,225,080	41,403,021	43,119,245	44,619,978	46,178,291	47,478,622	48,500,081	49,380,975	50,215,035	50,970,670	51,700,073	52,443,554	53,046,968	53,676,223	54,272,144	54,832,428	55,362,682	55,910,367								
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	34,830,923	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									
June-92	5,529,696	11,010,530	14,154,479	16,707,103	18,010,508	19,060,293	19,981,070	20,863,423	21,617,069	22,141,198	22,861,311	23,533,251	24,097,364	25,143,283	25,143,387	25,744,950	26,263,250	26,767,829	27,207,194	27,587,356	27,962,307										
June-93	3,873,223	8,389,572	10,824,326	12,579,041	13,682,345	14,650,572	14,980,197	15,299,706	15,652,059	15,960,508	16,198,969	16,437,335	16,647,751	16,845,525	17,057,906	17,261,464	17,446,939	17,667,638	17,927,011	18,169,867											
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												
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													
June-96	3,925,641	7,696,581	10,157,406	11,265,946	12,618,152	13,573,564	14,313,197	14,989,243	15,617,069	16,021,237	16,346,275	16,663,225	16,942,675	17,212,083	17,486,480	17,759,866	18,012,627														
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	16,796,807	16,939,079	17,083,096	17,228,429	17,411,092															
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																
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																	
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	21,250,984	21,435,910	21,642,301	21,850,101																		
June-01	5,803,207	12,402,263	16,670,356	19,654,595	21,577,531	22,938,517	23,908,952	24,600,463	24,859,220	25,164,944	25,501,251																				
June-02	5,765,203	12,277,793	16,238,526	18,865,437	20,310,007	21,368,596	21,931,812	22,319,683	22,695,839	22,992,294	23,221,272																				
June-03	6,502,533	13,090,711	16,866,298	18,968,477	20,380,493	21,059,553	21,659,956	21,885,146	22,172,772	22,423,326																					
June-04	5,782,322	12,948,196	15,821,895	18,335,339	19,734,152	20,590,574	21,163,829	21,542,100	21,767,551																						
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																							
June-06	4,757,322	10,205,384	13,459,435	15,194,558	16,291,664	17,297,747	17,913,398																								
June-07	4,763,972	9,431,981	11,584,810	13,586,119	15,001,625	15,786,760																									
June-08	4,973,425	10,276,897	13,437,601	15,869,686	17,473,101																										
June-09	4,815,871	10,151,475	13,666,751	16,148,288																											
June-10	5,243,901	10,948,444	14,508,772																												
June-11	6,252,011	12,542,403																													
June-12	5,840,358																														

Age-to-Age Factors	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	
Acc. Yr. Ending																														
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	
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		
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			
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	1.014	1.014	1.014	1.011	1.009	1.009	1.005			
June-87	2.404	1.428	1.281	1.188	1.111	1.078	1.065	1.052	1.046	1.038	1.039	1.038	1.028	1.026	1.023	1.019	1.015	1.012	1.010	1.018	1.011	1.011	1.011	1.012	1.009	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	1.013	1.012					
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	1.013						
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								
June-91	2.345	1.384	1.176	1.115	1.075	1.04																								



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 1
Exhibit 1
Page 8

All Clusters Combined

Indemnity

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Accident Year	Ultimate Loss As of 6/11		Ultimate Loss As of 6/12		Change in Ultimate Loss		Change in Ultimate Loss	
					(Dollar)	(Percent)	(Dollar)	(Percent)
	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	107,958,528	117,914,919	108,747,179	118,155,925	788,650	0.7%	241,006	0.2%
6/30/82-83	17,406,476	18,331,527	17,467,009	18,396,525	60,533	0.3%	64,998	0.4%
6/30/83-84	24,564,762	25,825,156	24,588,692	25,847,387	23,930	0.1%	22,231	0.1%
6/30/84-85	36,561,619	38,674,574	36,659,859	38,738,574	98,240	0.3%	64,000	0.2%
6/30/85-86	49,591,280	51,283,325	49,371,185	50,963,945	(220,095)	-0.4%	(319,380)	-0.6%
6/30/86-87	53,303,000	55,800,330	53,223,000	55,642,705	(80,000)	-0.2%	(157,625)	-0.3%
6/30/87-88	77,632,059	80,867,707	77,486,456	79,902,709	(145,603)	-0.2%	(964,998)	-1.2%
6/30/88-89	74,638,199	76,273,799	74,525,366	76,654,799	(112,833)	-0.2%	381,000	0.5%
6/30/89-90	70,828,455	71,794,762	70,449,658	72,066,971	(378,797)	-0.5%	272,209	0.4%
6/30/90-91	58,401,859	62,956,914	57,534,859	61,857,914	(867,000)	-1.5%	(1,099,000)	-1.7%
6/30/91-92	37,116,823	38,385,944	36,848,479	38,104,118	(268,344)	-0.7%	(281,826)	-0.7%
6/30/92-93	25,072,376	25,988,946	24,832,376	26,375,946	(240,000)	-1.0%	387,000	1.5%
6/30/93-94	27,828,000	28,394,000	27,410,000	28,497,000	(418,000)	-1.5%	103,000	0.4%
6/30/94-95	26,744,000	26,947,000	26,360,000	27,122,000	(384,000)	-1.4%	175,000	0.6%
6/30/95-96	25,535,985	26,330,891	25,126,985	25,896,891	(409,000)	-1.6%	(434,000)	-1.6%
6/30/96-97	26,475,838	27,219,286	25,974,838	26,694,286	(501,000)	-1.9%	(525,000)	-1.9%
6/30/97-98	29,992,642	30,642,556	29,612,642	30,266,556	(380,000)	-1.3%	(376,000)	-1.2%
6/30/98-99	28,638,000	29,342,000	27,828,000	28,525,000	(810,000)	-2.8%	(817,000)	-2.8%
6/30/99-00	33,336,000	34,164,000	32,328,000	33,135,000	(1,008,000)	-3.0%	(1,029,000)	-3.0%
6/30/00-01	38,450,000	39,685,000	36,945,892	38,382,000	(1,504,108)	-3.9%	(1,303,000)	-3.3%
6/30/01-02	36,273,000	37,124,000	35,244,000	36,080,000	(1,029,000)	-2.8%	(1,044,000)	-2.8%
6/30/02-03	35,618,000	36,481,000	33,899,450	35,261,000	(1,718,550)	-4.8%	(1,220,000)	-3.3%
6/30/03-04	35,540,000	36,393,000	33,841,043	35,178,000	(1,698,957)	-4.8%	(1,215,000)	-3.3%
6/30/04-05	36,080,000	36,854,000	34,597,000	35,512,000	(1,483,000)	-4.1%	(1,342,000)	-3.6%
6/30/05-06	33,098,000	34,448,000	31,988,000	33,384,000	(1,110,000)	-3.4%	(1,064,000)	-3.1%
6/30/06-07	31,037,000	33,798,000	29,360,000	31,800,000	(1,677,000)	-5.4%	(1,998,000)	-5.9%
6/30/07-08	35,892,000	41,169,000	35,305,000	38,203,000	(587,000)	-1.6%	(2,966,000)	-7.2%
6/30/08-09	37,423,000	41,396,000	36,751,000	39,349,000	(672,000)	-1.8%	(2,047,000)	-4.9%
6/30/09-10	38,458,000	45,004,000	39,028,000	43,571,000	570,000	1.5%	(1,433,000)	-3.2%
6/30/10-11	41,830,000	51,966,000	42,977,000	48,035,000	1,147,000	2.7%	(3,931,000)	-7.6%
6/30/11-12								
Total	1,231,324,901	1,301,455,638	1,216,310,969	1,277,599,252	(15,013,932)	-1.2%	(23,856,386)	-1.8%

NOTES:

(2), (3) From Aon analysis as of June 30, 2011

(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, 2012

Section 1
Exhibit 1
Page 9

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	87,672,918	1.229	107,780,004	0.0%	0.0%	0	3,941,682	3,941,682	3.7%	1.015	4,001,474	3,971,578	3,956,353
6/30/82-83	15,766,236	1.085	17,098,778	0.0%	0.0%	0	771,231	771,231	4.5%	1.004	773,954	772,592	772,592
6/30/83-84	20,620,991	1.128	23,260,718	0.0%	0.0%	0	1,792,639	1,792,639	7.7%	1.012	1,813,296	1,802,967	1,802,967
6/30/84-85	32,412,266	1.126	36,504,845	0.0%	0.0%	0	2,766,264	2,766,264	7.6%	1.011	2,796,925	2,781,595	2,781,595
6/30/85-86	43,312,360	1.136	49,214,840	0.0%	0.0%	0	3,291,601	3,291,601	6.7%	1.013	3,333,586	3,312,593	3,311,062
6/30/86-87	45,816,061	1.109	50,827,472	0.0%	0.0%	0	5,447,750	5,447,750	10.7%	1.011	5,507,900	5,477,825	5,483,808
6/30/87-88	64,434,879	1.128	72,705,561	0.0%	0.0%	0	7,999,017	7,999,017	11.0%	1.013	8,105,495	8,052,256	7,998,411
6/30/88-89	59,460,012	1.108	65,885,606	0.0%	0.0%	0	9,826,238	9,826,238	14.9%	1.017	9,992,102	9,909,170	9,936,898
6/30/89-90	55,910,367	1.107	61,918,990	0.1%	0.1%	35,905	9,864,298	9,900,203	16.0%	1.019	10,052,134	9,976,169	9,976,958
6/30/90-91	44,863,611	1.208	54,202,518	0.1%	0.1%	59,768	8,266,440	8,326,208	15.4%	1.023	8,456,883	8,391,545	8,417,263
6/30/91-92	27,962,307	1.155	32,284,489	0.1%	0.2%	53,571	5,420,474	5,474,044	17.0%	1.023	5,547,475	5,510,759	5,537,828
6/30/92-93	18,169,867	1.204	21,878,606	0.1%	0.3%	57,048	4,087,117	4,144,165	18.9%	1.030	4,209,023	4,176,594	4,187,473
6/30/93-94	20,167,726	1.190	23,997,598	0.0%	0.3%	71,565	4,177,034	4,248,599	17.7%	1.036	4,328,139	4,288,369	4,341,888
6/30/94-95	18,839,234	1.191	22,444,812	0.0%	0.3%	77,581	4,050,859	4,128,440	18.4%	1.045	4,234,505	4,181,473	4,284,638
6/30/95-96	18,012,627	1.207	21,741,309	0.2%	0.5%	114,684	3,623,870	3,738,554	17.2%	1.059	3,837,404	3,787,979	3,871,369
6/30/96-97	17,411,092	1.231	21,438,077	0.0%	0.5%	114,534	4,444,152	4,558,686	21.3%	1.081	4,806,086	4,682,386	4,684,633
6/30/97-98	20,239,681	1.225	24,784,712	0.0%	0.5%	134,958	4,686,877	4,821,835	19.5%	1.102	5,164,304	4,993,070	4,967,688
6/30/98-99	18,768,162	1.261	23,659,514	0.1%	0.7%	155,181	3,911,938	4,067,119	17.2%	1.113	4,354,901	4,211,010	4,383,904
6/30/99-00	21,850,101	1.291	28,204,638	0.2%	0.8%	231,666	3,895,368	4,127,034	14.6%	1.117	4,352,853	4,239,944	4,472,907
6/30/00-01	25,878,042	1.297	33,560,374	0.2%	1.0%	335,398	3,752,363	4,087,761	12.2%	1.121	4,206,378	4,166,685	4,378,374
6/30/01-02	23,221,272	1.335	31,007,110	0.3%	1.3%	392,479	3,785,668	4,178,147	13.5%	1.178	4,458,343	4,344,900	4,403,209
6/30/02-03	22,423,326	1.362	30,534,975	0.3%	1.6%	483,680	3,382,412	3,866,093	12.7%	1.198	4,051,223	3,990,031	4,211,856
6/30/03-04	21,767,551	1.384	30,129,147	0.3%	1.9%	576,208	3,556,519	4,132,727	13.7%	1.220	4,338,222	4,274,344	4,458,458
6/30/04-05	21,201,896	1.439	30,507,051	0.4%	2.4%	720,604	3,815,953	4,536,558	14.9%	1.299	4,956,711	4,799,790	5,194,874
6/30/05-06	17,913,398	1.501	26,896,637	1.0%	3.3%	891,475	3,725,429	4,616,904	17.2%	1.395	5,198,531	5,102,778	4,918,191
6/30/06-07	15,786,760	1.573	24,838,017	1.0%	4.3%	1,079,835	2,715,090	3,794,925	15.3%	1.530	4,154,274	4,100,555	4,772,692
6/30/07-08	17,473,101	1.716	29,978,434	1.5%	5.9%	1,756,521	3,295,130	5,051,652	16.9%	1.767	5,822,031	5,740,538	5,601,432
6/30/08-09	16,148,288	1.912	30,879,028	2.4%	8.2%	2,536,825	2,239,268	4,776,092	15.5%	2.521	5,644,360	5,412,485	5,687,035
6/30/09-10	14,508,772	2.284	33,140,567	3.8%	12.0%	3,978,529	1,398,471	5,376,999	16.2%	4.640	6,489,263	6,094,524	4,985,376
6/30/10-11	12,542,403	3.047	38,216,451	2.5%	14.5%	5,543,744	777,684	6,321,428	16.5%	12.864	10,004,486	6,109,930	4,540,082
6/30/11-12	5,840,358	6.525	38,106,178	2.4%	16.9%	6,447,867	0	6,447,867	16.9%	N/A	0	6,314,253	
Total	866,395,666		1,137,627,055			25,849,625	124,708,835	150,558,460	13.2%		154,992,260	154,970,685	148,321,815

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, 2011

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	
All Prior Yrs	0	0	0	0	0	0	12,000	46,500	31,000	20,000	184,000	500,000	1,386,000	550,984	594,000	318,784	155,500	30,000	362,833	369,668	354,998	72,250	145,500	118,040	288,300	300-312	312-324	324-336	336-348	348-360	360-372	
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jun-84	0	0	0	0	25,750	0	32,500	116,650	178,437	119,500	233,650	204,200	248,601	48,600	102,001	50,000	30,000	37,500	85,000	0	0	84,000	0	0	0	0	0	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	0	0	0	0	
Jun-86	0	0	58,000	116,759	213,100	146,344	336,928	829,698	586,995	10,000	147,000	20,000	86,000	37,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	
Jun-88	0	106,671	200,428	418,500	836,484	1,573,442	1,192,590	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	0	0	0	0	0	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	113,333	160,284	62,500	0	0	10,000	0	0	0	0	0	0	0	
Jun-90	0	254,094	1,205,138	1,809,296	1,317,852	1,060,755	985,500	993,400	529,504	438,300	365,512	1,060,833	40,833	46,000	31,000	25,000	106,000	110,125	129,876	27,500	33,333	33,333	0	0	0	0	0	0	0	0	0	
Jun-91	13,500	438,707	1,994,750	1,433,327	920,426	1,217,840	758,000	203,289	232,000	140,000	100,001	54,000	0	0	0	70,000	178,100	102,500	280,000	130,000	0	0	0	0	0	0	0	0	0	0	0	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	133,250	122,268	33,368	20,867	326,500	107,000	80,001	0	0	0	0	0	0	0	0	0	0	0	0	0
Jun-93	62,000	654,058	665,328	971,951	480,250	415,801	286,729	203,000	190,000	85,000	12,000	55,000	0	0	0	0	50,000	58,000	35,000	35,000	0	0	0	0	0	0	0	0	0	0	0	0
Jun-94	90,000	679,356	863,226	715,524	525,377	333,501	199,500	2																								



Commonwealth of Massachusetts Workers Compensation
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		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	
Aon Yr Ending																																	
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	0.002	0.001	0.001	0.005	0.006	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	
Jun-83	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.002	0.002	0.005	0.009	0.005	0.005	0.006	0.009	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-84	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.005	0.008	0.005	0.010	0.009	0.011	0.002	0.004	0.002	0.001	0.002	0.004	0.002	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	
Jun-85	0.000	0.000	0.000	0.000	0.003	0.001	0.003	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	0.000	0.000	0.000	
Jun-86	0.000	0.000	0.001	0.002	0.004	0.003	0.007	0.017	0.012	0.000	0.003	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.000	0.000	0.000	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	0.000	0.000	0.003	0.000	0.000	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	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	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-90	0.000	0.004	0.019	0.029	0.021	0.017	0.016	0.016	0.007	0.007	0.006	0.007	0.001	0.001	0.001	0.001	0.000	0.002	0.002	0.002	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	
Jun-91	0.000	0.008	0.037	0.026	0.017	0.022	0.014	0.004	0.004	0.003	0.002	0.001	0.000	0.000	0.001	0.003	0.002	0.005	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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	0.000	0.004	0.001	0.001	0.010	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-93	0.003	0.030	0.030	0.044	0.019	0.019	0.013	0.005	0.009	0.004	0.001	0.003	0.000	0.000	0.000	0.000	0.000	0.002	0.003	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	
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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-95	0.010	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	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	0.004	0.032	0.048	0.030	0.015	0.005	0.004	0.007	0.006	0.006	0.005	0.003	0.000	0.001	0.001	0.001	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	
Jun-97	0.006	0.055	0.050	0.038	0.020	0.008	0.001	0.007	0.005	0.005	0.008	0.001	0.000	0.000	0.000	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	0.000	
Jun-98	0.016	0.036	0.047	0.027	0.017	0.011	0.004	0.007	0.001	0.000	0.000	0.009	0.005	0.003	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	
Jun-99	0.011	0.019	0.044	0.032	0.016	0.009	0.011	0.008	0.003	0.008	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	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-00	0.005	0.035	0.026	0.019	0.014	0.009	0.013	0.007	0.004	0.003	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	0.000	0.000	0.000	0.000	
Jun-01	0.003	0.015	0.025	0.015	0.014	0.016	0.007	0.011	0.004	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	0.000	
Jun-02	0.002	0.008	0.020	0.022	0.025	0.018	0.012	0.010	0.001	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	0.000	0.000	
Jun-03	0.001	0.008	0.032	0.027	0.018	0.015	0.004	0.003	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	0.000	0.000	0.000	0.000	
Jun-04	0.002	0.005	0.018	0.030	0.028	0.018	0.005	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-05	0.000	0.006	0.006	0.028	0.045	0.021	0.010	0.009	0.007	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	0.000	
Jun-06	0.000	0.011	0.029	0.050	0.018	0.017	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	0.000	0.000	0.000	
Jun-07	0.001	0.018	0.037	0.028	0.017	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-08	0.001	0.024	0.026	0.033	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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-09	0.009	0.012	0.025	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	0.000	0.000	0.000	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-10	0.000	0.018	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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-11	0.008	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	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-12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Averages																																	
Simple Avg		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		
All Yrs (ex P)	0.003	0.016	0.024	0.024	0.016	0.012	0.009	0.008	0.005	0.005	0.004	0.004	0.002	0.002	0.002	0.001	0.002	0.002	0.001	0.001	0.000	0.001	0.000	0.001	0.000	0.001	0.002	0.000	0.000	0.000	0.000		
Latest 5	0.004	0.017	0.028	0.036	0.022	0.013	0.009	0.008	0.003	0.003	0.001	0.003	0.001	0.002	0.002	0.001	0.003	0.002	0.002	0.001	0.001	0.001	0.000	0.002	0.000	0.001	0.000	0.000	0.000	0.000	0.000		
Latest 3	0.003	0.014	0.025	0.029	0.020	0.011	0.009	0.006	0.002	0.002	0.001	0.001	0.002	0.002	0.002	0.001	0.000	0.001	0.001	0.001													



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

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**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%
372	100.0%	7.8%	0.0%	2.4%	1.3%	1.000	1.000
360	92.2%	3.6%	7.8%	1.1%	0.6%	0.981	0.971
348	88.7%	-0.1%	11.3%	0.0%	0.0%	0.955	0.934
336	88.8%	0.8%	11.2%	0.3%	0.2%	0.917	0.880
324	88.0%	-2.1%	12.0%	-0.8%	-0.5%	0.888	0.839
312	90.1%	1.5%	9.9%	0.6%	0.3%	0.827	0.753
300	88.6%	-1.6%	11.4%	-0.6%	-0.4%	0.820	0.745
288	90.2%	0.0%	9.8%	0.0%	0.0%	0.756	0.658
276	90.3%	7.5%	9.7%	3.1%	2.0%	0.726	0.619
264	82.8%	-3.8%	17.2%	-1.7%	-1.1%	0.821	0.753
252	86.6%	3.6%	13.4%	1.6%	1.1%	0.735	0.636
240	83.0%	-1.0%	17.0%	-0.5%	-0.3%	0.764	0.678
228	84.0%	0.1%	16.0%	0.1%	0.0%	0.720	0.619
216	83.9%	1.1%	16.1%	0.5%	0.4%	0.694	0.586
204	82.8%	1.6%	17.2%	0.9%	0.6%	0.687	0.580
192	81.2%	-0.4%	18.8%	-0.2%	-0.2%	0.688	0.584
180	81.7%	2.3%	18.3%	1.3%	1.0%	0.654	0.540
168	79.3%	1.9%	20.7%	1.1%	0.8%	0.669	0.562
156	77.5%	0.4%	22.5%	0.2%	0.2%	0.671	0.567
144	77.1%	2.2%	22.9%	1.4%	1.1%	0.650	0.541
132	74.9%	1.5%	25.1%	1.0%	0.8%	0.657	0.551
120	73.4%	1.2%	26.6%	0.8%	0.7%	0.651	0.545
108	72.2%	2.7%	27.8%	2.0%	1.7%	0.641	0.534
96	69.5%	2.9%	30.5%	2.2%	1.9%	0.649	0.546
84	66.6%	3.0%	33.4%	2.4%	2.1%	0.655	0.554
72	63.6%	5.3%	36.4%	4.3%	3.8%	0.659	0.560
60	58.3%	6.0%	41.7%	5.0%	4.6%	0.678	0.585
48	52.3%	8.5%	47.7%	7.4%	6.9%	0.693	0.604
36	43.8%	11.0%	56.2%	9.9%	9.5%	0.714	0.631
24	32.8%	17.5%	67.2%	16.5%	16.0%	0.734	0.656
12	15.3%	15.3%	84.7%	15.0%	14.9%	0.763	0.692
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, 2012

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All Clusters Combined
Indemnity

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	17,132,579	26,541,326		15,034,742	23,300,462
6/30/82-83	929,542	1,859,058	0.981	911,491	1,822,957
6/30/83-84	2,175,062	3,433,757	0.955	2,082,562	3,285,040
6/30/84-85	1,481,330	3,560,045	0.917	1,373,261	3,297,017
6/30/85-86	2,767,225	4,359,985	0.888	2,504,483	3,939,866
6/30/86-87	1,959,189	4,378,894	0.827	1,747,604	3,834,884
6/30/87-88	5,052,560	7,468,813	0.820	4,416,880	6,517,881
6/30/88-89	5,239,117	7,368,549	0.756	4,503,280	6,319,766
6/30/89-90	4,674,993	6,292,306	0.726	3,946,542	5,314,958
6/30/90-91	4,404,809	8,727,864	0.821	3,682,286	7,283,648
6/30/91-92	3,465,698	4,721,337	0.735	2,865,511	3,917,403
6/30/92-93	2,575,392	4,118,962	0.764	2,077,748	3,330,067
6/30/93-94	3,065,240	4,152,240	0.720	2,445,353	3,351,337
6/30/94-95	3,469,907	4,231,907	0.694	2,717,763	3,314,450
6/30/95-96	3,490,488	4,260,394	0.687	2,688,009	3,289,915
6/30/96-97	4,119,593	4,839,041	0.688	3,128,667	3,679,380
6/30/97-98	4,686,084	5,339,998	0.654	3,504,805	3,998,051
6/30/98-99	5,147,900	5,844,900	0.669	3,814,436	4,340,915
6/30/99-00	6,582,530	7,389,530	0.671	4,802,804	5,392,135
6/30/00-01	7,315,487	8,751,595	0.650	5,246,646	6,278,693
6/30/01-02	8,237,060	9,073,060	0.657	5,839,200	6,432,260
6/30/02-03	8,093,711	9,455,261	0.651	5,646,682	6,593,025
6/30/03-04	8,516,973	9,853,930	0.641	5,868,502	6,798,477
6/30/04-05	9,579,150	10,494,150	0.649	6,522,783	7,167,678
6/30/05-06	10,349,173	11,745,173	0.655	7,026,323	7,991,137
6/30/06-07	10,858,150	13,298,150	0.659	7,359,608	9,035,032
6/30/07-08	14,536,769	17,434,769	0.678	9,930,209	11,907,948
6/30/08-09	18,363,444	20,961,444	0.693	12,726,190	14,570,795
6/30/09-10	23,120,757	27,663,757	0.714	16,523,437	19,825,932
6/30/10-11	29,656,913	34,714,913	0.734	21,844,007	25,587,865
6/30/11-12	37,636,642	45,804,642	0.763	28,733,015	35,028,783
Total	268,683,469	338,139,752		201,514,829	256,747,755

(7) Total Discount Factor: 0.750 0.759

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve: 17,132,579 26,541,326
(9) Projected Number of Years: N/A N/A
(10) Projected Paid Loss per Year: #VALUE! #VALUE!
(11) Discounted Value at 4%: 0 0

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, 2012**

Section 1
Exhibit 1
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All Clusters Combined
Indemnity

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident Year	Undiscounted Outstanding Losses (Low)	(High)	Discount Factor at 6.0%	Discounted Outstanding Losses (Low)	(High)
All Prior Yrs	17,132,579	26,541,326		14,143,696	21,923,711
6/30/82-83	929,542	1,859,058	0.981	902,851	1,805,677
6/30/83-84	2,175,062	3,433,757	0.955	2,039,338	3,215,572
6/30/84-85	1,481,330	3,560,045	0.917	1,324,117	3,177,457
6/30/85-86	2,767,225	4,359,985	0.888	2,387,802	3,753,432
6/30/86-87	1,959,189	4,378,894	0.827	1,655,345	3,599,913
6/30/87-88	5,052,560	7,468,813	0.820	4,145,561	6,112,420
6/30/88-89	5,239,117	7,368,549	0.756	4,195,347	5,881,878
6/30/89-90	4,674,993	6,292,306	0.726	3,648,196	4,914,761
6/30/90-91	4,404,809	8,727,864	0.821	3,391,622	6,705,926
6/30/91-92	3,465,698	4,721,337	0.735	2,627,215	3,598,270
6/30/92-93	2,575,392	4,118,962	0.764	1,884,283	3,022,844
6/30/93-94	3,065,240	4,152,240	0.720	2,208,091	3,043,934
6/30/94-95	3,469,907	4,231,907	0.694	2,435,117	2,969,671
6/30/95-96	3,490,488	4,260,394	0.687	2,390,873	2,930,308
6/30/96-97	4,119,593	4,839,041	0.688	2,768,208	3,257,258
6/30/97-98	4,686,084	5,339,998	0.654	3,082,638	3,518,096
6/30/98-99	5,147,900	5,844,900	0.669	3,344,303	3,810,128
6/30/99-00	6,582,530	7,389,530	0.671	4,184,925	4,698,528
6/30/00-01	7,315,487	8,751,595	0.650	4,540,783	5,434,739
6/30/01-02	8,237,060	9,073,060	0.657	5,032,893	5,544,123
6/30/02-03	8,093,711	9,455,261	0.651	4,837,869	5,646,939
6/30/03-04	8,516,973	9,853,930	0.641	5,008,852	5,805,429
6/30/04-05	9,579,150	10,494,150	0.649	5,544,426	6,101,474
6/30/05-06	10,349,173	11,745,173	0.655	5,976,549	6,803,155
6/30/06-07	10,858,150	13,298,150	0.659	6,270,274	7,703,697
6/30/07-08	14,536,769	17,434,769	0.678	8,504,034	10,199,336
6/30/08-09	18,363,444	20,961,444	0.693	10,998,990	12,611,159
6/30/09-10	23,120,757	27,663,757	0.714	14,502,427	17,422,865
6/30/10-11	29,656,913	34,714,913	0.734	19,449,044	22,789,099
6/30/11-12	37,636,642	45,804,642	0.763	25,977,581	31,692,130
Total	268,683,469	338,139,752		179,403,251	229,693,930

(7) Total Discount Factor: 0.668 0.679

Discount Calculation for All Prior Years	
(Low)	(High)

(8) Estimated Total Reserve:	17,132,579	26,541,326
(9) Projected Number of Years:	N/A	N/A
(10) Projected Paid Loss per Year:	#VALUE!	#VALUE!
(11) Discounted Value at 6%:	0	0

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, 2012**

Section 1
Exhibit 1
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**All Clusters Combined
Total Indemnity (Including Lump Sums) + Medical
Calculation of Fiscal Year 7/1/12 - 13 Payments**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Accident Year	Est Ult Losses (Low)	Est Ult Losses (High)	Paid Losses to Date	Reserves (Low)	Reserves (High)	Cumulative Percent Paid	Incremental Paid as a % of Ultimates	as a % of Reserves	Estimated Payments from 7/1/12 - 6/30/13 (Low) (High)		FY 7/1/12 - 6/30/13 as a % of Reserves (Low) (High)	
All Prior Yrs	115,883,047	126,428,588	97,712,219	18,170,828	28,716,370				1,498,171	1,647,989	8.2%	5.7%
6/30/82-83	18,705,338	19,672,157	17,770,900	934,438	1,901,257	92.6%	1.0%	13.5%	115,187	285,334	12.3%	15.0%
6/30/83-84	27,851,766	29,221,770	25,658,736	2,193,030	3,563,034	89.9%	1.0%	9.9%	212,071	402,232	9.7%	11.3%
6/30/84-85	39,855,700	41,951,557	38,317,600	1,538,100	3,633,957	93.7%	1.0%	15.8%	292,851	665,263	19.0%	18.3%
6/30/85-86	54,402,356	56,026,060	51,548,281	2,854,075	4,477,779	93.4%	1.0%	15.1%	409,035	613,123	14.3%	13.7%
6/30/86-87	59,058,562	61,500,422	56,971,275	2,087,288	4,529,147	94.5%	1.0%	18.2%	406,118	740,889	19.5%	16.4%
6/30/87-88	87,441,456	89,878,709	82,111,884	5,329,573	7,766,825	92.6%	1.0%	13.5%	721,609	1,134,024	13.5%	14.6%
6/30/88-89	86,791,596	88,951,024	81,174,218	5,617,379	7,776,806	92.4%	1.0%	13.1%	773,371	1,124,287	13.8%	14.5%
6/30/89-90	83,348,856	85,058,479	78,295,168	5,053,688	6,763,311	93.0%	1.0%	14.3%	913,863	1,256,861	18.1%	18.6%
6/30/90-91	69,758,935	74,135,696	64,896,289	4,862,646	9,239,407	90.2%	1.0%	10.2%	697,891	1,248,114	14.4%	13.5%
6/30/91-92	47,409,013	48,711,766	43,544,958	3,864,055	5,166,807	90.6%	2.0%	21.3%	529,002	681,513	13.7%	13.2%
6/30/92-93	32,947,124	34,518,630	29,971,712	2,975,412	4,546,918	88.9%	2.0%	17.9%	414,385	576,665	13.9%	12.7%
6/30/93-94	35,863,000	36,957,000	32,319,402	3,543,598	4,637,598	88.8%	2.0%	17.8%	483,963	594,252	13.7%	12.8%
6/30/94-95	33,587,423	34,359,476	29,654,537	3,932,886	4,704,939	87.3%	2.0%	15.7%	490,676	569,429	12.5%	12.1%
6/30/95-96	32,144,029	32,942,516	28,157,568	3,986,461	4,784,949	86.5%	2.0%	14.8%	432,189	532,607	10.8%	11.1%
6/30/96-97	33,252,684	33,990,912	28,520,097	4,732,588	5,470,815	84.8%	2.0%	13.2%	506,576	568,551	10.7%	10.4%
6/30/97-98	36,447,642	37,151,756	31,117,920	5,329,722	6,033,836	84.6%	2.0%	13.0%	633,572	698,513	11.9%	11.6%
6/30/98-99	35,025,000	35,742,000	29,082,684	5,942,316	6,659,316	82.2%	2.0%	11.2%	629,578	701,347	10.6%	10.5%
6/30/99-00	40,472,000	41,308,000	32,884,259	7,587,741	8,423,741	80.4%	3.0%	15.3%	853,594	931,396	11.2%	11.1%
6/30/00-01	46,896,492	48,469,000	38,334,179	8,562,313	10,134,821	80.4%	3.2%	16.3%	918,797	1,082,445	10.7%	10.7%
6/30/01-02	43,358,000	44,225,000	33,924,619	9,433,381	10,300,381	77.5%	2.9%	13.0%	913,220	975,960	9.7%	9.5%
6/30/02-03	42,828,450	44,363,000	33,353,202	9,475,248	11,009,798	76.5%	1.0%	4.1%	726,377	850,620	7.7%	7.7%
6/30/03-04	43,615,043	45,134,850	33,417,015	10,198,028	11,717,835	75.3%	1.2%	4.9%	740,517	857,133	7.3%	7.3%
6/30/04-05	45,588,000	47,673,850	34,562,523	11,025,477	13,111,327	74.1%	1.2%	4.6%	868,752	1,044,604	7.9%	8.0%
6/30/05-06	42,509,000	44,546,100	30,138,853	12,370,147	14,407,247	69.2%	4.9%	15.9%	1,972,344	2,283,872	15.9%	15.9%
6/30/06-07	40,466,000	44,211,350	27,454,257	13,011,743	16,757,093	64.8%	4.4%	12.5%	1,443,757	1,818,333	11.1%	10.9%
6/30/07-08	46,445,000	50,445,850	29,132,319	17,312,681	21,313,531	60.1%	4.7%	11.8%	1,942,845	2,401,282	11.2%	11.3%
6/30/08-09	48,252,000	52,539,350	26,788,024	21,463,976	25,751,326	53.2%	7.0%	14.9%	3,038,584	3,657,671	14.2%	14.2%
6/30/09-10	50,169,000	56,795,300	23,120,370	27,048,630	33,674,930	43.2%	9.9%	17.5%	3,921,581	4,776,868	14.5%	14.2%
6/30/10-11	56,071,000	63,556,100	20,336,831	35,734,169	43,219,269	34.0%	9.2%	14.0%	4,840,582	5,702,410	13.5%	13.2%
6/30/11-12	57,114,000	69,472,000	9,029,730	48,084,270	60,442,270	14.3%	19.7%	23.0%	11,086,243	13,790,027	23.1%	22.8%
Total	1,533,557,513	1,619,938,268	1,219,301,627	314,255,886	400,636,641				43,427,303	54,213,615	13.8%	13.5%

NOTES:

(2) Exhibit 1, Page 1, Column (4) + Exhibit 2, Page 1, Column (4)

(3) Exhibit 1, Page 1, Column (5) + Exhibit 2, Page 1, Column (5)

(4) Exhibit 1, Page 1, Column (2) + Exhibit 2, Page 1, Column (2)

(5) = (2) - (4)

(6) = (3) - (4)

(7) = (4) / Average of Columns (2), (3)

(8) = (7) - Prior Year's (7)

(9) = (8) / (1.00 - (7))

(10), (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, 2012**

Section 1
Exhibit 2
Page 1

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		6,097,619			7,135,868	8,272,663	1,038,249	2,175,044		
6/30/82-83		1,233,433	1,250,324		1,238,329	1,275,632	4,896	42,198		
6/30/83-84		3,245,106	3,303,649		3,263,074	3,374,383	17,968	129,277		
6/30/84-85	1,823,085	3,139,070	3,203,358	3,198,693	3,195,840	3,212,983	56,770	73,913	0.175	0.176
6/30/85-86	1,952,445	4,944,321	5,054,863	5,052,150	5,031,171	5,062,115	86,850	117,795	0.258	0.259
6/30/86-87	2,220,820	5,707,463	5,847,985	5,853,314	5,835,562	5,857,716	128,099	150,253	0.263	0.264
6/30/87-88	2,885,583	9,677,988	9,962,163	9,968,344	9,955,000	9,976,000	277,012	298,012	0.345	0.346
6/30/88-89	3,098,180	11,887,968	12,266,950	12,272,722	12,266,230	12,296,225	378,262	408,257	0.396	0.397
6/30/89-90	3,079,763	12,520,503	12,979,662	12,994,530	12,899,198	12,991,507	378,695	471,004	0.419	0.422
6/30/90-91	2,914,364	11,766,239	12,263,538	12,260,346	12,224,075	12,277,782	457,837	511,543	0.419	0.421
6/30/91-92	2,880,434	10,162,177	10,593,606	10,588,893	10,560,534	10,607,647	398,357	445,470	0.367	0.368
6/30/92-93	2,887,238	7,714,728	8,125,286	8,120,144	8,114,747	8,142,684	400,019	427,955	0.281	0.282
6/30/93-94	3,056,850	7,974,641	8,460,972	8,453,197	8,453,000	8,460,000	478,359	485,359	0.277	0.277
6/30/94-95	3,158,808	6,764,444	7,242,159	7,235,646	7,227,423	7,237,476	462,979	473,032	0.229	0.229
6/30/95-96	3,301,791	6,521,070	7,039,294	7,033,285	7,017,043	7,045,625	495,973	524,555	0.213	0.213
6/30/96-97	3,902,868	6,664,852	7,290,642	7,285,498	7,277,847	7,296,626	612,995	631,774	0.186	0.187
6/30/97-98	3,776,138	6,191,362	6,842,947	6,839,306	6,835,000	6,885,200	643,638	693,838	0.181	0.182
6/30/98-99	4,017,530	6,402,584	7,201,714	7,198,335	7,197,000	7,217,000	794,416	814,416	0.179	0.180
6/30/99-00	4,221,786	7,138,790	8,155,793	8,146,326	8,144,000	8,173,000	1,005,210	1,034,210	0.193	0.194
6/30/00-01	4,310,725	8,703,774	10,060,773	10,033,884	9,950,600	10,087,000	1,246,826	1,383,226	0.231	0.234
6/30/01-02	4,438,755	6,917,679	8,116,531	8,123,824	8,114,000	8,145,000	1,196,321	1,227,321	0.183	0.183
6/30/02-03	4,423,888	7,547,463	9,078,589	9,074,147	8,929,000	9,102,000	1,381,537	1,554,537	0.202	0.206
6/30/03-04	4,482,207	8,092,945	9,915,827	9,910,294	9,774,000	9,956,850	1,681,055	1,863,905	0.218	0.222
6/30/04-05	4,639,517	9,544,673	12,136,561	11,616,615	10,991,000	12,161,850	1,446,327	2,617,177	0.237	0.262
6/30/05-06	4,938,165	8,500,027	11,052,371	11,038,495	10,521,000	11,162,100	2,020,973	2,662,073	0.213	0.226
6/30/06-07	5,183,126	8,952,407	12,190,491	11,959,776	11,106,000	12,411,350	2,153,593	3,458,943	0.214	0.239
6/30/07-08	5,508,425	8,364,088	11,729,196	12,165,611	11,140,000	12,242,850	2,775,912	3,878,762	0.202	0.222
6/30/08-09	5,447,676	8,400,468	12,444,479	12,733,064	11,501,000	13,190,350	3,100,532	4,789,882	0.211	0.242
6/30/09-10	5,525,579	7,213,128	11,730,743	12,735,651	11,141,000	13,224,300	3,927,872	6,011,172	0.202	0.239
6/30/10-11	5,712,303	7,016,744	14,336,920	14,591,886	13,094,000	15,521,100	6,077,256	8,504,356	0.229	0.272
6/30/11-12	5,880,714	3,189,372	15,854,048	15,563,521	13,637,000	17,827,000	10,447,628	14,637,628	0.232	0.303
Total	109,668,762	228,197,127	275,731,433	272,047,497	273,769,543	290,694,016	45,572,417	62,496,889		
Tot 6/30/84-12	109,668,762	217,620,968	271,177,460	272,047,497	262,132,272	277,771,338	44,511,303	60,150,369	0.239	0.253

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, 2012

Section 1
Exhibit 2
Page 2

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 7/1/10-11	Paid Counts 7/1/11-12	Average Outstanding Claim
All Prior Yrs		6,097,619							17	9	
6/30/82-83		1,233,433	1.014	N/A	1,250,324	N/A	1,250,324		2	2	8,445
6/30/83-84		3,245,106	1.018	N/A	3,303,649	N/A	3,303,649		3	2	29,271
6/30/84-85	1,823,085	3,139,070	1.020	N/A	3,203,358	N/A	3,203,358	0.176	6	3	21,429
6/30/85-86	1,952,445	4,944,321	1.022	N/A	5,054,863	N/A	5,054,863	0.259	7	3	36,848
6/30/86-87	2,220,820	5,707,463	1.025	N/A	5,847,985	N/A	5,847,985	0.263	7	5	28,104
6/30/87-88	2,885,583	9,677,988	1.029	N/A	9,962,163	N/A	9,962,163	0.345	16	15	18,945
6/30/88-89	3,098,180	11,887,968	1.032	N/A	12,266,950	N/A	12,266,950	0.396	22	18	21,055
6/30/89-90	3,079,763	12,520,503	1.037	N/A	12,979,662	N/A	12,979,662	0.421	11	10	45,916
6/30/90-91	2,914,364	11,766,239	1.042	N/A	12,263,538	N/A	12,263,538	0.421	21	19	26,174
6/30/91-92	2,880,434	10,162,177	1.042	N/A	10,593,606	N/A	10,593,606	0.368	16	11	39,221
6/30/92-93	2,887,238	7,714,728	1.053	N/A	8,125,286	N/A	8,125,286	0.281	16	13	31,581
6/30/93-94	3,056,850	7,974,641	1.061	N/A	8,460,972	N/A	8,460,972	0.277	21	22	22,106
6/30/94-95	3,158,808	6,764,444	1.071	N/A	7,242,159	N/A	7,242,159	0.229	18	17	28,101
6/30/95-96	3,301,791	6,521,070	1.079	N/A	7,039,294	N/A	7,039,294	0.213	9	10	51,822
6/30/96-97	3,902,868	6,664,852	1.094	N/A	7,290,642	N/A	7,290,642	0.187	19	20	31,289
6/30/97-98	3,776,138	6,191,362	1.105	N/A	6,842,947	N/A	6,842,947	0.181	20	21	31,028
6/30/98-99	4,017,530	6,402,584	1.125	N/A	7,201,714	N/A	7,201,714	0.179	27	23	34,745
6/30/99-00	4,221,786	7,138,790	1.142	N/A	8,155,793	N/A	8,155,793	0.193	32	27	37,667
6/30/00-01	4,310,725	8,703,774	1.156	N/A	10,060,773	N/A	10,060,773	0.233	39	39	34,795
6/30/01-02	4,438,755	6,917,679	1.173	N/A	8,116,531	N/A	8,116,531	0.183	53	56	21,408
6/30/02-03	4,423,888	7,547,463	1.203	N/A	9,078,589	N/A	9,078,589	0.205	52	51	30,022
6/30/03-04	4,482,207	8,092,945	1.225	N/A	9,915,827	N/A	9,915,827	0.221	73	52	35,055
6/30/04-05	4,639,517	9,544,673	1.272	N/A	12,136,561	N/A	12,136,561	0.262	88	68	38,116
6/30/05-06	4,938,165	8,500,027	1.300	N/A	11,052,371	N/A	11,052,371	0.224	106	77	33,147
6/30/06-07	5,183,126	8,952,407	1.362	N/A	12,190,491	N/A	12,190,491	0.235	150	91	35,583
6/30/07-08	5,508,425	8,364,088	1.402	N/A	11,729,196	N/A	11,729,196	0.213	215	133	25,302
6/30/08-09	5,447,676	8,400,468	1.481	N/A	12,444,479	N/A	12,444,479	0.228	441	204	19,824
6/30/09-10	5,525,579	7,213,128	1.626	N/A	11,730,743	N/A	11,730,743	0.212	1,558	368	12,276
6/30/10-11	5,712,303	7,016,744	2.043	N/A	14,336,920	N/A	14,336,920	0.251	2,498	1,490	4,913
6/30/11-12	5,880,714	3,189,372	4.971	N/A	15,854,048	N/A	15,854,048	0.270		2,380	5,321
Total	109,668,762	228,197,127			275,731,433		275,731,433		5,563	5,259	

NOTES:

(2) Provided by Commonwealth of Massachusetts

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

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

(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
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Section 1
Exhibit 2
Page 3

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	3,139,070	1.020	3,198,693	N/A	3,198,693	0.175	0.175
6/30/85-86	1,952,445	0.298	4,944,321	1.022	5,052,150	N/A	5,052,150	0.259	0.259
6/30/86-87	2,220,820	0.308	5,707,463	1.025	5,853,314	N/A	5,853,314	0.264	0.264
6/30/87-88	2,885,583	0.387	9,677,988	1.029	9,968,344	N/A	9,968,344	0.345	0.345
6/30/88-89	3,098,180	0.448	11,887,968	1.032	12,272,722	N/A	12,272,722	0.396	0.396
6/30/89-90	3,079,763	0.489	12,520,503	1.037	12,994,530	N/A	12,994,530	0.422	0.422
6/30/90-91	2,914,364	0.418	11,766,239	1.042	12,260,346	N/A	12,260,346	0.421	0.421
6/30/91-92	2,880,434	0.363	10,162,177	1.042	10,588,893	N/A	10,588,893	0.368	0.368
6/30/92-93	2,887,238	0.277	7,714,728	1.053	8,120,144	N/A	8,120,144	0.281	0.281
6/30/93-94	3,056,850	0.272	7,974,641	1.061	8,453,197	N/A	8,453,197	0.277	0.277
6/30/94-95	3,158,808	0.225	6,764,444	1.071	7,235,646	N/A	7,235,646	0.229	0.229
6/30/95-96	3,301,791	0.210	6,521,070	1.079	7,033,285	N/A	7,033,285	0.213	0.213
6/30/96-97	3,902,868	0.185	6,664,852	1.094	7,285,498	N/A	7,285,498	0.187	0.187
6/30/97-98	3,776,138	0.180	6,191,362	1.105	6,839,306	N/A	6,839,306	0.181	0.181
6/30/98-99	4,017,530	0.178	6,402,584	1.125	7,198,335	N/A	7,198,335	0.179	0.179
6/30/99-00	4,221,786	0.191	7,138,790	1.142	8,146,326	N/A	8,146,326	0.193	0.193
6/30/00-01	4,310,725	0.228	8,703,774	1.156	10,033,884	N/A	10,033,884	0.233	0.233
6/30/01-02	4,438,755	0.183	6,917,679	1.173	8,123,824	N/A	8,123,824	0.183	0.183
6/30/02-03	4,423,888	0.204	7,547,463	1.203	9,074,147	N/A	9,074,147	0.205	0.205
6/30/03-04	4,482,207	0.219	8,092,945	1.225	9,910,294	N/A	9,910,294	0.221	0.221
6/30/04-05	4,639,517	0.206	9,544,673	1.272	11,616,615	N/A	11,616,615	0.250	0.250
6/30/05-06	4,938,165	0.211	8,500,027	1.300	11,038,495	N/A	11,038,495	0.224	0.224
6/30/06-07	5,183,126	0.215	8,952,407	1.362	11,959,776	N/A	11,959,776	0.231	0.231
6/30/07-08	5,508,425	0.219	8,364,088	1.402	12,165,611	N/A	12,165,611	0.221	0.221
6/30/08-09	5,447,676	0.225	8,400,468	1.481	12,733,064	N/A	12,733,064	0.234	0.234
6/30/09-10	5,525,579	0.236	7,213,128	1.626	12,735,651	N/A	12,735,651	0.230	0.230
6/30/10-11	5,712,303	0.240	7,016,744	2.043	14,591,886	N/A	14,591,886	0.255	0.255
6/30/11-12	5,880,714	0.245	3,189,372	4.971	15,563,521	N/A	15,563,521	0.265	0.265
Total	109,668,762		217,620,968		272,047,497		272,047,497		

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
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Page 4

**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	12,263,538	0.421	1.194	0.502	1.546	0.777	0.135	0.421	0.418
6/30/91-92	2,880,434	10,593,606	0.368	1.189	0.437	1.516	0.663	0.139	0.364	0.363
6/30/92-93	2,887,238	8,125,286	0.281	1.189	0.335	1.486	0.497	0.141	0.281	0.277
6/30/93-94	3,056,850	8,460,972	0.277	1.178	0.326	1.457	0.475	0.146	0.274	0.272
6/30/94-95	3,158,808	7,242,159	0.229	1.170	0.268	1.428	0.383	0.150	0.225	0.225
6/30/95-96	3,301,791	7,039,294	0.213	1.155	0.246	1.400	0.345	0.155	0.212	0.210
6/30/96-97	3,902,868	7,290,642	0.187	1.137	0.212	1.373	0.291	0.160	0.183	0.185
6/30/97-98	3,776,138	6,842,947	0.181	1.135	0.206	1.346	0.277	0.164	0.179	0.180
6/30/98-99	4,017,530	7,201,714	0.179	1.135	0.203	1.319	0.268	0.167	0.177	0.178
6/30/99-00	4,221,786	8,155,793	0.193	1.135	0.219	1.294	0.284	0.170	0.190	0.191
6/30/00-01	4,310,725	10,060,773	0.233	1.109	0.259	1.268	0.328	0.178	0.226	0.228
6/30/01-02	4,438,755	8,116,531	0.183	1.101	0.201	1.243	0.250	0.183	0.180	0.183
6/30/02-03	4,423,888	9,078,589	0.205	1.073	0.220	1.219	0.268	0.191	0.204	0.204
6/30/03-04	4,482,207	9,915,827	0.221	1.046	0.232	1.195	0.277	0.200	0.221	0.219
6/30/04-05	4,639,517	12,136,561	0.262	1.036	0.271	1.172	0.317	0.206	0.196	0.206
6/30/05-06	4,938,165	11,052,371	0.224	1.032	0.231	1.149	0.265	0.211	0.203	0.211
6/30/06-07	5,183,126	12,190,491	0.235	1.032	0.243	1.126	0.273	0.215	0.209	0.215
6/30/07-08	5,508,425	11,729,196	0.213	1.032	0.220	1.104	0.243	0.219	0.215	0.219
6/30/08-09	5,447,676	12,444,479	0.228	1.027	0.234	1.082	0.254	0.225	0.223	0.225
6/30/09-10	5,525,579	11,730,743	0.212	1.000	0.212	1.061	0.225	0.236	0.236	0.236
6/30/10-11	5,712,303	14,336,920	0.251	1.000	0.251	1.040	0.261	0.240	0.243	0.240
6/30/11-12	5,880,714	15,854,048	0.270	1.000	0.270	1.020	0.275	0.245		0.245
Total	94,608,887	221,862,479								
Trend Last 4 (ex 11-12):					3.0%	Avg 3 (x11-12):	0.247			
Trend Last 8 (ex 11-12):					-0.8%	Avg 5 (x11-12):	0.251			
Trend Last 12 (ex 11-12):					0.3%	Avg 10 (x11-12):	0.263			
Prior Selected Trend:					3.0%	Prior Sel Avg:	0.250			
Selected Trend:					2.0%	Sel. Loss Cost:	0.250			

NOTES:

- (2) Provided by Commonwealth of Massachusetts
- (3) From Section 1, Exhibit 2, Page 2, Column 6
- (4) = (3) / (2) / 10
- (5) Based on information from the MA WCIRB
- (6) = (4) x (5)
- (7) Based on Selected Trend from (6)
- (8) = (6) x (7)
- (9) = Sel. Loss Cost / [(5) * (7)]
- (10) From Aon analysis as of June 30, 2011
- (11) Selected based on (9) and (4)



Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012

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All Clusters Combined
Medical

Calculation of 1982 & Prior Reserves (Page 1)

Method 1			
(1)	Average Payment Trend	0.950	
(2)	Credibility	90%	
(3)	Average Pmt Trend Statewide	0.950	
(4)	Credibility Weighted Trend	0.950	
		(Low)	(High)
(5)	Selected Range	0.920	0.970
(6)	Incremental Paid for 2012	102,690	102,690
(7)	Estimated Reserve	1,180,935	3,320,310
(8)	Paid to Date (82 & Prior)	6,097,619	6,097,619
(9)	Est Ult Paid for 1982 & Prior	7,278,554	9,417,929
Method 2			
		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	136,810	154,727
(11)	Projected Number of Years	3	3
(12)	Estimated Reserve	410,430	464,181
(13)	Paid to Date (82 & Prior)	6,097,619	5,995,860
(14)	Est Ult Paid for 1982 & Prior	6,508,049	6,460,041
(14a)	Paid Counts During Fiscal Year	9	17
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	6,893,301	9,417,929
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	6,893,301	9,417,929
(18)	Implied Tail	1.130	1.545
(19)	Ult Loss Inc Lump Sums @ 6/11	6,656,730	7,407,397

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, 2011



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

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Exhibit 2
Page 6

**All Clusters Combined
Medical**

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paid	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 =	21
2001	10	83,644	11.334	0.746	S(x) =	42,042
2002	11	54,441	10.905	0.651	S(x-sq) =	84,168,854
2003	12	53,298	10.884	0.979	S(xy) =	491,772
2004	13	73,810	11.209	1.385	S(y) =	246
2005	14	86,676	11.370	1.174	D =	16,170
2006	15	71,904	11.183	0.830	slope =	-0.051
2007	16	66,960	11.112	0.931	Avg Trend =	0.949
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		
				Selected Trend:	0.950	

NOTES:

(3) 2012 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2011

(4) LN [(3)]

(5) Eg. 2011: 0.736 = 102690 / 139603



**Commonwealth of Massachusetts
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All Clusters Combined

Medical

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Accident Year	Ultimate Loss As of 6/11		Ultimate Loss As of 6/12		Change in Ultimate Loss		Change in Ultimate Loss	
					(Dollar)	(Percent)	(Dollar)	(Percent)
	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	6,985,539	7,611,470	7,135,868	8,272,663	150,329	2.2%	661,192	8.7%
6/30/82-83	1,237,456	1,280,583	1,238,329	1,275,632	874	0.1%	(4,952)	-0.4%
6/30/83-84	3,264,815	3,407,021	3,263,074	3,374,383	(1,741)	-0.1%	(32,638)	-1.0%
6/30/84-85	3,224,329	3,243,388	3,195,840	3,212,983	(28,489)	-0.9%	(30,405)	-0.9%
6/30/85-86	5,118,441	5,155,115	5,031,171	5,062,115	(87,270)	-1.7%	(93,000)	-1.8%
6/30/86-87	5,893,562	5,916,716	5,835,562	5,857,716	(58,000)	-1.0%	(59,000)	-1.0%
6/30/87-88	10,088,000	10,108,000	9,955,000	9,976,000	(133,000)	-1.3%	(132,000)	-1.3%
6/30/88-89	12,449,230	12,483,225	12,266,230	12,296,225	(183,000)	-1.5%	(187,000)	-1.5%
6/30/89-90	13,061,659	13,149,933	12,899,198	12,991,507	(162,460)	-1.2%	(158,425)	-1.2%
6/30/90-91	12,313,685	12,368,782	12,224,075	12,277,782	(89,610)	-0.7%	(91,000)	-0.7%
6/30/91-92	10,559,534	10,608,647	10,560,534	10,607,647	1,000	0.0%	(1,000)	0.0%
6/30/92-93	8,232,747	8,264,684	8,114,747	8,142,684	(118,000)	-1.4%	(122,000)	-1.5%
6/30/93-94	8,569,000	8,579,000	8,453,000	8,460,000	(116,000)	-1.4%	(119,000)	-1.4%
6/30/94-95	7,246,423	7,257,476	7,227,423	7,237,476	(19,000)	-0.3%	(20,000)	-0.3%
6/30/95-96	7,121,043	7,150,625	7,017,043	7,045,625	(104,000)	-1.5%	(105,000)	-1.5%
6/30/96-97	7,241,847	7,261,626	7,277,847	7,296,626	36,000	0.5%	35,000	0.5%
6/30/97-98	6,849,000	6,881,100	6,835,000	6,885,200	(14,000)	-0.2%	4,100	0.1%
6/30/98-99	7,226,000	7,234,000	7,197,000	7,217,000	(29,000)	-0.4%	(17,000)	-0.2%
6/30/99-00	8,171,000	8,182,000	8,144,000	8,173,000	(27,000)	-0.3%	(9,000)	-0.1%
6/30/00-01	9,954,900	10,066,000	9,950,600	10,087,000	(4,300)	0.0%	21,000	0.2%
6/30/01-02	8,020,000	8,035,000	8,114,000	8,145,000	94,000	1.2%	110,000	1.4%
6/30/02-03	8,995,000	9,148,000	8,929,000	9,102,000	(66,000)	-0.7%	(46,000)	-0.5%
6/30/03-04	9,948,000	10,113,650	9,774,000	9,956,850	(174,000)	-1.7%	(156,800)	-1.6%
6/30/04-05	11,284,000	12,405,250	10,991,000	12,161,850	(293,000)	-2.6%	(243,400)	-2.0%
6/30/05-06	10,731,000	11,298,950	10,521,000	11,162,100	(210,000)	-2.0%	(136,850)	-1.2%
6/30/06-07	11,284,000	12,843,250	11,106,000	12,411,350	(178,000)	-1.6%	(431,900)	-3.4%
6/30/07-08	11,481,000	12,762,400	11,140,000	12,242,850	(341,000)	-3.0%	(519,550)	-4.1%
6/30/08-09	12,000,000	13,890,800	11,501,000	13,190,350	(499,000)	-4.2%	(700,450)	-5.0%
6/30/09-10	12,101,000	14,783,950	11,141,000	13,224,300	(960,000)	-7.9%	(1,559,650)	-10.5%
6/30/10-11	14,836,000	19,838,700	13,094,000	15,521,100	(1,742,000)	-11.7%	(4,317,600)	-21.8%
6/30/11-12								
Total	265,488,211	281,329,343	260,132,543	272,867,016	(5,355,668)	-2.0%	(8,462,327)	-3.0%

NOTES:

(2), (3) From Aon analysis as of June 30, 2011

(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



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

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**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%
372	100.0%	1.4%	0.0%	0.4%	0.2%	1.000	1.000
360	98.6%	0.4%	1.4%	0.1%	0.1%	0.981	0.971
348	98.2%	0.2%	1.8%	0.1%	0.0%	0.952	0.929
336	98.0%	0.2%	2.0%	0.1%	0.0%	0.923	0.888
324	97.8%	0.2%	2.2%	0.1%	0.0%	0.895	0.849
312	97.6%	0.4%	2.4%	0.2%	0.1%	0.871	0.816
300	97.1%	0.2%	2.9%	0.1%	0.1%	0.860	0.801
288	96.9%	0.4%	3.1%	0.2%	0.1%	0.839	0.773
276	96.5%	0.5%	3.5%	0.2%	0.1%	0.829	0.760
264	95.9%	0.0%	4.1%	0.0%	0.0%	0.820	0.749
252	95.9%	1.0%	4.1%	0.4%	0.3%	0.790	0.708
240	94.9%	0.7%	5.1%	0.3%	0.2%	0.802	0.727
228	94.3%	0.8%	5.7%	0.4%	0.3%	0.797	0.720
216	93.4%	0.8%	6.6%	0.4%	0.3%	0.794	0.717
204	92.6%	1.2%	7.4%	0.6%	0.5%	0.786	0.707
192	91.4%	0.9%	8.6%	0.5%	0.4%	0.788	0.710
180	90.5%	1.6%	9.5%	0.9%	0.7%	0.779	0.700
168	88.9%	1.4%	11.1%	0.8%	0.6%	0.782	0.704
156	87.5%	1.0%	12.5%	0.6%	0.5%	0.777	0.698
144	86.5%	1.3%	13.5%	0.8%	0.7%	0.765	0.682
132	85.2%	2.1%	14.8%	1.4%	1.1%	0.757	0.672
120	83.1%	1.5%	16.9%	1.0%	0.9%	0.759	0.676
108	81.6%	3.0%	18.4%	2.1%	1.8%	0.751	0.665
96	78.6%	1.7%	21.4%	1.3%	1.1%	0.758	0.675
84	76.9%	3.5%	23.1%	2.7%	2.4%	0.748	0.662
72	73.4%	2.1%	26.6%	1.7%	1.5%	0.753	0.670
60	71.3%	3.8%	28.7%	3.2%	2.9%	0.743	0.657
48	67.5%	6.0%	32.5%	5.2%	4.9%	0.746	0.661
36	61.5%	12.5%	38.5%	11.4%	10.8%	0.758	0.678
24	48.9%	28.8%	51.1%	27.2%	26.4%	0.791	0.721
12	20.1%	20.1%	79.9%	19.7%	19.5%	0.840	0.785
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
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Exhibit 2
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All Clusters Combined

Medical

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	1,038,249	2,175,044		958,352	2,024,638
6/30/82-83	4,896	42,198	0.981	4,808	41,398
6/30/83-84	17,968	129,277	0.952	17,085	122,824
6/30/84-85	56,770	73,913	0.923	52,645	68,674
6/30/85-86	86,850	117,795	0.895	78,640	107,133
6/30/86-87	128,099	150,253	0.871	113,203	132,837
6/30/87-88	277,012	298,012	0.860	238,553	256,510
6/30/88-89	378,262	408,257	0.839	318,819	342,605
6/30/89-90	378,695	471,004	0.829	312,593	386,615
6/30/90-91	457,837	511,543	0.820	369,539	412,867
6/30/91-92	398,357	445,470	0.790	316,731	353,737
6/30/92-93	400,019	427,955	0.802	319,104	341,233
6/30/93-94	478,359	485,359	0.797	379,264	384,823
6/30/94-95	462,979	473,032	0.794	362,413	370,434
6/30/95-96	495,973	524,555	0.786	384,386	406,525
6/30/96-97	612,995	631,774	0.788	468,887	483,054
6/30/97-98	643,638	693,838	0.779	488,189	525,198
6/30/98-99	794,416	814,416	0.782	600,467	614,831
6/30/99-00	1,005,210	1,034,210	0.777	759,086	779,910
6/30/00-01	1,246,826	1,383,226	0.765	931,146	1,030,556
6/30/01-02	1,196,321	1,227,321	0.757	891,336	913,350
6/30/02-03	1,381,537	1,554,537	0.759	1,026,042	1,150,966
6/30/03-04	1,681,055	1,863,905	0.751	1,252,408	1,387,410
6/30/04-05	1,446,327	2,617,177	0.758	1,070,633	1,941,732
6/30/05-06	2,020,973	2,662,073	0.748	1,504,664	1,985,580
6/30/06-07	2,153,593	3,458,943	0.753	1,601,619	2,574,590
6/30/07-08	2,775,912	3,878,762	0.743	2,065,659	2,887,641
6/30/08-09	3,100,532	4,789,882	0.746	2,316,164	3,578,794
6/30/09-10	3,927,872	6,011,172	0.758	2,996,385	4,579,028
6/30/10-11	6,077,256	8,504,356	0.791	4,813,804	6,721,576
6/30/11-12	10,447,628	14,637,628	0.840	8,781,957	12,244,768
Total	45,572,417	62,496,889		35,794,584	49,151,838
(7) Total Discount Factor				0.785	0.786
Discount Calculation for					
All Prior Years					
				(Low)	(High)
(8) Estimated Total Reserve	1,038,249	2,175,044			
(9) Projected Number of Years	3	3			
(10) Projected Paid Loss per Year	346,083	725,015			
(11) Discounted Value at 4%	979,621	2,052,221			

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)



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All Clusters Combined

Medical

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	1,038,249	2,175,044		923,122	1,957,576
6/30/82-83	4,896	42,198	0.971	4,766	41,014
6/30/83-84	17,968	129,277	0.929	16,673	119,818
6/30/84-85	56,770	73,913	0.888	50,770	66,294
6/30/85-86	86,850	117,795	0.849	75,000	102,404
6/30/86-87	128,099	150,253	0.816	106,751	125,293
6/30/87-88	277,012	298,012	0.801	222,271	238,945
6/30/88-89	378,262	408,257	0.773	294,204	315,483
6/30/89-90	378,695	471,004	0.760	285,816	352,538
6/30/90-91	457,837	511,543	0.749	334,596	373,837
6/30/91-92	398,357	445,470	0.708	285,058	318,247
6/30/92-93	400,019	427,955	0.727	288,227	308,198
6/30/93-94	478,359	485,359	0.720	341,994	347,010
6/30/94-95	462,979	473,032	0.717	325,148	332,410
6/30/95-96	495,973	524,555	0.707	343,625	363,445
6/30/96-97	612,995	631,774	0.710	416,894	429,422
6/30/97-98	643,638	693,838	0.700	432,894	465,319
6/30/98-99	794,416	814,416	0.704	532,268	544,703
6/30/99-00	1,005,210	1,034,210	0.698	673,422	691,485
6/30/00-01	1,246,826	1,383,226	0.682	822,616	909,584
6/30/01-02	1,196,321	1,227,321	0.672	787,284	806,338
6/30/02-03	1,381,537	1,554,537	0.676	905,749	1,014,764
6/30/03-04	1,681,055	1,863,905	0.665	1,108,440	1,227,659
6/30/04-05	1,446,327	2,617,177	0.675	945,659	1,716,593
6/30/05-06	2,020,973	2,662,073	0.662	1,333,522	1,761,070
6/30/06-07	2,153,593	3,458,943	0.670	1,419,427	2,281,871
6/30/07-08	2,775,912	3,878,762	0.657	1,831,516	2,561,101
6/30/08-09	3,100,532	4,789,882	0.661	2,058,160	3,180,998
6/30/09-10	3,927,872	6,011,172	0.678	2,689,826	4,108,921
6/30/10-11	6,077,256	8,504,356	0.721	4,394,832	6,132,330
6/30/11-12	10,447,628	14,637,628	0.785	8,216,107	11,436,856
Total	45,572,417	62,496,889		32,466,639	44,631,525

(7) Total Discount Factor: 0.712 0.714

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve: 1,038,249 2,175,044
(9) Projected Number of Years: 3 3
(10) Projected Paid Loss per Year: 346,083 725,015
(11) Discounted Value at 6%: 952,837 1,996,112

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
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Indemnity

Section 2
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Page 1

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		19,920,232			24,817,827	27,008,015	4,897,594	7,087,783		
6/30/82-83		4,621,791	5,104,283		4,976,675	5,231,890	354,884	610,098		
6/30/83-84		7,911,441	9,586,029		9,394,308	9,777,749	1,482,868	1,866,309		
6/30/84-85	181,560	6,782,046	6,969,177	6,974,577	6,850,000	6,918,000	67,954	135,954	3.773	3.810
6/30/85-86	195,247	10,272,096	10,677,574	10,670,704	10,580,000	10,683,000	307,904	410,904	5.419	5.472
6/30/86-87	224,370	13,480,506	14,096,384	14,105,833	13,750,000	13,885,000	269,494	404,494	6.128	6.188
6/30/87-88	262,864	19,044,519	21,824,867	20,043,379	20,043,000	20,934,000	998,481	1,889,481	7.625	7.964
6/30/88-89	283,884	19,780,264	21,018,012	21,020,933	21,018,000	21,021,000	1,237,736	1,240,736	7.404	7.405
6/30/89-90	285,078	14,966,981	16,024,200	16,150,323	15,117,000	15,266,000	150,019	299,019	5.303	5.355
6/30/90-91	267,732	10,863,097	11,747,846	11,741,516	10,972,000	11,080,000	108,903	216,903	4.098	4.138
6/30/91-92	261,442	7,448,162	8,099,256	8,091,058	8,091,000	8,099,000	642,838	650,838	3.095	3.098
6/30/92-93	259,992	4,189,576	4,591,596	4,586,054	4,231,000	4,273,000	41,424	83,424	1.627	1.644
6/30/93-94	257,062	3,496,223	3,826,340	3,822,166	3,566,000	3,601,000	69,777	104,777	1.387	1.401
6/30/94-95	255,854	2,081,529	2,288,126	2,289,127	2,288,000	2,289,000	206,471	207,471	0.894	0.895
6/30/95-96	255,539	2,977,888	3,292,783	3,288,710	3,289,000	3,293,000	311,112	315,112	1.287	1.289
6/30/96-97	270,071	2,467,027	2,738,106	2,738,498	2,738,000	2,738,000	270,973	270,973	1.014	1.014
6/30/97-98	245,367	2,558,030	2,880,040	2,876,195	2,876,000	2,880,000	317,970	321,970	1.172	1.174
6/30/98-99	251,453	2,268,046	2,567,421	2,567,630	2,567,000	2,568,000	298,954	299,954	1.021	1.021
6/30/99-00	255,641	2,267,234	2,611,764	2,610,197	2,610,000	2,612,000	342,766	344,766	1.021	1.022
6/30/00-01	263,918	3,106,854	3,646,666	3,631,079	3,631,000	3,647,000	524,146	540,146	1.376	1.382
6/30/01-02	267,598	2,229,461	2,638,313	2,639,229	2,638,000	2,639,000	408,539	409,539	0.986	0.986
6/30/02-03	274,465	2,902,035	3,495,635	3,485,015	3,485,000	3,496,000	582,965	593,965	1.270	1.274
6/30/03-04	272,384	2,931,797	3,589,154	3,575,749	3,576,000	3,589,000	644,203	657,203	1.313	1.318
6/30/04-05	273,647	2,622,417	3,274,273	3,207,364	3,207,000	3,274,000	584,583	651,583	1.172	1.196
6/30/05-06	285,139	2,397,522	3,223,389	3,213,605	3,214,000	3,223,000	816,478	825,478	1.127	1.130
6/30/06-07	298,516	2,405,339	3,267,447	3,288,368	3,267,000	3,288,000	861,661	882,661	1.094	1.101
6/30/07-08	314,231	1,350,780	2,169,828	2,542,935	2,170,000	2,543,000	819,220	1,192,220	0.691	0.809
6/30/08-09	302,998	1,718,834	2,870,218	3,084,665	2,870,000	3,085,000	1,151,166	1,366,166	0.947	1.018
6/30/09-10	297,252	2,141,596	4,149,344	3,917,917	3,918,000	4,149,000	1,776,404	2,007,404	1.318	1.396
6/30/10-11	292,432	1,346,423	3,656,764	3,596,655	3,597,000	3,657,000	2,250,577	2,310,577	1.230	1.251
6/30/11-12	295,908	737,468	3,995,278	3,793,059	3,793,000	3,995,000	3,055,532	3,257,532	1.282	1.350
Total	7,451,644	183,287,215	189,920,112	173,552,540	209,140,810	214,742,654	25,853,595	31,455,439		
Tot 6/30/84-12	7,451,644	150,833,751	175,229,801	173,552,540	169,952,000	172,725,000	19,118,249	21,891,249	2.281	2.318

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
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Section 2
Exhibit 1
Page 2

**Department of Mental Retardation - Cluster 1
Indemnity**

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Accident Year	Payroll (000's)	Paid Loss Excluding Lump Sum	Paid LDF	Adjstmnt for Extra Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/10-11	Paid Counts 7/1/11-12	Average Outstanding Claim	Average Age
All Prior Yrs		18,654,734							11	10		74
6/30/82-83		4,231,391	1.013	1.100	4,713,883	390,400	5,104,283		2	1	482,491	84
6/30/83-84		7,362,291	1.023	1.200	9,036,879	549,150	9,586,029		3	4	418,647	63
6/30/84-85	181,560	5,652,195	1.033	1.000	5,839,326	1,129,851	6,969,177	3.838	0	1	187,132	61
6/30/85-86	195,247	9,334,452	1.043	1.000	9,739,930	937,644	10,677,574	5.469	1	0		
6/30/86-87	224,370	11,412,789	1.054	1.000	12,027,633	2,068,751	14,096,384	6.283	0	0		
6/30/87-88	262,864	16,248,755	1.064	1.100	19,024,906	2,799,960	21,824,867	8.303	4	4	694,038	66
6/30/88-89	283,884	16,140,651	1.076	1.000	17,369,285	3,648,726	21,018,012	7.404	4	3	409,545	81
6/30/89-90	285,078	11,614,400	1.089	1.000	12,648,476	3,375,724	16,024,200	5.621	1	1	1,034,076	58
6/30/90-91	267,732	8,297,667	1.103	1.000	9,153,915	2,593,931	11,747,846	4.388	1	1	856,248	80
6/30/91-92	261,442	5,641,750	1.111	1.000	6,265,239	1,834,017	8,099,256	3.098	2	2	311,744	61
6/30/92-93	259,992	3,210,473	1.119	1.000	3,591,149	1,000,447	4,591,596	1.766	0	0		
6/30/93-94	257,062	2,527,522	1.121	1.000	2,834,218	992,122	3,826,340	1.488	0	0		
6/30/94-95	255,854	1,526,329	1.125	1.000	1,717,460	570,667	2,288,126	0.894	0	0		
6/30/95-96	255,539	2,231,248	1.130	1.000	2,520,613	772,170	3,292,783	1.289	1	1	289,365	56
6/30/96-97	270,071	1,787,477	1.138	1.000	2,033,832	704,275	2,738,106	1.014	0	0		
6/30/97-98	245,367	2,024,867	1.144	1.000	2,315,863	564,177	2,880,040	1.174	1	1	290,996	52
6/30/98-99	251,453	1,745,975	1.151	1.000	2,010,218	557,203	2,567,421	1.021	0	1	264,243	38
6/30/99-00	255,641	1,924,733	1.159	1.000	2,230,589	381,175	2,611,764	1.022	2	1	305,856	68
6/30/00-01	263,918	2,855,751	1.169	1.000	3,339,733	306,933	3,646,666	1.382	4	3	161,327	56
6/30/01-02	267,598	1,946,247	1.185	1.000	2,306,084	332,229	2,638,313	0.986	1	2	179,918	58
6/30/02-03	274,465	2,574,011	1.201	1.000	3,092,272	403,362	3,495,635	1.274	2	2	259,131	62
6/30/03-04	272,384	2,651,972	1.215	1.000	3,222,042	367,112	3,589,154	1.318	4	2	285,035	58
6/30/04-05	273,647	2,315,265	1.237	1.000	2,865,058	409,215	3,274,273	1.197	5	1	549,792	47
6/30/05-06	285,139	2,165,020	1.258	1.000	2,723,389	500,000	3,223,389	1.130	11	6	93,061	57
6/30/06-07	298,516	2,144,089	1.291	1.000	2,767,447	500,000	3,267,447	1.095	13	9	69,262	50
6/30/07-08	314,231	1,226,279	1.362	1.000	1,669,828	500,000	2,169,828	0.691	14	8	55,444	46
6/30/08-09	302,998	1,598,834	1.482	1.000	2,370,218	500,000	2,870,218	0.947	15	16	48,212	54
6/30/09-10	297,252	2,071,218	1.721	1.000	3,565,530	583,814	4,149,344	1.396	81	37	40,387	50
6/30/10-11	292,432	1,318,901	2.347	1.000	3,094,865	561,899	3,656,764	1.250	237	61	29,114	50
6/30/11-12	295,908	737,468	4.523	1.000	3,335,888	659,390	3,995,278	1.350		256	10,150	46
Total	7,451,644	155,174,756			159,425,769	30,494,343	189,920,112		420	434		

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, 2012**

Section 2
Exhibit 1
Page 3

Department of Mental Retardation - Cluster 1

Indemnity

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident	Payroll	A Priori	Paid Loss		Ultimate Loss	Est Ult	Ultimate Loss	Ultimate	Ultimate Loss
Year	(000's)	Loss	Excluding	Paid	Excluding	Lump Sum	Including	Loss	Cost Excluding
		Rate	Lump Sum	LDF	Lump Sum	Payments	Lump Sum	Cost	Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	181,560	3.309	5,652,195	1.033	5,844,726	1,129,851	6,974,577	3.841	3.219
6/30/85-86	195,247	4.904	9,334,452	1.043	9,733,060	937,644	10,670,704	5.465	4.985
6/30/86-87	224,370	5.443	11,412,789	1.054	12,037,082	2,068,751	14,105,833	6.287	5.365
6/30/87-88	262,864	6.253	16,248,755	1.064	17,243,418	2,799,960	20,043,379	7.625	6.560
6/30/88-89	283,884	6.133	16,140,651	1.076	17,372,207	3,648,726	21,020,933	7.405	6.119
6/30/89-90	285,078	4.978	11,614,400	1.089	12,774,600	3,375,724	16,150,323	5.665	4.481
6/30/90-91	267,732	3.394	8,297,667	1.103	9,147,585	2,593,931	11,741,516	4.386	3.417
6/30/91-92	261,442	2.365	5,641,750	1.111	6,257,041	1,834,017	8,091,058	3.095	2.393
6/30/92-93	259,992	1.361	3,210,473	1.119	3,585,608	1,000,447	4,586,054	1.764	1.379
6/30/93-94	257,062	1.088	2,527,522	1.121	2,830,044	992,122	3,822,166	1.487	1.101
6/30/94-95	255,854	0.675	1,526,329	1.125	1,718,461	570,667	2,289,127	0.895	0.672
6/30/95-96	255,539	0.973	2,231,248	1.130	2,516,540	772,170	3,288,710	1.287	0.985
6/30/96-97	270,071	0.754	1,787,477	1.138	2,034,223	704,275	2,738,498	1.014	0.753
6/30/97-98	245,367	0.931	2,024,867	1.144	2,312,018	564,177	2,876,195	1.172	0.942
6/30/98-99	251,453	0.800	1,745,975	1.151	2,010,427	557,203	2,567,630	1.021	0.800
6/30/99-00	255,641	0.868	1,924,733	1.159	2,229,022	381,175	2,610,197	1.021	0.872
6/30/00-01	263,918	1.225	2,855,751	1.169	3,324,146	306,933	3,631,079	1.376	1.260
6/30/01-02	267,598	0.864	1,946,247	1.185	2,307,001	332,229	2,639,229	0.986	0.862
6/30/02-03	274,465	1.104	2,574,011	1.201	3,081,652	403,362	3,485,015	1.270	1.123
6/30/03-04	272,384	1.155	2,651,972	1.215	3,208,637	367,112	3,575,749	1.313	1.178
6/30/04-05	273,647	0.920	2,315,265	1.237	2,798,149	409,215	3,207,364	1.172	1.023
6/30/05-06	285,139	0.938	2,165,020	1.258	2,713,605	500,000	3,213,605	1.127	0.952
6/30/06-07	298,516	0.958	2,144,089	1.291	2,788,368	500,000	3,288,368	1.102	0.934
6/30/07-08	314,231	0.978	1,226,279	1.362	2,042,935	500,000	2,542,935	0.809	0.650
6/30/08-09	302,998	1.000	1,598,834	1.482	2,584,665	500,000	3,084,665	1.018	0.853
6/30/09-10	297,252	1.014	2,071,218	1.721	3,334,103	583,814	3,917,917	1.318	1.122
6/30/10-11	292,432	1.023	1,318,901	2.347	3,034,756	561,899	3,596,655	1.230	1.038
6/30/11-12	295,908	1.040	737,468	4.523	3,133,669	659,390	3,793,059	1.282	1.059
Total	7,451,644		124,926,340		143,997,748	29,554,793	173,552,540		

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, 2012

Department of Mental Retardation - Cluster 1

Indemnity

Calculation of Initial Expected Loss Rate

Section 2

Exhibit 1

Page 4

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Exp Ult Loss Excluding Lump Sum	Unadjusted Loss Cost	Benefit Level Factor	Benefit Adjusted Loss Cost	Loss Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									3.309	3.309
6/30/85-86									4.904	4.904
6/30/86-87									5.443	5.443
6/30/87-88									6.253	6.253
6/30/88-89									6.133	6.133
6/30/89-90									4.978	4.978
6/30/90-91	267,732	9,153,915	3.419	0.946	3.235	1.245	4.026	0.892	3.390	3.394
6/30/91-92	261,442	6,265,239	2.396	1.038	2.487	1.232	3.065	0.821	2.346	2.365
6/30/92-93	259,992	3,591,149	1.381	1.210	1.672	1.220	2.040	0.711	1.354	1.361
6/30/93-94	257,062	2,834,218	1.103	1.195	1.317	1.208	1.591	0.727	1.084	1.088
6/30/94-95	255,854	1,717,460	0.671	1.184	0.795	1.196	0.950	0.742	0.673	0.675
6/30/95-96	255,539	2,520,613	0.986	1.174	1.158	1.184	1.372	0.755	0.964	0.973
6/30/96-97	270,071	2,033,832	0.753	1.163	0.876	1.173	1.027	0.770	0.755	0.754
6/30/97-98	245,367	2,315,863	0.944	1.148	1.083	1.161	1.258	0.788	0.923	0.931
6/30/98-99	251,453	2,010,218	0.799	1.133	0.906	1.149	1.041	0.806	0.797	0.800
6/30/99-00	255,641	2,230,589	0.873	1.114	0.972	1.138	1.107	0.828	0.854	0.868
6/30/00-01	263,918	3,339,733	1.265	1.086	1.374	1.127	1.549	0.858	1.201	1.225
6/30/01-02	267,598	2,306,084	0.862	1.065	0.918	1.116	1.024	0.884	0.861	0.864
6/30/02-03	274,465	3,092,272	1.127	1.061	1.196	1.105	1.321	0.896	1.093	1.104
6/30/03-04	272,384	3,222,042	1.183	1.061	1.255	1.094	1.373	0.905	1.136	1.155
6/30/04-05	273,647	2,865,058	1.047	1.054	1.104	1.083	1.195	0.920	0.928	0.920
6/30/05-06	285,139	2,723,389	0.955	1.044	0.997	1.072	1.069	0.938	0.947	0.938
6/30/06-07	298,516	2,767,447	0.927	1.032	0.957	1.062	1.016	0.958	0.967	0.958
6/30/07-08	314,231	1,669,828	0.531	1.021	0.543	1.051	0.570	0.978	0.988	0.978
6/30/08-09	302,998	2,370,218	0.782	1.009	0.790	1.041	0.822	1.000	1.009	1.000
6/30/09-10	297,252	3,565,530	1.199	1.005	1.206	1.030	1.242	1.014	1.023	1.014
6/30/10-11	292,432	3,094,865	1.058	1.007	1.065	1.020	1.087	1.023	1.040	1.023
6/30/11-12	295,908	3,335,888	1.127	1.000	1.127	1.010	1.139	1.040		1.040
Total	6,018,641	69,025,451								

Trend Last 4 (ex 11-12):	27.7%	Avg 3 (x11-12):	1.050
Trend Last 8 (ex 11-12):	-2.3%	Avg 5 (x11-12):	0.947
Trend Last 12 (ex 11-12):	-2.1%	Avg 10 (x11-12):	1.072
Prior Selected Trend:	1.0%	Prior Sel Avg:	1.050
Selected Trend:	1.0%	Sel. Loss Cost:	1.050

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 2, Exhibit 1, Page 2, Column 6

(4) = (3) / (2) / 10

(5) Based on information from the MA WCRIB

(6) = (4) x (5)

(7) Based on Selected Trend from (6)

(8) = (6) x (7)

(9) = Sel. Loss Cost / [(5) * (7)]

(10) From Aon analysis as of June 30, 2011

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



Commonwealth of Massachusetts

Workers Compensation

Reserve Analysis at June 30, 2012

Department of Mental Retardation - Cluster 1

Indemnity

Calculation of 1982 & Prior Reserves (Page 1)

Section 2

Exhibit 1

Page 5

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	0.950	0.965
(6)	Incremental Paid for 2012	372,558	372,558
(7)	Estimated Reserve	7,078,607	10,211,483
(8)	Paid to Date (82 & Prior)	18,654,734	18,654,734
(9)	Est Ult Paid for 1982 & Prior	25,733,341	28,866,217
Method 2			
		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	388,083	396,399
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	2,716,582	2,774,792
(13)	Paid to Date (82 & Prior)	18,654,734	18,282,176
(14)	Est Ult Paid for 1982 & Prior	21,371,317	21,056,968
(14a)	Paid Counts During Fiscal Year	10	11
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	23,552,329	25,742,517
(16)	Lump Sum Ultimates	1,265,498	1,265,498
(17)	Ult Loss Including Lump Sums	24,817,827	27,008,015
(18)	Implied Tail	1.263	1.380
(19)	Ult Loss Inc Lump Sums @ 6/11	24,641,535	26,916,429

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, 2011



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 2
Exhibit 1
Page 6

**Department of Mental Retardation - Cluster 1
Indemnity**

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paid	LN	Average Observed Trend	Trend Calculations	
1992	1	689,918	13.444			
1993	2	793,381	13.584	1.150		
1994	3	677,152	13.426	0.854		
1995	4	616,229	13.331	0.910		
1996	5	581,038	13.273	0.943		
1997	6	667,765	13.412	1.149		
1998	7	676,041	13.424	1.012		
1999	8	626,143	13.347	0.926		
2000	9	638,144	13.366	1.019	n =	21
2001	10	586,837	13.283	0.920	S(x) =	42,042
2002	11	551,859	13.221	0.940	S(x-sq) =	84,168,854
2003	12	510,510	13.143	0.925	S(xy) =	554,088
2004	13	475,438	13.072	0.931	S(y) =	277
2005	14	461,151	13.041	0.970	D =	16,170
2006	15	476,801	13.075	1.034	slope =	-0.036
2007	16	429,059	12.969	0.900	Avg Trend =	0.964
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		
				Selected Trend:	0.960	

NOTES:

(3) 2012 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2011

(4) LN [(3)]

(5) Eg. 2012: 0.955 = 372558 / 390154



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 2
Exhibit 1
Page 8

Department of Mental Retardation - Cluster 1

Indemnity

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Accident Year	Ultimate Loss As of 6/11		Ultimate Loss As of 6/12		Change in Ultimate Loss (Dollar)		Change in Ultimate Loss (Percent)	
	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	24,641,535	26,916,429	24,817,827	27,008,015	176,291	0.7%	91,586	0.3%
6/30/82-83	4,939,564	5,192,875	4,976,675	5,231,890	37,112	0.8%	39,015	0.8%
6/30/83-84	9,270,174	9,648,549	9,394,308	9,777,749	124,134	1.3%	129,201	1.3%
6/30/84-85	6,848,000	6,916,000	6,850,000	6,918,000	2,000	0.0%	2,000	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	19,924,000	20,805,000	20,043,000	20,934,000	119,000	0.6%	129,000	0.6%
6/30/88-89	20,981,000	20,988,000	21,018,000	21,021,000	37,000	0.2%	33,000	0.2%
6/30/89-90	15,116,000	15,266,000	15,117,000	15,266,000	1,000	0.0%	0	0.0%
6/30/90-91	10,971,000	11,080,000	10,972,000	11,080,000	1,000	0.0%	0	0.0%
6/30/91-92	8,051,000	8,059,000	8,091,000	8,099,000	40,000	0.5%	40,000	0.5%
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	2,286,000	2,287,000	2,288,000	2,289,000	2,000	0.1%	2,000	0.1%
6/30/95-96	3,268,000	3,272,000	3,289,000	3,293,000	21,000	0.6%	21,000	0.6%
6/30/96-97	2,747,000	2,747,000	2,738,000	2,738,000	(9,000)	-0.3%	(9,000)	-0.3%
6/30/97-98	2,860,000	2,864,000	2,876,000	2,880,000	16,000	0.6%	16,000	0.6%
6/30/98-99	2,565,000	2,565,000	2,567,000	2,568,000	2,000	0.1%	3,000	0.1%
6/30/99-00	2,548,000	2,549,000	2,610,000	2,612,000	62,000	2.4%	63,000	2.5%
6/30/00-01	3,567,000	3,581,000	3,631,000	3,647,000	64,000	1.8%	66,000	1.8%
6/30/01-02	2,636,000	2,637,000	2,638,000	2,639,000	2,000	0.1%	2,000	0.1%
6/30/02-03	3,549,000	3,558,000	3,485,000	3,496,000	(64,000)	-1.8%	(62,000)	-1.7%
6/30/03-04	3,649,000	3,661,000	3,576,000	3,589,000	(73,000)	-2.0%	(72,000)	-2.0%
6/30/04-05	3,292,000	3,352,000	3,207,000	3,274,000	(85,000)	-2.6%	(78,000)	-2.3%
6/30/05-06	3,122,000	3,139,000	3,214,000	3,223,000	92,000	2.9%	84,000	2.7%
6/30/06-07	3,186,000	3,237,000	3,267,000	3,288,000	81,000	2.5%	51,000	1.6%
6/30/07-08	2,178,000	2,626,000	2,170,000	2,543,000	(8,000)	-0.4%	(83,000)	-3.2%
6/30/08-09	2,826,000	3,127,000	2,870,000	3,085,000	44,000	1.6%	(42,000)	-1.3%
6/30/09-10	3,730,000	3,868,000	3,918,000	4,149,000	188,000	5.0%	281,000	7.3%
6/30/10-11	3,721,000	3,867,000	3,597,000	3,657,000	(124,000)	-3.3%	(210,000)	-5.4%
6/30/11-12								
Total	204,599,273	210,250,852	205,347,810	210,747,654	748,537	0.4%	496,802	0.2%

NOTES:

(2), (3) From Aon analysis as of June 30, 2011

(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



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Department of Mental Retardation - Cluster 1
Indemnity

Calculation of Ultimate Lump Sum Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Accident Year	Paid Loss Excluding Lump Sum	Implied Cumulative LDF	Ult Loss Excluding Lump Sum	Selected Incr Lump Sum % Outstdg	Cumulative Lump Sum % Outstdg	Total Lump Sum Outstdg	Paid Lump Sum to Date	Est Ult Lump Sum - Incr Method	Ultimate Lump Sum Percentage	Lump Sum LDF	Est Ult Lump Sum - Paid Method	Selected Est Ultimate Lump Sums	Prior Est Ultimate Lump Sums
All Prior Yrs	18,654,734	1.321	24,647,423	0.0%	0.0%	0	1,265,498	1,265,498	5.1%	1.000	1,265,498	1,265,498	1,265,498
6/30/82-83	4,231,391	1.114	4,713,883	0.0%	0.0%	0	390,400	390,400	8.3%	1.000	390,400	390,400	390,400
6/30/83-84	7,362,291	1.227	9,036,879	0.0%	0.0%	0	549,150	549,150	6.1%	1.000	549,150	549,150	549,150
6/30/84-85	5,652,195	1.033	5,839,326	0.0%	0.0%	0	1,129,851	1,129,851	19.3%	1.000	1,129,851	1,129,851	1,129,851
6/30/85-86	9,334,452	1.043	9,739,930	0.0%	0.0%	0	937,644	937,644	9.6%	1.000	937,644	937,644	938,113
6/30/86-87	11,412,789	1.054	12,027,633	0.0%	0.0%	0	2,067,717	2,067,717	17.2%	1.001	2,069,785	2,068,751	2,070,821
6/30/87-88	16,248,755	1.171	19,024,906	0.0%	0.0%	0	2,795,764	2,795,764	14.7%	1.003	2,804,157	2,799,960	2,798,755
6/30/88-89	16,140,651	1.076	17,369,285	0.0%	0.0%	0	3,639,613	3,639,613	21.0%	1.005	3,657,840	3,648,726	3,666,528
6/30/89-90	11,614,400	1.089	12,648,476	0.1%	0.1%	12,648	3,352,581	3,365,229	26.6%	1.010	3,386,218	3,375,724	3,390,570
6/30/90-91	8,297,667	1.103	9,153,915	0.1%	0.2%	18,308	2,565,430	2,583,738	28.2%	1.015	2,604,125	2,593,931	2,605,004
6/30/91-92	5,641,750	1.111	6,265,239	0.1%	0.3%	18,796	1,806,412	1,825,208	29.1%	1.020	1,842,827	1,834,017	1,844,763
6/30/92-93	3,210,473	1.119	3,591,149	0.2%	0.5%	17,956	979,103	997,059	27.8%	1.025	1,003,835	1,000,447	1,005,253
6/30/93-94	2,527,522	1.121	2,834,218	0.2%	0.7%	19,840	968,701	988,541	34.9%	1.028	995,703	992,122	994,911
6/30/94-95	1,526,329	1.125	1,717,460	0.2%	0.9%	15,457	555,200	570,657	33.2%	1.028	570,676	570,667	573,215
6/30/95-96	2,231,248	1.130	2,520,613	0.3%	1.2%	30,247	746,640	776,887	30.8%	1.028	767,452	772,170	775,765
6/30/96-97	1,787,477	1.138	2,033,832	0.3%	1.5%	30,507	679,550	710,057	34.9%	1.028	698,492	704,275	710,837
6/30/97-98	2,024,867	1.144	2,315,863	0.3%	1.8%	41,686	533,163	574,849	24.8%	1.038	553,505	564,177	571,551
6/30/98-99	1,745,975	1.151	2,010,218	0.3%	2.1%	42,215	522,071	564,286	28.1%	1.054	550,120	557,203	564,225
6/30/99-00	1,924,733	1.159	2,230,589	0.3%	2.4%	53,534	342,501	396,035	17.8%	1.070	366,316	381,175	360,627
6/30/00-01	2,855,751	1.169	3,339,733	0.3%	2.7%	90,173	251,103	341,276	10.2%	1.086	272,591	306,933	312,918
6/30/01-02	1,946,247	1.185	2,306,084	0.3%	3.0%	69,183	283,214	352,396	15.3%	1.102	312,061	332,229	341,684
6/30/02-03	2,574,011	1.201	3,092,272	0.5%	3.5%	108,230	328,024	436,253	14.1%	1.129	370,471	403,362	500,000
6/30/03-04	2,651,972	1.215	3,222,042	0.5%	4.0%	128,882	279,825	408,707	12.7%	1.163	325,517	367,112	500,000
6/30/04-05	2,315,265	1.237	2,865,058	1.0%	5.0%	143,253	307,152	450,405	15.7%	1.198	368,025	409,215	500,000
6/30/05-06	2,165,020	1.258	2,723,389	1.0%	6.0%	163,403	232,502	395,905	14.5%	1.238	287,807	500,000	500,000
6/30/06-07	2,144,089	1.291	2,767,447	1.0%	7.0%	193,721	261,250	454,971	16.4%	1.345	351,482	500,000	500,000
6/30/07-08	1,226,279	1.362	1,669,828	1.4%	8.4%	140,266	124,501	264,767	15.9%	1.578	196,418	500,000	500,000
6/30/08-09	1,598,834	1.482	2,370,218	2.5%	10.9%	258,354	120,000	378,354	16.0%	2.334	280,101	500,000	500,000
6/30/09-10	2,071,218	1.721	3,565,530	3.5%	14.4%	513,436	70,378	583,814	16.4%	3.812	268,309	583,814	581,555
6/30/10-11	1,318,901	2.347	3,094,865	2.9%	17.3%	534,376	27,523	561,899	18.2%	10.083	277,500	561,899	639,583
6/30/11-12	737,468	4.523	3,335,888	2.5%	19.8%	659,390	0	659,390	19.8%	55.455	0	659,390	
Total	155,174,756		184,073,192			3,303,859	28,112,459	31,416,318	17.1%		29,453,874	31,759,841	31,581,576

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, 2011

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

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**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

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**Department of Mental Retardation - Cluster 1
Indemnity**

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At:	
						4%	6%
372	100.0%	1.3%	0.0%	0.4%	0.2%	1.000	1.000
360	98.7%	1.0%	1.3%	0.3%	0.2%	0.981	0.971
348	97.8%	1.0%	2.2%	0.3%	0.2%	0.959	0.940
336	96.8%	1.0%	3.2%	0.3%	0.2%	0.940	0.913
324	95.8%	0.9%	4.2%	0.3%	0.2%	0.922	0.886
312	94.9%	0.9%	5.1%	0.3%	0.2%	0.904	0.861
300	93.9%	1.0%	6.1%	0.4%	0.2%	0.886	0.837
288	92.9%	1.1%	7.1%	0.4%	0.3%	0.871	0.816
276	91.8%	1.2%	8.2%	0.5%	0.3%	0.857	0.797
264	90.6%	0.6%	9.4%	0.3%	0.2%	0.843	0.779
252	90.0%	0.6%	10.0%	0.3%	0.2%	0.821	0.750
240	89.4%	0.2%	10.6%	0.1%	0.1%	0.801	0.723
228	89.2%	0.3%	10.8%	0.1%	0.1%	0.775	0.688
216	88.9%	0.4%	11.1%	0.2%	0.1%	0.751	0.658
204	88.5%	0.6%	11.5%	0.3%	0.2%	0.730	0.632
192	87.9%	0.5%	12.1%	0.2%	0.2%	0.717	0.615
180	87.4%	0.6%	12.6%	0.3%	0.2%	0.700	0.595
168	86.9%	0.6%	13.1%	0.3%	0.3%	0.686	0.579
156	86.3%	0.8%	13.7%	0.5%	0.4%	0.673	0.564
144	85.5%	1.1%	14.5%	0.7%	0.6%	0.665	0.556
132	84.4%	1.2%	15.6%	0.8%	0.6%	0.664	0.556
120	83.2%	0.9%	16.8%	0.6%	0.5%	0.662	0.555
108	82.3%	1.5%	17.7%	1.1%	0.9%	0.655	0.548
96	80.8%	1.3%	19.2%	1.0%	0.8%	0.657	0.552
84	79.5%	2.0%	20.5%	1.6%	1.4%	0.654	0.550
72	77.5%	4.0%	22.5%	3.3%	2.9%	0.660	0.559
60	73.4%	6.0%	26.6%	5.0%	4.6%	0.688	0.595
48	67.5%	9.4%	32.5%	8.2%	7.6%	0.720	0.637
36	58.1%	15.5%	41.9%	14.0%	13.4%	0.757	0.683
24	42.6%	20.5%	57.4%	19.3%	18.8%	0.796	0.733
12	22.1%	22.1%	77.9%	21.7%	21.5%	0.822	0.765
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)



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Department of Mental Retardation - Cluster 1

Indemnity

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	4,897,594	7,087,783		4,283,363	6,198,869
6/30/82-83	354,884	610,098	0.981	347,993	598,251
6/30/83-84	1,482,868	1,866,309	0.959	1,422,590	1,790,444
6/30/84-85	67,954	135,954	0.940	63,878	127,799
6/30/85-86	307,904	410,904	0.922	283,739	378,656
6/30/86-87	269,494	404,494	0.904	243,519	365,507
6/30/87-88	998,481	1,889,481	0.886	884,861	1,674,471
6/30/88-89	1,237,736	1,240,736	0.871	1,077,679	1,080,291
6/30/89-90	150,019	299,019	0.857	128,494	256,116
6/30/90-91	108,903	216,903	0.843	91,844	182,927
6/30/91-92	642,838	650,838	0.821	527,841	534,410
6/30/92-93	41,424	83,424	0.801	33,190	66,841
6/30/93-94	69,777	104,777	0.775	54,056	81,170
6/30/94-95	206,471	207,471	0.751	155,145	155,896
6/30/95-96	311,112	315,112	0.730	227,239	230,160
6/30/96-97	270,973	270,973	0.717	194,248	194,248
6/30/97-98	317,970	321,970	0.700	222,507	225,306
6/30/98-99	298,954	299,954	0.686	205,210	205,897
6/30/99-00	342,766	344,766	0.673	230,778	232,124
6/30/00-01	524,146	540,146	0.665	348,721	359,366
6/30/01-02	408,539	409,539	0.664	271,278	271,942
6/30/02-03	582,965	593,965	0.662	385,968	393,251
6/30/03-04	644,203	657,203	0.655	421,792	430,304
6/30/04-05	584,583	651,583	0.657	384,039	428,055
6/30/05-06	816,478	825,478	0.654	533,997	539,883
6/30/06-07	861,661	882,661	0.660	569,077	582,946
6/30/07-08	819,220	1,192,220	0.688	563,269	819,731
6/30/08-09	1,151,166	1,366,166	0.720	828,660	983,427
6/30/09-10	1,776,404	2,007,404	0.757	1,344,042	1,518,818
6/30/10-11	2,250,577	2,310,577	0.796	1,790,900	1,838,645
6/30/11-12	3,055,532	3,257,532	0.822	2,511,245	2,677,263
Total	25,853,595	31,455,439		20,631,161	25,423,015

(7) Total Discount Factor: 0.798 0.808

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve: 4,897,594 7,087,783
(9) Projected Number of Years: 7 7
(10) Projected Paid Loss per Year: 699,656 1,012,540
(11) Discounted Value at 4%: 4,283,363 6,198,869

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)



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Department of Mental Retardation - Cluster 1

Indemnity

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	4,897,594	7,087,783		4,022,921	5,821,958
6/30/82-83	354,884	610,098	0.971	344,694	592,580
6/30/83-84	1,482,868	1,866,309	0.940	1,394,396	1,754,960
6/30/84-85	67,954	135,954	0.913	62,011	124,063
6/30/85-86	307,904	410,904	0.886	272,895	364,184
6/30/86-87	269,494	404,494	0.861	232,093	348,357
6/30/87-88	998,481	1,889,481	0.837	835,854	1,581,734
6/30/88-89	1,237,736	1,240,736	0.816	1,009,964	1,012,411
6/30/89-90	150,019	299,019	0.797	119,557	238,302
6/30/90-91	108,903	216,903	0.779	84,888	169,072
6/30/91-92	642,838	650,838	0.750	481,826	487,822
6/30/92-93	41,424	83,424	0.723	29,961	60,338
6/30/93-94	69,777	104,777	0.688	48,022	72,110
6/30/94-95	206,471	207,471	0.658	135,893	136,551
6/30/95-96	311,112	315,112	0.632	196,510	199,036
6/30/96-97	270,973	270,973	0.615	166,783	166,783
6/30/97-98	317,970	321,970	0.595	189,105	191,484
6/30/98-99	298,954	299,954	0.579	173,139	173,719
6/30/99-00	342,766	344,766	0.564	193,298	194,426
6/30/00-01	524,146	540,146	0.556	291,243	300,133
6/30/01-02	408,539	409,539	0.556	227,175	227,731
6/30/02-03	582,965	593,965	0.555	323,780	329,890
6/30/03-04	644,203	657,203	0.548	352,735	359,853
6/30/04-05	584,583	651,583	0.552	322,705	359,691
6/30/05-06	816,478	825,478	0.550	448,764	453,710
6/30/06-07	861,661	882,661	0.559	481,810	493,553
6/30/07-08	819,220	1,192,220	0.595	487,414	709,340
6/30/08-09	1,151,166	1,366,166	0.637	732,901	869,782
6/30/09-10	1,776,404	2,007,404	0.683	1,214,083	1,371,959
6/30/10-11	2,250,577	2,310,577	0.733	1,649,254	1,693,223
6/30/11-12	3,055,532	3,257,532	0.765	2,337,615	2,492,153
Total	25,853,595	31,455,439		18,863,289	23,350,912

(7) Total Discount Factor: 0.730 0.742

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve:	4,897,594	7,087,783
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	699,656	1,012,540
(11) Discounted Value at 6%:	4,022,921	5,821,958

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)



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Department of Mental Retardation - Cluster 1
Total Indemnity (Including Lump Sums) + Medical
Calculation of Fiscal Year 7/1/12 - 13 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Accident Year	Est Ult Losses (Low)	Est Ult Losses (High)	Paid Losses to Date	Reserves (Low)	Reserves (High)	Cumulative Percent Paid	Incremental Paid as a % of Ultimates	Incremental Paid as a % of Reserves	Estimated Payments from 7/1/12 - 6/30/13 (Low) (High)		FY 7/1/12 - 6/30/13 as a % of Reserves (Low) (High)	
All Prior Yrs	26,035,045	28,228,454	21,130,386	4,904,659	7,098,069				357,656	393,422	7.3%	5.5%
6/30/82-83	5,240,254	5,503,890	4,882,760	357,494	621,129	90.9%	1.0%	11.0%	39,249	68,193	11.0%	11.0%
6/30/83-84	10,811,538	11,239,749	9,314,639	1,496,900	1,925,110	84.5%	1.0%	6.4%	96,460	124,053	6.4%	6.4%
6/30/84-85	7,597,041	7,672,438	7,521,690	75,351	150,747	98.5%	1.0%	67.5%	50,888	101,807	67.5%	67.5%
6/30/85-86	12,206,000	12,310,000	11,874,262	331,739	435,739	96.9%	1.0%	31.9%	105,969	139,191	31.9%	31.9%
6/30/86-87	15,665,316	15,819,280	15,376,859	288,457	442,421	97.7%	1.0%	43.1%	124,261	190,585	43.1%	43.1%
6/30/87-88	22,573,000	23,468,000	21,527,607	1,045,393	1,940,393	93.5%	1.0%	15.4%	161,200	299,210	15.4%	15.4%
6/30/88-89	24,967,000	24,971,000	23,647,704	1,319,296	1,323,296	94.7%	1.0%	18.9%	249,312	250,068	18.9%	18.9%
6/30/89-90	18,834,576	19,020,384	18,647,750	186,826	372,634	98.5%	1.0%	67.7%	126,413	252,137	67.7%	67.7%
6/30/90-91	13,935,000	14,044,000	13,753,946	181,054	290,054	98.3%	1.0%	59.4%	107,528	172,262	59.4%	59.4%
6/30/91-92	10,558,000	10,567,000	9,850,688	707,312	716,312	93.3%	1.0%	14.8%	104,957	106,293	14.8%	14.8%
6/30/92-93	6,035,000	6,078,000	5,942,408	92,592	135,592	98.1%	1.0%	53.1%	49,152	71,978	53.1%	53.1%
6/30/93-94	4,871,000	4,906,000	4,761,076	109,924	144,924	97.4%	1.0%	38.4%	42,171	55,599	38.4%	38.4%
6/30/94-95	3,247,000	3,248,000	3,009,043	237,957	238,957	92.7%	1.0%	13.6%	32,407	32,543	13.6%	13.6%
6/30/95-96	4,328,000	4,333,000	3,981,910	346,090	351,090	92.0%	0.7%	8.8%	30,392	30,831	8.8%	8.8%
6/30/96-97	3,653,000	3,654,000	3,349,599	303,401	304,401	91.7%	0.3%	3.2%	9,791	9,823	3.2%	3.2%
6/30/97-98	3,658,000	3,678,000	3,309,685	348,315	368,315	90.2%	1.5%	14.8%	51,723	54,693	14.8%	14.8%
6/30/98-99	3,227,000	3,242,000	2,901,673	325,327	340,327	89.7%	0.5%	5.1%	16,479	17,239	5.1%	5.1%
6/30/99-00	3,403,000	3,421,000	3,026,058	376,942	394,942	88.7%	1.0%	9.0%	34,038	35,663	9.0%	9.0%
6/30/00-01	4,959,000	5,004,000	4,376,328	582,672	627,672	87.9%	0.8%	6.9%	40,150	43,250	6.9%	6.9%
6/30/01-02	3,502,000	3,520,000	3,050,329	451,671	469,671	86.9%	1.0%	7.4%	33,474	34,808	7.4%	7.4%
6/30/02-03	4,372,000	4,401,000	3,741,621	630,379	659,379	85.3%	2.0%	13.6%	85,757	89,703	13.6%	13.6%
6/30/03-04	4,482,000	4,514,000	3,774,416	707,584	739,584	83.9%	1.4%	8.6%	60,935	63,691	8.6%	8.6%
6/30/04-05	4,256,000	4,378,000	3,628,298	627,702	749,702	84.0%	2.0%	12.5%	78,693	93,987	12.5%	12.5%
6/30/05-06	4,413,000	4,485,000	3,512,627	900,373	972,373	79.0%	5.1%	24.2%	217,901	235,326	24.2%	24.2%
6/30/06-07	4,475,000	4,559,000	3,499,476	975,524	1,059,524	77.5%	1.5%	6.6%	64,080	69,598	6.6%	6.6%
6/30/07-08	3,135,000	3,613,000	2,193,743	941,257	1,419,257	65.0%	2.0%	5.7%	53,815	81,145	5.7%	5.7%
6/30/08-09	4,121,000	4,545,000	2,807,455	1,313,545	1,737,545	64.8%	2.0%	5.7%	74,617	98,703	5.7%	5.7%
6/30/09-10	5,267,000	5,723,000	3,180,188	2,086,812	2,542,812	57.9%	6.9%	16.4%	342,711	417,598	16.4%	16.4%
6/30/10-11	4,891,000	5,167,000	2,127,491	2,763,509	3,039,509	42.3%	15.6%	27.0%	745,762	820,243	27.0%	27.0%
6/30/11-12	5,358,000	5,821,000	1,201,247	4,156,753	4,619,753	21.5%	20.8%	26.5%	1,101,988	1,224,733	26.5%	26.5%
Total	254,075,771	261,134,194	224,902,962	29,172,809	36,231,233				4,689,928	5,678,373	16.1%	15.7%

NOTES:

(2) Exhibit 1, Page 1, Column (4) + Exhibit 2, Page 1, Column (4)

(3) Exhibit 1, Page 1, Column (5) + Exhibit 2, Page 1, Column (5)

(4) Exhibit 1, Page 1, Column (2) + Exhibit 2, Page 1, Column (2)

(5) = (2) - (4)

(6) = (3) - (4)

(7) = (4) / Average of Columns (2), (3)

(8) = (7) - Prior Year's (7)

(9) = (8) / (1.00 - (7))

(10) = (5) * (9)

(11) = (6) * (9)

(12) = (10) / (5)

(13) = (11) / (6)



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012
Department of Mental Retardation - Cluster 1
Medical**

Section 2
Exhibit 2
Page 1

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		1,210,153			1,217,218	1,220,439	7,065	10,286		
6/30/82-83		260,969	263,293		263,579	272,000	2,610	11,031		
6/30/83-84		1,403,198	1,418,524		1,417,230	1,462,000	14,032	58,802		
6/30/84-85	181,560	739,645	749,219	749,969	747,041	754,438	7,396	14,793	0.411	0.416
6/30/85-86	195,247	1,602,166	1,626,150	1,626,874	1,626,000	1,627,000	23,835	24,835	0.833	0.833
6/30/86-87	224,370	1,896,353	1,928,590	1,930,895	1,915,316	1,934,280	18,964	37,927	0.854	0.862
6/30/87-88	262,864	2,483,087	2,530,350	2,533,855	2,530,000	2,534,000	46,913	50,913	0.962	0.964
6/30/88-89	283,884	3,867,441	3,948,935	3,950,456	3,949,000	3,950,000	81,559	82,559	1.391	1.391
6/30/89-90	285,078	3,680,769	3,765,846	3,773,189	3,717,576	3,754,384	36,808	73,615	1.304	1.317
6/30/90-91	267,732	2,890,850	2,963,584	2,963,003	2,963,000	2,964,000	72,150	73,150	1.107	1.107
6/30/91-92	261,442	2,402,525	2,467,900	2,466,912	2,467,000	2,468,000	64,475	65,475	0.944	0.944
6/30/92-93	259,992	1,752,832	1,805,002	1,803,972	1,804,000	1,805,000	51,168	52,168	0.694	0.694
6/30/93-94	257,062	1,264,853	1,305,333	1,304,501	1,305,000	1,305,000	40,147	40,147	0.508	0.508
6/30/94-95	255,854	927,514	959,053	958,553	959,000	959,000	31,486	31,486	0.375	0.375
6/30/95-96	255,539	1,004,022	1,040,242	1,039,495	1,039,000	1,040,000	34,978	35,978	0.407	0.407
6/30/96-97	270,071	882,572	915,682	915,276	915,000	916,000	32,428	33,428	0.339	0.339
6/30/97-98	245,367	751,655	781,985	781,755	782,000	798,000	30,345	46,345	0.319	0.325
6/30/98-99	251,453	633,627	660,431	660,747	660,000	674,000	26,373	40,373	0.262	0.268
6/30/99-00	255,641	758,824	793,124	793,077	793,000	809,000	34,176	50,176	0.310	0.316
6/30/00-01	263,918	1,269,474	1,330,602	1,328,400	1,328,000	1,357,000	58,526	87,526	0.503	0.514
6/30/01-02	267,598	820,868	863,837	863,995	864,000	881,000	43,132	60,132	0.323	0.329
6/30/02-03	274,465	839,586	887,068	887,516	887,000	905,000	47,414	65,414	0.323	0.330
6/30/03-04	272,384	842,619	906,197	906,977	906,000	925,000	63,381	82,381	0.333	0.340
6/30/04-05	273,647	1,005,881	1,103,888	1,100,333	1,049,000	1,104,000	43,119	98,119	0.383	0.403
6/30/05-06	285,139	1,115,105	1,261,887	1,248,377	1,199,000	1,262,000	83,895	146,895	0.420	0.443
6/30/06-07	298,516	1,094,137	1,271,391	1,266,384	1,208,000	1,271,000	113,863	176,863	0.405	0.426
6/30/07-08	314,231	842,963	1,015,390	1,070,434	965,000	1,070,000	122,037	227,037	0.307	0.341
6/30/08-09	302,998	1,088,621	1,390,457	1,378,960	1,251,000	1,460,000	162,379	371,379	0.413	0.482
6/30/09-10	297,252	1,038,592	1,499,233	1,464,855	1,349,000	1,574,000	310,408	535,408	0.454	0.530
6/30/10-11	292,432	781,068	1,437,643	1,423,096	1,294,000	1,510,000	512,932	728,932	0.442	0.516
6/30/11-12	295,908	463,779	1,738,634	1,538,122	1,565,000	1,826,000	1,101,221	1,362,221	0.529	0.617
Total	7,451,644	41,615,747	44,629,471	42,729,976	44,934,961	46,391,540	3,319,214	4,775,794		
Tot 6/30/84-12	7,451,644	38,741,426	42,947,654	42,729,976	42,036,933	43,437,101	3,295,508	4,695,675	0.564	0.583

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, 2012

Section 2
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Page 2

Department of Mental Retardation - Cluster 1
Medical

Paid Loss Development Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Accident Year	Payroll (000's)	Paid Loss	Paid LDF	Adjustment for Tail	Ultimate Loss Excluding Lump Sum	Est Ult Lump Sum Payments	Ultimate Loss Including Lump Sum	Ultimate Loss Cost	Paid Counts 7/1/10-11	Paid Counts 7/1/11-12	Average Outstanding Claim
All Prior Yrs		1,210,153							2	1	
6/30/82-83		260,969	1.009	1.000	263,293	N/A	263,293		0	0	
6/30/83-84		1,403,198	1.011	1.000	1,418,524	N/A	1,418,524		3	2	7,663
6/30/84-85	181,560	739,645	1.013	1.000	749,219	N/A	749,219	0.413	0	1	9,574
6/30/85-86	195,247	1,602,166	1.015	1.000	1,626,150	N/A	1,626,150	0.833	1	0	
6/30/86-87	224,370	1,896,353	1.017	1.000	1,928,590	N/A	1,928,590	0.860	0	0	
6/30/87-88	262,864	2,483,087	1.019	1.000	2,530,350	N/A	2,530,350	0.963	1	1	47,263
6/30/88-89	283,884	3,867,441	1.021	1.000	3,948,935	N/A	3,948,935	1.391	4	4	20,374
6/30/89-90	285,078	3,680,769	1.023	1.000	3,765,846	N/A	3,765,846	1.321	0	1	85,078
6/30/90-91	267,732	2,890,850	1.025	1.000	2,963,584	N/A	2,963,584	1.107	2	1	72,735
6/30/91-92	261,442	2,402,525	1.027	1.000	2,467,900	N/A	2,467,900	0.944	2	2	32,687
6/30/92-93	259,992	1,752,832	1.030	1.000	1,805,002	N/A	1,805,002	0.694	1	1	52,170
6/30/93-94	257,062	1,264,853	1.032	1.000	1,305,333	N/A	1,305,333	0.508	1	2	20,240
6/30/94-95	255,854	927,514	1.034	1.000	959,053	N/A	959,053	0.375	0	0	
6/30/95-96	255,539	1,004,022	1.036	1.000	1,040,242	N/A	1,040,242	0.407	1	0	
6/30/96-97	270,071	882,572	1.038	1.000	915,682	N/A	915,682	0.339	1	0	
6/30/97-98	245,367	751,655	1.040	1.000	781,985	N/A	781,985	0.319	1	1	30,330
6/30/98-99	251,453	633,627	1.042	1.000	660,431	N/A	660,431	0.263	2	2	13,402
6/30/99-00	255,641	758,824	1.045	1.000	793,124	N/A	793,124	0.310	3	1	34,300
6/30/00-01	263,918	1,269,474	1.048	1.000	1,330,602	N/A	1,330,602	0.504	7	8	7,641
6/30/01-02	267,598	820,868	1.052	1.000	863,837	N/A	863,837	0.323	4	5	8,594
6/30/02-03	274,465	839,586	1.057	1.000	887,068	N/A	887,068	0.323	6	6	7,914
6/30/03-04	272,384	842,619	1.075	1.000	906,197	N/A	906,197	0.333	10	7	9,083
6/30/04-05	273,647	1,005,881	1.097	1.000	1,103,888	N/A	1,103,888	0.403	5	2	49,003
6/30/05-06	285,139	1,115,105	1.132	1.000	1,261,887	N/A	1,261,887	0.443	13	6	24,464
6/30/06-07	298,516	1,094,137	1.162	1.000	1,271,391	N/A	1,271,391	0.426	17	13	13,635
6/30/07-08	314,231	842,963	1.205	1.000	1,015,390	N/A	1,015,390	0.323	15	14	12,316
6/30/08-09	302,998	1,088,621	1.277	1.000	1,390,457	N/A	1,390,457	0.459	35	20	15,092
6/30/09-10	297,252	1,038,592	1.444	1.000	1,499,233	N/A	1,499,233	0.504	192	54	8,530
6/30/10-11	292,432	781,068	1.841	1.000	1,437,643	N/A	1,437,643	0.492	307	185	3,549
6/30/11-12	295,908	463,779	3.749	1.000	1,738,634	N/A	1,738,634	0.588		317	4,022
Total	7,451,644	41,615,747			44,629,471		44,629,471		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 WCRI 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, 2012**

Section 2

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Page 3

Department of Mental Retardation - Cluster 1

Medical

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident	Payroll	A Priori		Paid	Ultimate Loss	Est Ult	Ultimate Loss	Ultimate	Ultimate Loss
Year	(000's)	Loss		LDF	Excluding	Lump Sum	Including	Loss	Cost Excluding
		Rate	Paid Loss		Lump Sum	Payments	Lump Sum	Cost	Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	181,560	0.445	739,645	1.013	749,969	N/A	749,969	0.413	0.413
6/30/85-86	195,247	0.858	1,602,166	1.015	1,626,874	N/A	1,626,874	0.833	0.833
6/30/86-87	224,370	0.921	1,896,353	1.017	1,930,895	N/A	1,930,895	0.861	0.861
6/30/87-88	262,864	1.034	2,483,087	1.019	2,533,855	N/A	2,533,855	0.964	0.964
6/30/88-89	283,884	1.417	3,867,441	1.021	3,950,456	N/A	3,950,456	1.392	1.392
6/30/89-90	285,078	1.435	3,680,769	1.023	3,773,189	N/A	3,773,189	1.324	1.324
6/30/90-91	267,732	1.098	2,890,850	1.025	2,963,003	N/A	2,963,003	1.107	1.107
6/30/91-92	261,442	0.930	2,402,525	1.027	2,466,912	N/A	2,466,912	0.944	0.944
6/30/92-93	259,992	0.681	1,752,832	1.030	1,803,972	N/A	1,803,972	0.694	0.694
6/30/93-94	257,062	0.497	1,264,853	1.032	1,304,501	N/A	1,304,501	0.507	0.507
6/30/94-95	255,854	0.369	927,514	1.034	958,553	N/A	958,553	0.375	0.375
6/30/95-96	255,539	0.399	1,004,022	1.036	1,039,495	N/A	1,039,495	0.407	0.407
6/30/96-97	270,071	0.335	882,572	1.038	915,276	N/A	915,276	0.339	0.339
6/30/97-98	245,367	0.316	751,655	1.040	781,755	N/A	781,755	0.319	0.319
6/30/98-99	251,453	0.266	633,627	1.042	660,747	N/A	660,747	0.263	0.263
6/30/99-00	255,641	0.310	758,824	1.045	793,077	N/A	793,077	0.310	0.310
6/30/00-01	263,918	0.486	1,269,474	1.048	1,328,400	N/A	1,328,400	0.503	0.503
6/30/01-02	267,598	0.324	820,868	1.052	863,995	N/A	863,995	0.323	0.323
6/30/02-03	274,465	0.326	839,586	1.057	887,516	N/A	887,516	0.323	0.323
6/30/03-04	272,384	0.337	842,619	1.075	906,977	N/A	906,977	0.333	0.333
6/30/04-05	273,647	0.389	1,005,881	1.097	1,100,333	N/A	1,100,333	0.402	0.402
6/30/05-06	285,139	0.402	1,115,105	1.132	1,248,377	N/A	1,248,377	0.438	0.438
6/30/06-07	298,516	0.414	1,094,137	1.162	1,266,384	N/A	1,266,384	0.424	0.424
6/30/07-08	314,231	0.426	842,963	1.205	1,070,434	N/A	1,070,434	0.341	0.341
6/30/08-09	302,998	0.441	1,088,621	1.277	1,378,960	N/A	1,378,960	0.455	0.455
6/30/09-10	297,252	0.467	1,038,592	1.444	1,464,855	N/A	1,464,855	0.493	0.493
6/30/10-11	292,432	0.481	781,068	1.841	1,423,096	N/A	1,423,096	0.487	0.487
6/30/11-12	295,908	0.495	463,779	3.749	1,538,122	N/A	1,538,122	0.520	0.520
Total	7,451,644		38,741,426		42,729,976		42,729,976		

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, 2012**

Section 2
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**Department of Mental Retardation - Cluster 1
Medical**

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Expected Ult Loss	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									0.445	0.445
6/30/85-86									0.858	0.858
6/30/86-87									0.921	0.921
6/30/87-88									1.034	1.034
6/30/88-89									1.417	1.417
6/30/89-90									1.435	1.435
6/30/90-91	267,732	2,963,584	1.107	1.194	1.322	1.916	2.532	0.223	1.102	1.098
6/30/91-92	261,442	2,467,900	0.944	1.189	1.122	1.860	2.087	0.231	0.932	0.930
6/30/92-93	259,992	1,805,002	0.694	1.189	0.826	1.806	1.491	0.237	0.684	0.681
6/30/93-94	257,062	1,305,333	0.508	1.178	0.598	1.754	1.049	0.247	0.500	0.497
6/30/94-95	255,854	959,053	0.375	1.170	0.439	1.702	0.747	0.256	0.372	0.369
6/30/95-96	255,539	1,040,242	0.407	1.155	0.470	1.653	0.777	0.267	0.402	0.399
6/30/96-97	270,071	915,682	0.339	1.137	0.385	1.605	0.618	0.280	0.338	0.335
6/30/97-98	245,367	781,985	0.319	1.135	0.362	1.558	0.564	0.288	0.317	0.316
6/30/98-99	251,453	660,431	0.263	1.135	0.298	1.513	0.451	0.297	0.268	0.266
6/30/99-00	255,641	793,124	0.310	1.135	0.352	1.469	0.517	0.306	0.310	0.310
6/30/00-01	263,918	1,330,602	0.504	1.109	0.559	1.426	0.797	0.322	0.472	0.486
6/30/01-02	267,598	863,837	0.323	1.101	0.355	1.384	0.492	0.335	0.324	0.324
6/30/02-03	274,465	887,068	0.323	1.073	0.347	1.344	0.466	0.354	0.332	0.326
6/30/03-04	272,384	906,197	0.333	1.046	0.348	1.305	0.454	0.374	0.343	0.337
6/30/04-05	273,647	1,103,888	0.403	1.036	0.418	1.267	0.529	0.389	0.400	0.389
6/30/05-06	285,139	1,261,887	0.443	1.032	0.457	1.230	0.562	0.402	0.414	0.402
6/30/06-07	298,516	1,271,391	0.426	1.032	0.440	1.194	0.525	0.414	0.426	0.414
6/30/07-08	314,231	1,015,390	0.323	1.032	0.333	1.159	0.387	0.426	0.439	0.426
6/30/08-09	302,998	1,390,457	0.459	1.027	0.471	1.126	0.530	0.441	0.455	0.441
6/30/09-10	297,252	1,499,233	0.504	1.000	0.504	1.093	0.551	0.467	0.481	0.467
6/30/10-11	292,432	1,437,643	0.492	1.000	0.492	1.061	0.522	0.481	0.495	0.481
6/30/11-12	295,908	1,738,634	0.588	1.000	0.588	1.030	0.605	0.495		0.495
Total	6,018,641	28,398,563								
Trend Last 4 (ex 11-12):					13.1%	Avg 3 (x11-12):	0.534			
Trend Last 8 (ex 11-12):					3.9%	Avg 5 (x11-12):	0.503			
Trend Last 12 (ex 11-12):					1.9%	Avg 10 (x11-12):	0.502			
Prior Selected Trend:					3.0%	Prior Sel Avg:	0.510			
Selected Trend:					3.0%	Sel. Loss Cost:	0.510			

NOTES:

- (2) Provided by Commonwealth of Massachusetts
- (3) From Section 2, Exhibit 2, Page 2, Column 6
- (4) = (3) / (2) / 10
- (5) Based on information from the MA WCIRB
- (6) = (4) x (5)
- (7) Based on Selected Trend from (6)
- (8) = (6) x (7)
- (9) = Sel. Loss Cost / [(5) * (7)]
- (10) From Aon analysis as of June 30, 2011
- (11) Selected based on (9) and (4)



Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012

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Department of Mental Retardation - Cluster 1
Medical

Calculation of 1982 & Prior Reserves (Page 1)

Method 1			
(1)	Average Payment Trend	0.800	
(2)	Credibility	35%	
(3)	Average Pmt Trend Statewide	0.950	
(4)	Credibility Weighted Trend	0.898	
		(Low)	(High)
(5)	Selected Range	0.850	0.943
(6)	Incremental Paid for 2012	179	179
(7)	Estimated Reserve	1,016	2,956
(8)	Paid to Date (82 & Prior)	1,210,153	1,210,153
(9)	Est Ult Paid for 1982 & Prior	1,211,169	1,213,109
Method 2			
		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	1,873	2,542
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	13,114	17,795
(13)	Paid to Date (82 & Prior)	1,210,153	1,209,974
(14)	Est Ult Paid for 1982 & Prior	1,223,267	1,227,769
(14a)	Paid Counts During Fiscal Year	1	2
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	1,217,218	1,220,439
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	1,217,218	1,220,439
(18)	Implied Tail	1.006	1.008
(19)	Ult Loss Inc Lump Sums @ 6/11	1,221,593	1,221,817

NOTES:

- | | |
|---|--|
| (1) From Section 2, Exhibit 2, Page 6 | (10) Avg of 3 latest years from Section 2, Exhibit 2, Page 6, Column 3 |
| (2) = (Average of Section 2, Exhibit 2, Page 6, Column 3 / 175,000) ^ 0.5 | (11) Selected judgmentally |
| (3) Average Statewide Trend | (12) = (10 x (11)) |
| (4) = (1) x (2) + (4) x { 1 - (2) } | (14) = (12) + (13) |
| (5) Selected judgmentally based on (4) | (15) = Average of (9) and (14) |
| (6), (14a) Provided by Commonwealth of Massachusetts | (16) Lump Sums are considered in Indemnity analysis (Section 1) |
| (7) = (6) x (5) / { 1 - (5) } | (17) = (15) + (16) |
| (8), (16) From Section 2, Exhibit 2, Page 2, Column 3 | (18) = (15) / (8) |
| (9) = (7) + (8) | (19) From Prior Aon Analysis as of June 30, 2011 |



**Commonwealth of Massachusetts
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Page 6

**Department of Mental Retardation - Cluster 1
Medical**

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Year	X	Incremental Paid	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 =	21
2001	10	9,078	9.114	0.761	S(x) =	42,042
2002	11	5,110	8.539	0.563	S(x-sq) =	84,168,854
2003	12	6,295	8.748	1.232	S(xy) =	384,903
2004	13	4,115	8.322	0.654	S(y) =	192
2005	14	17,494	9.770	4.251	D =	16,170
2006	15	5,802	8.666	0.332	slope =	-0.214
2007	16	8,975	9.102	1.547	Avg Trend =	0.786
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		
					Selected Trend:	0.800

NOTES:

(3) 2012 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2011

(4) LN [(3)]

(5) Eg. 2012: 0.15 = 179 / 1195



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

Medical

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Accident Year	Ultimate Loss As of 6/11		Ultimate Loss As of 6/12		Change in Ultimate Loss		Change in Ultimate Loss	
					(Dollar)	(Percent)	(Dollar)	(Percent)
	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	1,221,593	1,221,817	1,217,218	1,220,439	(4,375)	-0.4%	(1,378)	-0.1%
6/30/82-83	263,579	274,000	263,579	272,000	0	0.0%	(2,000)	-0.7%
6/30/83-84	1,415,459	1,470,000	1,417,230	1,462,000	1,772	0.1%	(8,000)	-0.5%
6/30/84-85	738,530	745,842	747,041	754,438	8,511	1.2%	8,595	1.2%
6/30/85-86	1,637,000	1,638,000	1,626,000	1,627,000	(11,000)	-0.7%	(11,000)	-0.7%
6/30/86-87	1,915,316	1,934,280	1,915,316	1,934,280	0	0.0%	0	0.0%
6/30/87-88	2,547,000	2,551,000	2,530,000	2,534,000	(17,000)	-0.7%	(17,000)	-0.7%
6/30/88-89	3,960,000	3,962,000	3,949,000	3,950,000	(11,000)	-0.3%	(12,000)	-0.3%
6/30/89-90	3,714,037	3,750,809	3,717,576	3,754,384	3,540	0.1%	3,575	0.1%
6/30/90-91	2,972,000	2,973,000	2,963,000	2,964,000	(9,000)	-0.3%	(9,000)	-0.3%
6/30/91-92	2,473,000	2,474,000	2,467,000	2,468,000	(6,000)	-0.2%	(6,000)	-0.2%
6/30/92-93	1,812,000	1,814,000	1,804,000	1,805,000	(8,000)	-0.4%	(9,000)	-0.5%
6/30/93-94	1,311,000	1,312,000	1,305,000	1,305,000	(6,000)	-0.5%	(7,000)	-0.5%
6/30/94-95	965,000	965,000	959,000	959,000	(6,000)	-0.6%	(6,000)	-0.6%
6/30/95-96	1,046,000	1,047,000	1,039,000	1,040,000	(7,000)	-0.7%	(7,000)	-0.7%
6/30/96-97	922,000	923,000	915,000	916,000	(7,000)	-0.8%	(7,000)	-0.8%
6/30/97-98	782,000	782,000	782,000	798,000	0	0.0%	16,000	2.0%
6/30/98-99	664,000	665,000	660,000	674,000	(4,000)	-0.6%	9,000	1.4%
6/30/99-00	791,000	791,000	793,000	809,000	2,000	0.3%	18,000	2.3%
6/30/00-01	1,285,000	1,289,000	1,328,000	1,357,000	43,000	3.3%	68,000	5.3%
6/30/01-02	861,000	861,000	864,000	881,000	3,000	0.3%	20,000	2.3%
6/30/02-03	900,000	901,000	887,000	905,000	(13,000)	-1.4%	4,000	0.4%
6/30/03-04	921,000	922,000	906,000	925,000	(15,000)	-1.6%	3,000	0.3%
6/30/04-05	1,140,000	1,146,000	1,049,000	1,104,000	(91,000)	-8.0%	(42,000)	-3.7%
6/30/05-06	1,217,000	1,281,000	1,199,000	1,262,000	(18,000)	-1.5%	(19,000)	-1.5%
6/30/06-07	1,262,000	1,329,000	1,208,000	1,271,000	(54,000)	-4.3%	(58,000)	-4.4%
6/30/07-08	1,007,000	1,137,000	965,000	1,070,000	(42,000)	-4.2%	(67,000)	-5.9%
6/30/08-09	1,317,000	1,536,000	1,251,000	1,460,000	(66,000)	-5.0%	(76,000)	-4.9%
6/30/09-10	1,408,000	1,642,000	1,349,000	1,574,000	(59,000)	-4.2%	(68,000)	-4.1%
6/30/10-11	1,518,000	1,771,000	1,294,000	1,510,000	(224,000)	-14.8%	(261,000)	-14.7%
6/30/11-12								
Total	43,986,514	45,108,749	43,369,961	44,565,540	(616,553)	-1.4%	(543,208)	-1.2%

NOTES:

(2), (3) From Aon analysis as of June 30, 2011

(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



**Commonwealth of Massachusetts
Workers Compensation
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Page 9

**Department of Mental Retardation - Cluster 1
Medical**

Calculation of Discount Factors

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maturity	Cumulative Paid Loss Development	Incremental Paid Loss Development	Percent Unpaid	Pres Value of Increm. Pmts (4%)	Pres Value of Increm. Pmts (6%)	Discount Factor At:	
						4%	6%
372	100.0%	0.9%	0.0%	0.3%	0.1%	1.000	1.000
360	99.1%	0.2%	0.9%	0.1%	0.0%	0.981	0.971
348	98.9%	0.2%	1.1%	0.1%	0.0%	0.950	0.926
336	98.7%	0.2%	1.3%	0.1%	0.0%	0.924	0.889
324	98.5%	0.2%	1.5%	0.1%	0.0%	0.900	0.856
312	98.3%	0.2%	1.7%	0.1%	0.0%	0.879	0.827
300	98.1%	0.2%	1.9%	0.1%	0.0%	0.860	0.800
288	97.9%	0.2%	2.1%	0.1%	0.0%	0.841	0.776
276	97.7%	0.2%	2.3%	0.1%	0.1%	0.824	0.752
264	97.5%	0.2%	2.5%	0.1%	0.1%	0.807	0.731
252	97.4%	0.2%	2.6%	0.1%	0.1%	0.791	0.710
240	97.1%	0.2%	2.9%	0.1%	0.1%	0.779	0.695
228	96.9%	0.2%	3.1%	0.1%	0.1%	0.765	0.677
216	96.7%	0.2%	3.3%	0.1%	0.1%	0.749	0.658
204	96.5%	0.1%	3.5%	0.1%	0.1%	0.735	0.640
192	96.4%	0.3%	3.6%	0.1%	0.1%	0.717	0.617
180	96.1%	0.2%	3.9%	0.1%	0.1%	0.709	0.609
168	95.9%	0.3%	4.1%	0.2%	0.1%	0.695	0.592
156	95.7%	0.3%	4.3%	0.2%	0.1%	0.687	0.584
144	95.4%	0.4%	4.6%	0.2%	0.2%	0.680	0.575
132	95.0%	0.4%	5.0%	0.3%	0.2%	0.679	0.576
120	94.6%	1.7%	5.4%	1.1%	1.0%	0.676	0.573
108	93.0%	1.9%	7.0%	1.3%	1.1%	0.728	0.643
96	91.1%	2.8%	8.9%	2.1%	1.8%	0.759	0.683
84	88.4%	2.3%	11.6%	1.8%	1.6%	0.789	0.722
72	86.1%	3.0%	13.9%	2.4%	2.2%	0.796	0.729
60	83.0%	4.7%	17.0%	4.0%	3.6%	0.804	0.738
48	78.3%	9.0%	21.7%	7.9%	7.4%	0.818	0.756
36	69.3%	14.9%	30.7%	13.5%	12.9%	0.843	0.789
24	54.3%	27.7%	45.7%	26.1%	25.3%	0.866	0.819
12	26.7%	26.7%	73.3%	26.2%	25.9%	0.889	0.847
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)



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Department of Mental Retardation - Cluster 1

Medical

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	7,065	10,286		6,179	8,996
6/30/82-83	2,610	11,031	0.981	2,559	10,817
6/30/83-84	14,032	58,802	0.950	13,327	55,848
6/30/84-85	7,396	14,793	0.924	6,832	13,663
6/30/85-86	23,835	24,835	0.900	21,462	22,363
6/30/86-87	18,964	37,927	0.879	16,675	33,351
6/30/87-88	46,913	50,913	0.860	40,331	43,770
6/30/88-89	81,559	82,559	0.841	68,612	69,453
6/30/89-90	36,808	73,615	0.824	30,320	60,641
6/30/90-91	72,150	73,150	0.807	58,229	59,036
6/30/91-92	64,475	65,475	0.791	51,003	51,794
6/30/92-93	51,168	52,168	0.779	39,859	40,638
6/30/93-94	40,147	40,147	0.765	30,703	30,703
6/30/94-95	31,486	31,486	0.749	23,593	23,593
6/30/95-96	34,978	35,978	0.735	25,707	26,442
6/30/96-97	32,428	33,428	0.717	23,246	23,963
6/30/97-98	30,345	46,345	0.709	21,514	32,858
6/30/98-99	26,373	40,373	0.695	18,329	28,059
6/30/99-00	34,176	50,176	0.687	23,495	34,494
6/30/00-01	58,526	87,526	0.680	39,784	59,497
6/30/01-02	43,132	60,132	0.679	29,270	40,806
6/30/02-03	47,414	65,414	0.676	32,038	44,201
6/30/03-04	63,381	82,381	0.728	46,151	59,986
6/30/04-05	43,119	98,119	0.759	32,726	74,470
6/30/05-06	83,895	146,895	0.789	66,206	115,923
6/30/06-07	113,863	176,863	0.796	90,583	140,703
6/30/07-08	122,037	227,037	0.804	98,063	182,435
6/30/08-09	162,379	371,379	0.818	132,812	303,756
6/30/09-10	310,408	535,408	0.843	261,807	451,579
6/30/10-11	512,932	728,932	0.866	444,448	631,609
6/30/11-12	1,101,221	1,362,221	0.889	978,721	1,210,687
Total	3,319,214	4,775,794		2,774,587	3,986,135

(7) Total Discount Factor: 0.836 0.835

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve: 7,065 10,286
(9) Projected Number of Years: 7 7
(10) Projected Paid Loss per Year: 1,009 1,469
(11) Discounted Value at 4%: 6,179 8,996

NOTES:

(2), (3) From Section 2, Exhibit 2, Page 1, Columns 8, 9

(4) From Section 2, Exhibit 2, Page 9, Column 7

(5) = (2) x (4)

(6) = (3) x (4)

(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)

(10) = (8) / (9)



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Department of Mental Retardation - Cluster 1

Medical

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	7,065	10,286		5,803	8,449
6/30/82-83	2,610	11,031	0.971	2,535	10,714
6/30/83-84	14,032	58,802	0.926	12,999	54,472
6/30/84-85	7,396	14,793	0.889	6,575	13,151
6/30/85-86	23,835	24,835	0.856	20,411	21,268
6/30/86-87	18,964	37,927	0.827	15,685	31,370
6/30/87-88	46,913	50,913	0.800	37,548	40,749
6/30/88-89	81,559	82,559	0.776	63,257	64,032
6/30/89-90	36,808	73,615	0.752	27,695	55,390
6/30/90-91	72,150	73,150	0.731	52,714	53,445
6/30/91-92	64,475	65,475	0.710	45,776	46,486
6/30/92-93	51,168	52,168	0.695	35,560	36,255
6/30/93-94	40,147	40,147	0.677	27,183	27,183
6/30/94-95	31,486	31,486	0.658	20,708	20,708
6/30/95-96	34,978	35,978	0.640	22,385	23,025
6/30/96-97	32,428	33,428	0.617	20,020	20,638
6/30/97-98	30,345	46,345	0.609	18,473	28,213
6/30/98-99	26,373	40,373	0.592	15,610	23,897
6/30/99-00	34,176	50,176	0.584	19,952	29,293
6/30/00-01	58,526	87,526	0.575	33,677	50,364
6/30/01-02	43,132	60,132	0.576	24,826	34,611
6/30/02-03	47,414	65,414	0.573	27,182	37,502
6/30/03-04	63,381	82,381	0.643	40,747	52,962
6/30/04-05	43,119	98,119	0.683	29,451	67,017
6/30/05-06	83,895	146,895	0.722	60,551	106,022
6/30/06-07	113,863	176,863	0.729	83,007	128,935
6/30/07-08	122,037	227,037	0.738	90,124	167,666
6/30/08-09	162,379	371,379	0.756	122,836	280,941
6/30/09-10	310,408	535,408	0.789	244,996	422,582
6/30/10-11	512,932	728,932	0.819	419,977	596,832
6/30/11-12	1,101,221	1,362,221	0.847	933,207	1,154,386
Total	3,319,214	4,775,794		2,581,473	3,708,558

(7) Total Discount Factor: 0.778 0.777

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve: 7,065 10,286
(9) Projected Number of Years: 7 7
(10) Projected Paid Loss per Year: 1,009 1,469
(11) Discounted Value at 6%: 5,803 8,449

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, 2012

Department of Mental Health - Cluster 2

Indemnity

Summary of Ultimate Losses

Section 3

Exhibit 1

Page 1

(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		19,027,723			22,819,387	24,223,911	3,791,665	5,196,189		
6/30/82-83		2,501,755	2,581,318		2,516,785	2,645,851	15,030	144,095		
6/30/83-84		2,655,007	2,871,880		2,800,083	2,943,677	145,076	288,670		
6/30/84-85	142,561	4,037,976	4,596,040	4,191,635	4,192,000	4,596,000	154,024	558,024	2.940	3.224
6/30/85-86	153,298	4,634,091	4,897,749	4,885,215	4,885,000	4,898,000	250,909	263,909	3.187	3.195
6/30/86-87	176,136	6,208,413	6,616,166	6,624,960	6,333,000	6,457,000	124,587	248,587	3.596	3.666
6/30/87-88	206,319	11,384,166	12,751,811	12,164,745	12,516,985	12,752,000	1,132,818	1,367,834	6.067	6.181
6/30/88-89	222,806	11,959,768	13,483,195	12,884,541	13,243,733	13,483,000	1,283,965	1,523,232	5.944	6.051
6/30/89-90	223,751	11,360,798	12,892,136	12,340,083	12,340,000	12,892,000	979,202	1,531,202	5.515	5.762
6/30/90-91	210,162	7,745,382	8,817,226	8,508,320	7,978,000	8,133,000	232,618	387,618	3.796	3.870
6/30/91-92	205,241	4,260,079	4,684,814	4,681,610	4,388,000	4,473,000	127,921	212,921	2.138	2.179
6/30/92-93	176,705	3,504,183	3,889,638	3,884,426	3,884,000	3,890,000	379,817	385,817	2.198	2.201
6/30/93-94	173,075	2,365,441	2,678,945	2,675,518	2,676,000	2,679,000	310,559	313,559	1.546	1.548
6/30/94-95	178,317	2,817,398	3,350,062	3,225,191	3,225,000	3,350,000	407,602	532,602	1.809	1.879
6/30/95-96	175,996	1,922,991	2,185,636	2,186,368	1,962,000	2,000,000	39,009	77,009	1.115	1.136
6/30/96-97	190,083	1,571,537	1,775,898	1,783,447	1,776,000	1,783,000	204,463	211,463	0.934	0.938
6/30/97-98	177,278	2,912,109	3,328,381	3,320,378	3,320,000	3,328,000	407,891	415,891	1.873	1.877
6/30/98-99	189,080	1,674,660	1,945,709	1,953,686	1,946,000	1,954,000	271,340	279,340	1.029	1.033
6/30/99-00	194,494	2,313,702	2,692,238	2,695,092	2,692,000	2,695,000	378,298	381,298	1.384	1.386
6/30/00-01	201,568	3,265,709	3,870,152	3,856,822	3,857,000	3,870,000	591,291	604,291	1.913	1.920
6/30/01-02	203,105	2,606,204	3,186,482	3,181,519	3,182,000	3,186,000	575,796	579,796	1.567	1.569
6/30/02-03	202,515	1,901,611	2,358,773	2,372,419	2,359,000	2,372,000	457,389	470,389	1.165	1.171
6/30/03-04	189,588	3,242,897	4,162,471	4,133,439	4,133,000	4,162,000	890,103	919,103	2.180	2.195
6/30/04-05	186,990	2,718,828	3,542,352	3,411,469	3,411,000	3,542,000	692,172	823,172	1.824	1.894
6/30/05-06	193,254	1,855,810	2,491,127	2,642,311	2,491,000	2,642,000	635,190	786,190	1.289	1.367
6/30/06-07	203,359	1,982,868	2,839,531	2,885,009	2,840,000	2,885,000	857,132	902,132	1.397	1.419
6/30/07-08	212,083	1,507,306	2,231,262	2,541,824	2,231,000	2,542,000	723,694	1,034,694	1.052	1.199
6/30/08-09	204,679	1,617,302	2,670,318	2,882,387	2,670,000	2,882,000	1,052,698	1,264,698	1.304	1.408
6/30/09-10	184,688	931,282	1,764,958	2,161,462	1,964,000	2,161,000	1,032,718	1,229,718	1.063	1.170
6/30/10-11	169,689	1,136,164	2,767,461	2,745,679	2,746,000	2,906,000	1,609,836	1,769,836	1.618	1.713
6/30/11-12	177,399	603,523	2,799,074	2,907,713	2,799,000	3,053,000	2,195,477	2,449,477	1.578	1.721
Total	5,324,220	128,226,684	130,722,801	123,727,268	150,176,973	155,379,439	21,950,290	27,152,755		
Tot 6/30/84-12	5,324,220	104,042,199	125,269,603	123,727,268	122,040,718	125,566,000	17,998,519	21,523,801	2.292	2.358

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, 2012**

Section 3
Exhibit 1
Page 2

**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 7/1/10-11	Paid Counts 7/1/11-12	Average Outstanding Claim	Average Age
All Prior Yrs		18,362,043							11	10		85
6/30/82-83		2,407,755	1.033	1.000	2,486,613	94,705	2,581,318		1	1	78,858	86
6/30/83-84		2,245,006	1.043	1.050	2,458,804	413,076	2,871,880		0	0		
6/30/84-85	142,561	3,486,893	1.054	1.100	4,040,824	555,216	4,596,040	3,224	2	2	276,965	68
6/30/85-86	153,298	4,048,163	1.064	1.000	4,307,427	590,322	4,897,749	3,195	0	0		
6/30/86-87	176,136	5,376,022	1.075	1.000	5,777,532	838,634	6,616,166	3,756	0	0		
6/30/87-88	206,319	9,699,144	1.085	1.050	11,054,151	1,697,660	12,751,811	6,181	2	2	677,504	72
6/30/88-89	222,806	9,984,126	1.096	1.050	11,492,736	1,990,459	13,483,195	6,052	4	4	377,152	78
6/30/89-90	223,751	9,323,158	1.107	1.050	10,839,214	2,052,922	12,892,136	5,762	2	2	758,028	72
6/30/90-91	210,162	6,079,918	1.118	1.050	7,139,271	1,677,955	8,817,226	4,195	1	1	1,059,352	84
6/30/91-92	205,241	3,230,938	1.129	1.000	3,647,955	1,036,860	4,684,814	2,283	0	0		
6/30/92-93	176,705	2,710,104	1.140	1.000	3,089,603	800,035	3,889,638	2,201	2	2	189,749	56
6/30/93-94	173,075	2,006,857	1.155	1.000	2,317,622	361,323	2,678,945	1,548	1	1	310,765	62
6/30/94-95	178,317	2,340,974	1.166	1.050	2,864,829	485,233	3,350,062	1,879	2	1	523,855	68
6/30/95-96	175,996	1,438,931	1.174	1.000	1,689,399	496,237	2,185,636	1,242	0	1	250,468	55
6/30/96-97	190,083	1,057,037	1.181	1.000	1,248,410	527,487	1,775,898	0,934	0	0		
6/30/97-98	177,278	2,101,308	1.188	1.000	2,495,621	832,760	3,328,381	1,877	1	0		
6/30/98-99	189,080	1,254,410	1.204	1.000	1,510,659	435,050	1,945,709	1,029	0	0		
6/30/99-00	194,494	1,634,502	1.215	1.000	1,985,336	706,903	2,692,238	1,384	0	0		
6/30/00-01	201,568	2,469,209	1.226	1.000	3,027,986	842,166	3,870,152	1,920	2	2	279,389	67
6/30/01-02	203,105	2,097,298	1.257	1.000	2,636,010	550,472	3,186,482	1,569	1	0		
6/30/02-03	202,515	1,404,611	1.291	1.000	1,813,065	545,708	2,358,773	1,165	1	2	204,227	42
6/30/03-04	189,588	2,661,897	1.315	1.000	3,499,732	662,738	4,162,471	2,196	3	0		
6/30/04-05	186,990	2,083,828	1.345	1.000	2,802,877	739,475	3,542,352	1,894	5	2	359,524	58
6/30/05-06	193,254	1,353,060	1.385	1.000	1,874,255	616,872	2,491,127	1,289	3	2	260,598	42
6/30/06-07	203,359	1,702,117	1.439	1.000	2,448,943	390,588	2,839,531	1,396	5	2	373,413	56
6/30/07-08	212,083	1,222,576	1.482	1.000	1,812,126	419,135	2,231,262	1,052	8	4	147,388	51
6/30/08-09	204,679	1,347,802	1.608	1.000	2,167,548	502,770	2,670,318	1,305	10	4	204,936	49
6/30/09-10	184,688	895,282	1.771	1.000	1,585,502	179,456	1,764,958	0,956	23	9	76,691	56
6/30/10-11	169,689	1,099,134	2.142	1.000	2,354,286	413,175	2,767,461	1,631	147	42	29,885	52
6/30/11-12	177,399	603,523	3.831	1.000	2,311,981	487,093	2,799,074	1,578		146	11,702	48
Total	5,324,220	107,727,626			108,780,317	21,942,484	130,722,801		237	242		

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, 2012**

Section 3

Exhibit 1

Page 3

**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	3,486,893	1.054	3,636,419	555,216	4,191,635	2.940	2.551
6/30/85-86	153,298	2.674	4,048,163	1.064	4,294,893	590,322	4,885,215	3.187	2.802
6/30/86-87	176,136	3.352	5,376,022	1.075	5,786,326	838,634	6,624,960	3.761	3.285
6/30/87-88	206,319	4.729	9,699,144	1.085	10,467,086	1,697,660	12,164,745	5.896	5.073
6/30/88-89	222,806	4.650	9,984,126	1.096	10,894,082	1,990,459	12,884,541	5.783	4.890
6/30/89-90	223,751	4.448	9,323,158	1.107	10,287,161	2,052,922	12,340,083	5.515	4.598
6/30/90-91	210,162	3.375	6,079,918	1.118	6,830,365	1,677,955	8,508,320	4.048	3.250
6/30/91-92	205,241	1.764	3,230,938	1.129	3,644,750	1,036,860	4,681,610	2.281	1.776
6/30/92-93	176,705	1.724	2,710,104	1.140	3,084,391	800,035	3,884,426	2.198	1.746
6/30/93-94	173,075	1.324	2,006,857	1.155	2,314,195	361,323	2,675,518	1.546	1.337
6/30/94-95	178,317	1.576	2,340,974	1.166	2,739,958	485,233	3,225,191	1.809	1.537
6/30/95-96	175,996	0.963	1,438,931	1.174	1,690,131	496,237	2,186,368	1.242	0.960
6/30/96-97	190,083	0.683	1,057,037	1.181	1,255,959	527,487	1,783,447	0.938	0.661
6/30/97-98	177,278	1.379	2,101,308	1.188	2,487,618	832,760	3,320,378	1.873	1.403
6/30/98-99	189,080	0.824	1,254,410	1.204	1,518,636	435,050	1,953,686	1.033	0.803
6/30/99-00	194,494	1.029	1,634,502	1.215	1,988,189	706,903	2,695,092	1.386	1.022
6/30/00-01	201,568	1.466	2,469,209	1.226	3,014,657	842,166	3,856,822	1.913	1.496
6/30/01-02	203,105	1.286	2,097,298	1.257	2,631,047	550,472	3,181,519	1.566	1.295
6/30/02-03	202,515	0.925	1,404,611	1.291	1,826,711	545,708	2,372,419	1.171	0.902
6/30/03-04	189,588	1.782	2,661,897	1.315	3,470,700	662,738	4,133,439	2.180	1.831
6/30/04-05	186,990	1.226	2,083,828	1.345	2,671,994	739,475	3,411,469	1.824	1.429
6/30/05-06	193,254	1.251	1,353,060	1.385	2,025,440	616,872	2,642,311	1.367	1.048
6/30/06-07	203,359	1.278	1,702,117	1.439	2,494,420	390,588	2,885,009	1.419	1.227
6/30/07-08	212,083	1.305	1,222,576	1.482	2,122,689	419,135	2,541,824	1.199	1.001
6/30/08-09	204,679	1.333	1,347,802	1.608	2,379,617	502,770	2,882,387	1.408	1.163
6/30/09-10	184,688	1.352	895,282	1.771	1,982,006	179,456	2,161,462	1.170	1.073
6/30/10-11	169,689	1.363	1,099,134	2.142	2,332,504	413,175	2,745,679	1.618	1.375
6/30/11-12	177,399	1.386	603,523	3.831	2,420,621	487,093	2,907,713	1.639	1.365
Total	5,324,220		84,712,823		102,292,565	21,434,703	123,727,268		

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, 2012

Department of Mental Health - Cluster 2

Indemnity

Calculation of Initial Expected Loss Rate

Section 3

Exhibit 1

Page 4

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Exp Ult Loss Excluding Lump Sum	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									2.065	2.065
6/30/85-86									2.674	2.674
6/30/86-87									3.352	3.352
6/30/87-88									4.729	4.729
6/30/88-89									4.650	4.650
6/30/89-90									4.448	4.448
6/30/90-91	210,162	7,139,271	3.397	0.946	3,214	1.245	4,000	1.189	3.370	3.375
6/30/91-92	205,241	3,647,955	1.777	1.038	1,845	1.232	2,274	1.094	1.770	1.764
6/30/92-93	176,705	3,089,603	1.748	1.210	2,116	1.220	2,582	0.948	1.715	1.724
6/30/93-94	173,075	2,317,622	1.339	1.195	1,600	1.208	1,933	0.970	1.306	1.324
6/30/94-95	178,317	2,864,829	1.607	1.184	1,902	1.196	2,275	0.989	1.578	1.576
6/30/95-96	175,996	1,689,399	0.960	1.174	1,127	1.184	1,335	1.007	0.969	0.963
6/30/96-97	190,083	1,248,410	0.657	1.163	0,764	1.173	0,895	1.027	0.690	0.683
6/30/97-98	177,278	2,495,621	1.408	1.148	1,616	1.161	1,876	1.051	1.400	1.379
6/30/98-99	189,080	1,510,659	0.799	1.133	0,905	1.149	1,040	1.075	0.839	0.824
6/30/99-00	194,494	1,985,336	1.021	1.114	1,138	1.138	1,295	1.104	1.048	1.029
6/30/00-01	201,568	3,027,986	1.502	1.086	1,632	1.127	1,839	1.144	1.495	1.466
6/30/01-02	203,105	2,636,010	1.298	1.065	1,382	1.116	1,542	1.178	1.329	1.286
6/30/02-03	202,515	1,813,065	0.895	1.061	0,950	1.105	1,049	1.194	0.947	0.925
6/30/03-04	189,588	3,499,732	1.846	1.061	1,959	1.094	2,142	1.206	1.838	1.782
6/30/04-05	186,990	2,802,877	1.499	1.054	1,581	1.083	1,712	1.226	1.326	1.226
6/30/05-06	193,254	1,874,255	0.970	1.044	1,012	1.072	1,085	1.251	1.353	1.251
6/30/06-07	203,359	2,448,943	1.204	1.032	1,243	1.062	1,320	1.278	1.382	1.278
6/30/07-08	212,083	1,812,126	0.854	1.021	0,872	1.051	0,917	1.305	1.411	1.305
6/30/08-09	204,679	2,167,548	1.059	1.009	1,069	1.041	1,112	1.333	1.441	1.333
6/30/09-10	184,688	1,585,502	0.858	1.005	0,863	1.030	0,889	1.352	1.462	1.352
6/30/10-11	169,689	2,354,286	1.387	1.007	1,397	1.020	1,425	1.363	1.485	1.363
6/30/11-12	177,399	2,311,981	1.303	1.000	1,303	1.010	1,316	1.386		1.386
Total	4,199,350	56,323,017								
					Trend Last 4 (ex 11-12):	12.7%	Avg 3 (x11-12):	1.142		
					Trend Last 8 (ex 11-12):	-6.4%	Avg 5 (x11-12):	1.133		
					Trend Last 12 (ex 11-12):	-2.6%	Avg 10 (x11-12):	1.319		
					Prior Selected Trend:	1.0%	Prior Sel Avg:	1.500		
					Selected Trend:	1.0%	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, 2011

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



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 3
Exhibit 1
Page 5

**Department of Mental Health - Cluster 2
Indemnity**

Calculation of 1982 & Prior Reserves (Page 1)

Method 1			
(1)	Average Payment Trend	0.950	
(2)	Credibility	44%	
(3)	Average Pmt Trend Statewide	0.960	
(4)	Credibility Weighted Trend	0.956	
		(Low)	(High)
(5)	Selected Range	0.930	0.960
(6)	Incremental Paid for 2012	370,117	370,117
(7)	Estimated Reserve	4,917,268	8,882,807
(8)	Paid to Date (82 & Prior)	18,362,043	18,362,043
(9)	Est Ult Paid for 1982 & Prior	23,279,311	27,244,849
Method 2			
		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	379,439	387,530
(11)	Projected Number of Years	7	8
(12)	Estimated Reserve	2,656,076	3,100,239
(13)	Paid to Date (82 & Prior)	18,362,043	17,991,926
(14)	Est Ult Paid for 1982 & Prior	21,018,119	21,092,165
(14a)	Paid Counts During Fiscal Year	10	11
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	22,148,715	23,553,239
(16)	Lump Sum Ultimates	670,673	670,673
(17)	Ult Loss Including Lump Sums	22,819,387	24,223,911
(18)	Implied Tail	1.206	1.283
(19)	Ult Loss Inc Lump Sums @ 6/11	22,486,642	23,896,348

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, 2011



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 3
Exhibit 1
Page 6

**Department of Mental Health - Cluster 2
Indemnity**

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paid	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 =	21
2001	10	614,002	13.328	0.981	S(x) =	42,042
2002	11	594,569	13.296	0.968	S(x-sq) =	84,168,854
2003	12	551,328	13.220	0.927	S(xy) =	556,175
2004	13	536,825	13.193	0.974	S(y) =	278
2005	14	518,060	13.158	0.965	D =	16,170
2006	15	465,230	13.050	0.898	slope =	-0.041
2007	16	463,442	13.046	0.996	Avg Trend =	0.959
2008	17	390,409	12.875	0.842		
2009	18	394,388	12.885	1.010		
2010	19	396,721	12.891	1.006		
2011	20	371,480	12.825	0.936		
2012	21	370,117	12.822	0.933		
				Selected Trend:	0.950	

NOTES:

(3) 2012 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2011

(4) LN [(3)]

(5) Eg. 2012: 0.933 = 370117 / 371480

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**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 3
Exhibit 1
Page 8

Department of Mental Health - Cluster 2

Indemnity

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Accident Year	Ultimate Loss As of 6/11		Ultimate Loss As of 6/12		Change in Ultimate Loss		Change in Ultimate Loss	
					(Dollar)	(Percent)	(Dollar)	(Percent)
	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	22,486,642	23,896,348	22,819,387	24,223,911	332,745	1.5%	327,563	1.4%
6/30/82-83	2,461,742	2,587,985	2,516,785	2,645,851	55,043	2.2%	57,866	2.2%
6/30/83-84	2,803,627	2,947,403	2,800,083	2,943,677	(3,544)	-0.1%	(3,726)	-0.1%
6/30/84-85	4,115,000	4,508,000	4,192,000	4,596,000	77,000	1.9%	88,000	2.0%
6/30/85-86	4,891,000	4,904,000	4,885,000	4,898,000	(6,000)	-0.1%	(6,000)	-0.1%
6/30/86-87	6,333,000	6,457,000	6,333,000	6,457,000	0	0.0%	0	0.0%
6/30/87-88	12,455,203	12,687,000	12,516,985	12,752,000	61,781	0.5%	65,000	0.5%
6/30/88-89	13,128,566	13,362,000	13,243,733	13,483,000	115,167	0.9%	121,000	0.9%
6/30/89-90	12,248,000	12,785,000	12,340,000	12,892,000	92,000	0.8%	107,000	0.8%
6/30/90-91	7,948,000	8,102,000	7,978,000	8,133,000	30,000	0.4%	31,000	0.4%
6/30/91-92	4,388,000	4,473,000	4,388,000	4,473,000	0	0.0%	0	0.0%
6/30/92-93	3,867,000	3,872,000	3,884,000	3,890,000	17,000	0.4%	18,000	0.5%
6/30/93-94	2,648,000	2,650,000	2,676,000	2,679,000	28,000	1.1%	29,000	1.1%
6/30/94-95	3,239,000	3,363,000	3,225,000	3,350,000	(14,000)	-0.4%	(13,000)	-0.4%
6/30/95-96	1,961,000	2,000,000	1,962,000	2,000,000	1,000	0.1%	0	0.0%
6/30/96-97	1,788,000	1,797,000	1,776,000	1,783,000	(12,000)	-0.7%	(14,000)	-0.8%
6/30/97-98	3,391,000	3,398,000	3,320,000	3,328,000	(71,000)	-2.1%	(70,000)	-2.1%
6/30/98-99	1,985,000	1,995,000	1,946,000	1,954,000	(39,000)	-2.0%	(41,000)	-2.1%
6/30/99-00	2,756,000	2,762,000	2,692,000	2,695,000	(64,000)	-2.3%	(67,000)	-2.4%
6/30/00-01	3,956,000	3,968,000	3,857,000	3,870,000	(99,000)	-2.5%	(98,000)	-2.5%
6/30/01-02	3,304,000	3,307,000	3,182,000	3,186,000	(122,000)	-3.7%	(121,000)	-3.7%
6/30/02-03	2,357,000	2,376,000	2,359,000	2,372,000	2,000	0.1%	(4,000)	-0.2%
6/30/03-04	4,293,000	4,322,000	4,133,000	4,162,000	(160,000)	-3.7%	(160,000)	-3.7%
6/30/04-05	3,464,000	3,573,000	3,411,000	3,542,000	(53,000)	-1.5%	(31,000)	-0.9%
6/30/05-06	2,674,000	2,878,000	2,491,000	2,642,000	(183,000)	-6.8%	(236,000)	-8.2%
6/30/06-07	2,952,000	3,069,000	2,840,000	2,885,000	(112,000)	-3.8%	(184,000)	-6.0%
6/30/07-08	2,467,000	2,875,000	2,231,000	2,542,000	(236,000)	-9.6%	(333,000)	-11.6%
6/30/08-09	3,105,000	3,385,000	2,670,000	2,882,000	(435,000)	-14.0%	(503,000)	-14.9%
6/30/09-10	2,265,000	2,570,000	1,964,000	2,161,000	(301,000)	-13.3%	(409,000)	-15.9%
6/30/10-11	3,092,000	3,317,000	2,746,000	2,906,000	(346,000)	-11.2%	(411,000)	-12.4%
6/30/11-12								
Total	148,822,780	154,186,736	147,377,973	152,326,439	(1,444,807)	-1.0%	(1,860,297)	-1.2%

NOTES:

(2), (3) From Aon analysis as of June 30, 2011

(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, 2012

Department of Mental Health - Cluster 2
Indemnity

Calculation of Ultimate Lump Sum Payments

Section 3
Exhibit 1
Page 9

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Accident Year	Paid Loss Excluding Lump Sum	Implied Cumulative LDF	Ult Loss Excluding Lump Sum	Selected Incr Lump Sum % Outstdg	Cumulative Lump Sum % Outstdg	Total Lump Sum Outstdg	Paid Lump Sum to Date	Est Ult Lump Sum - Incr Method	Ultimate Lump Sum Percentage	Lump Sum LDF	Est Ult Lump Sum - Paid Method	Selected Est Ultimate Lump Sums	Prior Est Ultimate Lump Sums
All Prior Yrs	18,362,043	1.244	22,850,977	0.0%	0.0%	0	665,680	665,680	2.9%	1.015	675,665	670,673	670,673
6/30/82-83	2,407,755	1.033	2,486,613	0.0%	0.0%	0	94,000	94,000	3.8%	1.015	95,410	94,705	94,705
6/30/83-84	2,245,006	1.095	2,458,804	0.0%	0.0%	0	410,001	410,001	16.7%	1.015	416,151	413,076	413,076
6/30/84-85	3,486,893	1.159	4,040,824	0.0%	0.0%	0	551,083	551,083	13.6%	1.015	559,349	555,216	555,216
6/30/85-86	4,048,163	1.064	4,307,427	0.0%	0.0%	0	585,928	585,928	13.6%	1.015	594,717	590,322	590,322
6/30/86-87	5,376,022	1.075	5,777,532	0.0%	0.0%	0	832,391	832,391	14.4%	1.015	844,877	838,634	838,634
6/30/87-88	9,699,144	1.140	11,054,151	0.0%	0.0%	0	1,685,022	1,685,022	15.2%	1.015	1,710,297	1,697,660	1,697,660
6/30/88-89	9,984,126	1.151	11,492,736	0.0%	0.0%	0	1,975,642	1,975,642	17.2%	1.015	2,005,277	1,990,459	1,990,459
6/30/89-90	9,323,158	1.163	10,839,214	0.0%	0.0%	0	2,037,640	2,037,640	18.8%	1.015	2,068,205	2,052,922	2,052,922
6/30/90-91	6,079,918	1.174	7,139,271	0.0%	0.0%	0	1,665,464	1,665,464	23.3%	1.015	1,690,446	1,677,955	1,677,955
6/30/91-92	3,230,938	1.129	3,647,955	0.0%	0.0%	0	1,029,141	1,029,141	28.2%	1.015	1,044,578	1,036,860	1,036,860
6/30/92-93	2,710,104	1.140	3,089,603	0.0%	0.0%	0	794,079	794,079	25.7%	1.015	805,990	800,035	803,342
6/30/93-94	2,006,857	1.155	2,317,622	0.0%	0.0%	0	358,584	358,584	15.5%	1.015	364,063	361,323	371,840
6/30/94-95	2,340,974	1.224	2,864,829	0.2%	0.2%	5,972	476,424	482,396	16.8%	1.024	488,070	485,233	500,483
6/30/95-96	1,438,931	1.174	1,689,399	0.4%	0.6%	9,546	484,060	493,606	29.2%	1.031	498,868	496,237	506,616
6/30/96-97	1,057,037	1.181	1,248,410	0.0%	0.6%	7,054	514,500	521,554	41.8%	1.037	533,420	527,487	536,930
6/30/97-98	2,101,308	1.188	2,495,621	0.0%	0.6%	14,101	810,801	824,902	33.1%	1.037	840,618	832,760	875,856
6/30/98-99	1,254,410	1.204	1,510,659	0.4%	0.9%	14,146	420,250	434,396	28.8%	1.037	435,704	435,050	459,603
6/30/99-00	1,634,502	1.215	1,985,336	0.2%	1.1%	21,978	679,200	701,178	35.3%	1.049	712,627	706,903	749,746
6/30/00-01	2,469,209	1.226	3,027,986	0.0%	1.1%	33,520	796,500	830,020	27.4%	1.073	854,311	842,166	896,827
6/30/01-02	2,097,298	1.257	2,636,010	0.2%	1.3%	34,185	508,906	543,092	20.6%	1.096	557,852	550,472	595,762
6/30/02-03	1,404,611	1.291	1,813,065	0.7%	2.0%	35,995	497,000	532,995	29.4%	1.124	558,421	545,708	515,585
6/30/03-04	2,661,897	1.315	3,499,732	0.0%	2.0%	69,480	581,000	650,480	18.6%	1.162	674,997	662,738	724,839
6/30/04-05	2,083,828	1.345	2,802,877	0.5%	2.5%	69,329	635,000	704,329	25.1%	1.220	774,620	739,475	708,121
6/30/05-06	1,353,060	1.385	1,874,255	1.1%	3.6%	66,993	502,750	569,743	30.4%	1.321	664,000	616,872	713,135
6/30/06-07	1,702,117	1.439	2,448,943	1.3%	4.9%	120,101	280,751	400,852	16.4%	1.355	380,324	390,588	489,836
6/30/07-08	1,222,576	1.482	1,812,126	1.6%	6.5%	117,721	284,730	402,451	22.2%	1.531	435,820	419,135	521,275
6/30/08-09	1,347,802	1.608	2,167,548	3.1%	9.6%	207,305	269,500	476,805	22.0%	1.962	528,735	502,770	768,015
6/30/09-10	895,282	1.771	1,585,502	4.0%	13.5%	214,772	36,000	250,772	15.8%	3.004	108,141	179,456	362,511
6/30/10-11	1,099,134	2.142	2,354,286	4.8%	18.4%	432,080	37,030	469,110	19.9%	9.647	357,240	413,175	549,777
6/30/11-12	603,523	3.831	2,311,981	2.7%	21.1%	487,093	0	487,093	21.1%	45.101	0	487,093	
Total	107,727,626		131,631,293			1,961,370	20,499,058	22,460,427	17.1%		22,278,794	22,613,157	23,268,580

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, 2011

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

Section 3
Exhibit 1
Page 12

[illegible]



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 3

Exhibit 1

Page 13

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%
372	100.0%	3.2%	0.0%	1.0%	0.5%	1.000	1.000
360	96.8%	1.0%	3.2%	0.3%	0.2%	0.981	0.971
348	95.9%	0.9%	4.1%	0.3%	0.2%	0.952	0.929
336	94.9%	0.9%	5.1%	0.3%	0.2%	0.927	0.894
324	94.0%	0.9%	6.0%	0.3%	0.2%	0.906	0.864
312	93.1%	0.9%	6.9%	0.3%	0.2%	0.885	0.836
300	92.1%	0.9%	7.9%	0.3%	0.2%	0.866	0.810
288	91.2%	0.9%	8.8%	0.4%	0.2%	0.848	0.785
276	90.3%	0.9%	9.7%	0.4%	0.2%	0.831	0.762
264	89.4%	0.9%	10.6%	0.4%	0.2%	0.815	0.741
252	88.6%	0.9%	11.4%	0.4%	0.3%	0.798	0.719
240	87.7%	1.1%	12.3%	0.5%	0.4%	0.782	0.699
228	86.6%	0.8%	13.4%	0.4%	0.3%	0.771	0.685
216	85.8%	0.6%	14.2%	0.3%	0.2%	0.755	0.665
204	85.2%	0.5%	14.8%	0.3%	0.2%	0.737	0.641
192	84.7%	0.5%	15.3%	0.3%	0.2%	0.717	0.617
180	84.2%	1.2%	15.8%	0.7%	0.5%	0.698	0.594
168	83.0%	0.7%	17.0%	0.4%	0.3%	0.693	0.588
156	82.3%	0.8%	17.7%	0.5%	0.4%	0.679	0.572
144	81.5%	2.0%	18.5%	1.3%	1.0%	0.666	0.558
132	79.6%	2.1%	20.4%	1.4%	1.1%	0.674	0.569
120	77.5%	1.4%	22.5%	1.0%	0.8%	0.679	0.577
108	76.1%	1.7%	23.9%	1.2%	1.0%	0.672	0.570
96	74.3%	2.2%	25.7%	1.6%	1.4%	0.668	0.567
84	72.2%	2.7%	27.8%	2.1%	1.8%	0.669	0.568
72	69.5%	2.0%	30.5%	1.6%	1.5%	0.673	0.575
60	67.5%	5.3%	32.5%	4.4%	4.1%	0.668	0.569
48	62.2%	5.7%	37.8%	5.0%	4.7%	0.690	0.597
36	56.5%	9.8%	43.5%	8.9%	8.5%	0.705	0.617
24	46.7%	20.6%	53.3%	19.4%	18.9%	0.733	0.654
12	26.1%	26.1%	73.9%	25.6%	25.4%	0.782	0.715
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, 2012

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Exhibit 1
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Department of Mental Health - Cluster 2

Indemnity

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	3,791,665	5,196,189		3,316,134	4,544,509
6/30/82-83	15,030	144,095	0.981	14,738	141,297
6/30/83-84	145,076	288,670	0.952	138,058	274,705
6/30/84-85	154,024	558,024	0.927	142,822	517,440
6/30/85-86	250,909	263,909	0.906	227,198	238,970
6/30/86-87	124,587	248,587	0.885	110,308	220,096
6/30/87-88	1,132,818	1,367,834	0.866	981,547	1,185,179
6/30/88-89	1,283,965	1,523,232	0.848	1,089,382	1,292,388
6/30/89-90	979,202	1,531,202	0.831	813,894	1,272,706
6/30/90-91	232,618	387,618	0.815	189,477	315,730
6/30/91-92	127,921	212,921	0.798	102,069	169,891
6/30/92-93	379,817	385,817	0.782	297,021	301,713
6/30/93-94	310,559	313,559	0.771	239,481	241,795
6/30/94-95	407,602	532,602	0.755	307,656	402,005
6/30/95-96	39,009	77,009	0.737	28,731	56,719
6/30/96-97	204,463	211,463	0.717	146,629	151,649
6/30/97-98	407,891	415,891	0.698	284,802	290,388
6/30/98-99	271,340	279,340	0.693	187,921	193,461
6/30/99-00	378,298	381,298	0.679	256,692	258,728
6/30/00-01	591,291	604,291	0.666	394,013	402,676
6/30/01-02	575,796	579,796	0.674	387,917	390,612
6/30/02-03	457,389	470,389	0.679	310,427	319,250
6/30/03-04	890,103	919,103	0.672	598,086	617,572
6/30/04-05	692,172	823,172	0.668	462,671	550,236
6/30/05-06	635,190	786,190	0.669	424,877	525,880
6/30/06-07	857,132	902,132	0.673	576,771	607,052
6/30/07-08	723,694	1,034,694	0.668	483,369	691,092
6/30/08-09	1,052,698	1,264,698	0.690	725,852	872,029
6/30/09-10	1,032,718	1,229,718	0.705	727,738	866,561
6/30/10-11	1,609,836	1,769,836	0.733	1,180,274	1,297,580
6/30/11-12	2,195,477	2,449,477	0.782	1,716,278	1,914,838
Total	21,950,290	27,152,755		16,862,831	21,124,747

(7) Total Discount Factor: 0.768 0.778

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve:	3,791,665	5,196,189
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	541,666	742,313
(11) Discounted Value at 4%:	3,316,134	4,544,509

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, 2012

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Department of Mental Health - Cluster 2

Indemnity

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	3,791,665	5,196,189		3,114,502	4,268,189
6/30/82-83	15,030	144,095	0.971	14,598	139,958
6/30/83-84	145,076	288,670	0.929	134,786	268,195
6/30/84-85	154,024	558,024	0.894	137,728	498,984
6/30/85-86	250,909	263,909	0.864	216,666	227,892
6/30/86-87	124,587	248,587	0.836	104,107	207,724
6/30/87-88	1,132,818	1,367,834	0.810	917,283	1,107,583
6/30/88-89	1,283,965	1,523,232	0.785	1,008,477	1,196,406
6/30/89-90	979,202	1,531,202	0.762	746,597	1,167,472
6/30/90-91	232,618	387,618	0.741	172,275	287,067
6/30/91-92	127,921	212,921	0.719	91,972	153,084
6/30/92-93	379,817	385,817	0.699	265,336	269,528
6/30/93-94	310,559	313,559	0.685	212,814	214,869
6/30/94-95	407,602	532,602	0.665	270,880	353,952
6/30/95-96	39,009	77,009	0.641	25,024	49,400
6/30/96-97	204,463	211,463	0.617	126,195	130,516
6/30/97-98	407,891	415,891	0.594	242,230	246,981
6/30/98-99	271,340	279,340	0.588	159,660	164,368
6/30/99-00	378,298	381,298	0.572	216,309	218,024
6/30/00-01	591,291	604,291	0.558	329,788	337,038
6/30/01-02	575,796	579,796	0.569	327,835	330,112
6/30/02-03	457,389	470,389	0.577	264,116	271,622
6/30/03-04	890,103	919,103	0.570	507,276	523,803
6/30/04-05	692,172	823,172	0.567	392,198	466,425
6/30/05-06	635,190	786,190	0.568	361,029	446,854
6/30/06-07	857,132	902,132	0.575	492,467	518,322
6/30/07-08	723,694	1,034,694	0.569	411,722	588,655
6/30/08-09	1,052,698	1,264,698	0.597	628,932	755,591
6/30/09-10	1,032,718	1,229,718	0.617	637,331	758,907
6/30/10-11	1,609,836	1,769,836	0.654	1,052,161	1,156,734
6/30/11-12	2,195,477	2,449,477	0.715	1,570,606	1,752,313
Total	21,950,290	27,152,755		15,152,898	19,076,568

(7) Total Discount Factor: 0.690 0.703

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve:	3,791,665	5,196,189
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	541,666	742,313
(11) Discounted Value at 6%:	3,114,502	4,268,189

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, 2012**

Section 3
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**Department of Mental Health - Cluster 2
Total Indemnity (Including Lump Sums) + Medical
Calculation of Fiscal Year 7/1/12 - 13 Payments**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Accident Year	Est Ult Losses (Low)	Est Ult Losses (High)	Paid Losses to Date	Reserves (Low)	Reserves (High)	Cumulative Percent Paid	Incremental Paid as a % of Ultimates	as a % of Reserves	Estimated Payments from 7/1/12 - 6/30/13 (Low) (High)		FY 7/1/12 - 6/30/13 as a % of Reserves (Low) (High)	
All Prior Yrs	23,661,979	25,084,938	19,840,435	3,821,544	5,244,503				351,611	386,772	9.2%	7.4%
6/30/82-83	2,656,434	2,786,897	2,639,490	16,945	147,407	97.0%	1.0%	33.1%	5,612	48,821	33.1%	33.1%
6/30/83-84	3,012,665	3,158,385	2,864,047	148,619	294,339	92.8%	1.0%	13.9%	20,705	41,006	13.9%	13.9%
6/30/84-85	4,694,000	5,098,000	4,529,831	164,169	568,169	92.5%	1.0%	13.4%	21,951	75,969	13.4%	13.4%
6/30/85-86	5,149,000	5,162,000	4,891,866	257,134	270,134	94.9%	1.0%	19.6%	50,284	52,826	19.6%	19.6%
6/30/86-87	7,054,000	7,179,000	6,911,248	142,752	267,752	97.1%	1.0%	34.7%	49,495	92,835	34.7%	34.7%
6/30/87-88	14,280,985	14,523,000	13,104,804	1,176,180	1,418,196	91.0%	1.0%	11.1%	130,585	157,455	11.1%	11.1%
6/30/88-89	15,356,733	15,596,000	14,006,331	1,350,402	1,589,669	90.5%	1.0%	10.5%	142,169	167,359	10.5%	10.5%
6/30/89-90	14,317,000	14,888,000	13,298,877	1,018,123	1,589,123	91.1%	1.0%	11.2%	114,045	178,005	11.2%	11.2%
6/30/90-91	9,785,000	9,941,000	9,486,260	298,740	454,740	96.2%	1.0%	26.2%	78,210	119,050	26.2%	26.2%
6/30/91-92	5,672,000	5,770,000	5,518,908	153,092	251,092	96.5%	1.0%	28.3%	43,339	71,081	28.3%	28.3%
6/30/92-93	4,979,000	4,986,000	4,549,833	429,167	436,167	91.3%	2.0%	23.0%	98,844	100,456	23.0%	23.0%
6/30/93-94	3,353,000	3,356,000	3,009,247	343,753	346,753	89.7%	2.0%	19.4%	66,799	67,381	19.4%	19.4%
6/30/94-95	4,103,000	4,229,000	3,648,607	454,393	580,393	87.6%	2.0%	16.1%	73,175	93,465	16.1%	16.1%
6/30/95-96	2,807,000	2,846,000	2,720,382	86,618	125,618	96.2%	2.0%	53.3%	46,142	66,918	53.3%	53.3%
6/30/96-97	2,335,000	2,343,000	2,094,352	240,648	248,648	89.5%	3.0%	28.7%	69,023	71,317	28.7%	28.7%
6/30/97-98	3,867,000	3,876,000	3,418,162	448,838	457,838	88.3%	3.0%	25.6%	114,992	117,298	25.6%	25.6%
6/30/98-99	2,641,000	2,649,000	2,311,900	329,100	337,100	87.4%	3.0%	23.8%	78,397	80,303	23.8%	23.8%
6/30/99-00	3,347,000	3,352,000	2,908,940	438,060	443,060	86.8%	3.0%	22.8%	99,915	101,055	22.8%	22.8%
6/30/00-01	4,598,600	4,694,000	4,005,912	592,688	688,088	86.2%	3.0%	21.8%	129,006	149,772	21.8%	21.8%
6/30/01-02	3,874,000	3,880,000	3,220,562	653,438	659,438	83.1%	3.1%	18.6%	121,522	122,638	18.6%	18.6%
6/30/02-03	3,126,000	3,141,000	2,575,320	550,680	565,680	82.2%	0.9%	4.9%	27,257	27,999	4.9%	4.9%
6/30/03-04	5,543,000	5,579,000	4,465,790	1,077,210	1,113,210	80.3%	1.9%	9.6%	102,893	106,332	9.6%	9.6%
6/30/04-05	4,420,000	4,575,000	3,584,877	835,123	990,123	79.7%	0.6%	2.9%	24,583	29,145	2.9%	2.9%
6/30/05-06	3,448,000	3,606,000	2,624,120	823,880	981,880	74.4%	5.3%	20.7%	170,810	203,567	20.7%	20.7%
6/30/06-07	3,715,000	3,788,000	2,646,961	1,068,040	1,141,040	70.6%	3.8%	13.1%	139,425	148,955	13.1%	13.1%
6/30/07-08	3,127,000	3,480,000	2,157,001	969,999	1,322,999	65.3%	5.3%	15.2%	147,097	200,628	15.2%	15.2%
6/30/08-09	3,551,000	3,811,000	2,222,752	1,328,248	1,588,248	60.4%	4.9%	12.4%	164,624	196,848	12.4%	12.4%
6/30/09-10	2,718,000	2,998,000	1,396,606	1,321,394	1,601,394	48.9%	11.5%	22.5%	297,646	360,717	22.5%	22.5%
6/30/10-11	3,756,000	4,009,000	1,716,835	2,039,165	2,292,165	44.2%	4.6%	8.3%	169,871	190,947	8.3%	8.3%
6/30/11-12	3,737,000	4,009,000	831,319	2,905,681	3,177,681	21.5%	22.8%	29.0%	841,910	920,721	29.0%	29.0%
Total	178,685,397	184,394,220	153,201,570	25,483,827	31,192,650				3,991,935	4,747,642	15.7%	15.2%

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, 2012

Department of Mental Health - Cluster 2

Medical

Summary of Ultimate Losses

Section 3

Exhibit 2

Page 1

(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			842,591	861,027	29,879	48,315		
6/30/82-83		137,734	139,649		139,649	141,046	1,915	3,312		
6/30/83-84		209,040	212,582		212,582	214,708	3,542	5,668		
6/30/84-85	142,561	491,855	501,691	501,917	502,000	502,000	10,145	10,145	0.352	0.352
6/30/85-86	153,298	257,775	263,719	263,752	264,000	264,000	6,225	6,225	0.172	0.172
6/30/86-87	176,136	702,835	721,198	721,536	721,000	722,000	18,165	19,165	0.409	0.410
6/30/87-88	206,319	1,720,638	1,770,888	1,763,786	1,764,000	1,771,000	43,362	50,362	0.855	0.858
6/30/88-89	222,806	2,046,563	2,112,651	2,112,637	2,113,000	2,113,000	66,437	66,437	0.948	0.948
6/30/89-90	223,751	1,938,078	2,006,665	2,007,137	1,977,000	1,996,000	38,922	57,922	0.884	0.892
6/30/90-91	210,162	1,740,878	1,807,893	1,807,482	1,807,000	1,808,000	66,122	67,122	0.860	0.860
6/30/91-92	205,241	1,258,829	1,312,517	1,312,011	1,284,000	1,297,000	25,171	38,171	0.626	0.632
6/30/92-93	176,705	1,045,649	1,095,696	1,095,027	1,095,000	1,096,000	49,351	50,351	0.620	0.620
6/30/93-94	173,075	643,805	677,318	677,182	677,000	677,000	33,195	33,195	0.391	0.391
6/30/94-95	178,317	831,209	878,848	878,204	878,000	879,000	46,792	47,792	0.492	0.493
6/30/95-96	175,996	797,390	845,621	844,953	845,000	846,000	47,610	48,610	0.480	0.481
6/30/96-97	190,083	522,815	559,248	560,003	559,000	560,000	36,185	37,185	0.294	0.295
6/30/97-98	177,278	506,053	546,979	547,818	547,000	548,000	40,947	41,947	0.309	0.309
6/30/98-99	189,080	637,239	694,902	695,268	695,000	695,000	57,761	57,761	0.368	0.368
6/30/99-00	194,494	595,238	655,408	656,521	655,000	657,000	59,762	61,762	0.337	0.338
6/30/00-01	201,568	740,203	823,930	824,052	741,600	824,000	1,397	83,797	0.368	0.409
6/30/01-02	203,105	614,358	691,627	693,524	692,000	694,000	77,642	79,642	0.341	0.342
6/30/02-03	202,515	673,709	767,441	768,992	767,000	769,000	93,291	95,291	0.379	0.380
6/30/03-04	189,588	1,222,893	1,417,127	1,409,649	1,410,000	1,417,000	187,107	194,107	0.744	0.747
6/30/04-05	186,990	866,048	1,033,415	1,008,828	1,009,000	1,033,000	142,952	166,952	0.540	0.552
6/30/05-06	193,254	768,311	963,981	956,678	957,000	964,000	188,689	195,689	0.495	0.499
6/30/06-07	203,359	664,093	874,544	902,611	875,000	903,000	210,907	238,907	0.430	0.444
6/30/07-08	212,083	649,695	896,114	938,211	896,000	938,000	246,305	288,305	0.422	0.442
6/30/08-09	204,679	605,449	881,100	928,697	881,000	929,000	275,551	323,551	0.430	0.454
6/30/09-10	184,688	465,324	753,942	837,192	754,000	837,000	288,676	371,676	0.408	0.453
6/30/10-11	169,689	580,670	1,103,260	1,009,779	1,010,000	1,103,000	429,330	522,330	0.595	0.650
6/30/11-12	177,399	227,796	938,286	955,695	938,000	956,000	710,204	728,204	0.529	0.539
Total	5,324,220	24,974,886	27,948,241	27,679,140	28,508,423	29,014,781	3,533,537	4,039,895		
Tot 6/30/84-12	5,324,220	23,815,400	27,596,009	27,679,140	27,313,600	27,798,000	3,498,200	3,982,600	0.513	0.522

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, 2012**

Section 3
Exhibit 2
Page 2

**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 7/1/10-11	Paid Counts 7/1/11-12	Average Outstanding Claim
All Prior Yrs		812,712							3	0	
6/30/82-83		137,734	1.014	1.000	139,649	N/A	139,649		1	1	1,915
6/30/83-84		209,040	1.017	1.000	212,582	N/A	212,582		0	0	
6/30/84-85	142,561	491,855	1.020	1.000	501,691	N/A	501,691	0.352	3	1	9,836
6/30/85-86	153,298	257,775	1.023	1.000	263,719	N/A	263,719	0.172	0	0	
6/30/86-87	176,136	702,835	1.026	1.000	721,198	N/A	721,198	0.409	2	0	
6/30/87-88	206,319	1,720,638	1.029	1.000	1,770,888	N/A	1,770,888	0.858	4	3	16,750
6/30/88-89	222,806	2,046,563	1.032	1.000	2,112,651	N/A	2,112,651	0.948	3	3	22,029
6/30/89-90	223,751	1,938,078	1.035	1.000	2,006,665	N/A	2,006,665	0.897	0	0	
6/30/90-91	210,162	1,740,878	1.038	1.000	1,807,893	N/A	1,807,893	0.860	3	2	33,508
6/30/91-92	205,241	1,258,829	1.043	1.000	1,312,517	N/A	1,312,517	0.640	1	1	53,688
6/30/92-93	176,705	1,045,649	1.048	1.000	1,095,696	N/A	1,095,696	0.620	3	5	10,009
6/30/93-94	173,075	643,805	1.052	1.000	677,318	N/A	677,318	0.391	2	3	11,171
6/30/94-95	178,317	831,209	1.057	1.000	878,848	N/A	878,848	0.493	2	2	23,820
6/30/95-96	175,996	797,390	1.060	1.000	845,621	N/A	845,621	0.480	1	1	48,231
6/30/96-97	190,083	522,815	1.070	1.000	559,248	N/A	559,248	0.294	3	3	12,144
6/30/97-98	177,278	506,053	1.081	1.000	546,979	N/A	546,979	0.309	1	1	40,926
6/30/98-99	189,080	637,239	1.090	1.000	694,902	N/A	694,902	0.368	3	2	28,831
6/30/99-00	194,494	595,238	1.101	1.000	655,408	N/A	655,408	0.337	2	2	30,085
6/30/00-01	201,568	740,203	1.113	1.000	823,930	N/A	823,930	0.409	2	2	41,864
6/30/01-02	203,105	614,358	1.126	1.000	691,627	N/A	691,627	0.341	3	2	38,634
6/30/02-03	202,515	673,709	1.139	1.000	767,441	N/A	767,441	0.379	3	4	23,433
6/30/03-04	189,588	1,222,893	1.159	1.000	1,417,127	N/A	1,417,127	0.747	10	6	32,372
6/30/04-05	186,990	866,048	1.193	1.000	1,033,415	N/A	1,033,415	0.553	9	8	20,921
6/30/05-06	193,254	768,311	1.255	1.000	963,981	N/A	963,981	0.499	5	4	48,918
6/30/06-07	203,359	664,093	1.317	1.000	874,544	N/A	874,544	0.430	7	3	70,150
6/30/07-08	212,083	649,695	1.379	1.000	896,114	N/A	896,114	0.423	13	4	61,605
6/30/08-09	204,679	605,449	1.455	1.000	881,100	N/A	881,100	0.430	27	6	45,942
6/30/09-10	184,688	465,324	1.620	1.000	753,942	N/A	753,942	0.408	97	17	16,978
6/30/10-11	169,689	580,670	1.900	1.000	1,103,260	N/A	1,103,260	0.650	199	102	5,123
6/30/11-12	177,399	227,796	4.119	1.000	938,286	N/A	938,286	0.529		196	3,625
Total	5,324,220	24,974,886			27,948,241		27,948,241		412	384	

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, 2012**

Section 3
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Page 3

**Department of Mental Health - Cluster 2
Medical**

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident	Payroll	A Priori		Paid	Ultimate Loss	Est Ult	Ultimate Loss	Ultimate	Ultimate Loss
Year	(000's)	Loss	Paid Loss	LDF	Excluding	Lump Sum	Including	Loss	Cost Excluding
		Rate			Lump Sum	Payments	Lump Sum	Cost	Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	142,561	0.360	491,855	1.020	501,917	N/A	501,917	0.352	0.352
6/30/85-86	153,298	0.173	257,775	1.023	263,752	N/A	263,752	0.172	0.172
6/30/86-87	176,136	0.417	702,835	1.026	721,536	N/A	721,536	0.410	0.410
6/30/87-88	206,319	0.737	1,720,638	1.029	1,763,786	N/A	1,763,786	0.855	0.855
6/30/88-89	222,806	0.948	2,046,563	1.032	2,112,637	N/A	2,112,637	0.948	0.948
6/30/89-90	223,751	0.903	1,938,078	1.035	2,007,137	N/A	2,007,137	0.897	0.897
6/30/90-91	210,162	0.855	1,740,878	1.038	1,807,482	N/A	1,807,482	0.860	0.860
6/30/91-92	205,241	0.633	1,258,829	1.043	1,312,011	N/A	1,312,011	0.639	0.639
6/30/92-93	176,705	0.612	1,045,649	1.048	1,095,027	N/A	1,095,027	0.620	0.620
6/30/93-94	173,075	0.390	643,805	1.052	677,182	N/A	677,182	0.391	0.391
6/30/94-95	178,317	0.486	831,209	1.057	878,204	N/A	878,204	0.492	0.492
6/30/95-96	175,996	0.474	797,390	1.060	844,953	N/A	844,953	0.480	0.480
6/30/96-97	190,083	0.300	522,815	1.070	560,003	N/A	560,003	0.295	0.295
6/30/97-98	177,278	0.315	506,053	1.081	547,818	N/A	547,818	0.309	0.309
6/30/98-99	189,080	0.370	637,239	1.090	695,268	N/A	695,268	0.368	0.368
6/30/99-00	194,494	0.343	595,238	1.101	656,521	N/A	656,521	0.338	0.338
6/30/00-01	201,568	0.409	740,203	1.113	824,052	N/A	824,052	0.409	0.409
6/30/01-02	203,105	0.349	614,358	1.126	693,524	N/A	693,524	0.341	0.341
6/30/02-03	202,515	0.385	673,709	1.139	768,992	N/A	768,992	0.380	0.380
6/30/03-04	189,588	0.719	1,222,893	1.159	1,409,649	N/A	1,409,649	0.744	0.744
6/30/04-05	186,990	0.471	866,048	1.193	1,008,828	N/A	1,008,828	0.540	0.540
6/30/05-06	193,254	0.480	768,311	1.255	956,678	N/A	956,678	0.495	0.495
6/30/06-07	203,359	0.487	664,093	1.317	902,611	N/A	902,611	0.444	0.444
6/30/07-08	212,083	0.495	649,695	1.379	938,211	N/A	938,211	0.442	0.442
6/30/08-09	204,679	0.505	605,449	1.455	928,697	N/A	928,697	0.454	0.454
6/30/09-10	184,688	0.526	465,324	1.620	837,192	N/A	837,192	0.453	0.453
6/30/10-11	169,689	0.534	580,670	1.900	1,009,779	N/A	1,009,779	0.595	0.595
6/30/11-12	177,399	0.542	227,796	4.119	955,695	N/A	955,695	0.539	0.539
Total	5,324,220		23,815,400		27,679,140		27,679,140		

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



Exhibit 2

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Page 4

Calculation of Initial Expected Loss Rate

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Expected Ult Loss	Unadjusted Loss Cost	Benefit Level Factor	Adjusted Loss Cost	Trend Factor	Trended Adjusted Loss Cost	Detrended Selected Loss Cost	Prior Selected Loss Cost	Current Selected Loss Cost
All Prior Yrs										
6/30/82-83										
6/30/83-84										
6/30/84-85									0.360	0.360
6/30/85-86									0.173	0.173
6/30/86-87									0.417	0.417
6/30/87-88									0.737	0.737
6/30/88-89									0.948	0.948
6/30/89-90									0.903	0.903
6/30/90-91	210,162	1,807,893	0.860	1.194	1.027	1.388	1.425	0.332	0.869	0.855
6/30/91-92	205,241	1,312,517	0.640	1.189	0.760	1.367	1.039	0.338	0.644	0.633
6/30/92-93	176,705	1,095,696	0.620	1.189	0.737	1.347	0.993	0.343	0.612	0.612
6/30/93-94	173,075	677,318	0.391	1.178	0.461	1.327	0.612	0.352	0.394	0.390
6/30/94-95	178,317	878,848	0.493	1.170	0.577	1.307	0.754	0.360	0.490	0.486
6/30/95-96	175,996	845,621	0.480	1.155	0.555	1.288	0.715	0.370	0.484	0.474
6/30/96-97	190,083	559,248	0.294	1.137	0.334	1.269	0.424	0.381	0.304	0.300
6/30/97-98	177,278	546,979	0.309	1.135	0.350	1.250	0.438	0.388	0.322	0.315
6/30/98-99	189,080	694,902	0.368	1.135	0.417	1.232	0.514	0.393	0.361	0.370
6/30/99-00	194,494	655,408	0.337	1.135	0.382	1.214	0.464	0.399	0.350	0.343
6/30/00-01	201,568	823,930	0.409	1.109	0.453	1.196	0.542	0.415	0.418	0.409
6/30/01-02	203,105	691,627	0.341	1.101	0.375	1.178	0.442	0.424	0.339	0.349
6/30/02-03	202,515	767,441	0.379	1.073	0.407	1.161	0.472	0.442	0.383	0.385
6/30/03-04	189,588	1,417,127	0.747	1.046	0.782	1.143	0.894	0.460	0.722	0.719
6/30/04-05	186,990	1,033,415	0.553	1.036	0.572	1.126	0.645	0.471	0.479	0.471
6/30/05-06	193,254	963,981	0.499	1.032	0.515	1.110	0.571	0.480	0.487	0.480
6/30/06-07	203,359	874,544	0.430	1.032	0.444	1.093	0.485	0.487	0.495	0.487
6/30/07-08	212,083	896,114	0.423	1.032	0.436	1.077	0.470	0.495	0.502	0.495
6/30/08-09	204,679	881,100	0.430	1.027	0.442	1.061	0.469	0.505	0.512	0.505
6/30/09-10	184,688	753,942	0.408	1.000	0.408	1.046	0.427	0.526	0.534	0.526
6/30/10-11	169,689	1,103,260	0.650	1.000	0.650	1.030	0.670	0.534	0.542	0.534
6/30/11-12	177,399	938,286	0.529	1.000	0.529	1.015	0.537	0.542		0.542

Trend Last 4 (ex 11-12):	11.8%	Avg 3 (x11-12):	0.522
Trend Last 8 (ex 11-12):	-4.0%	Avg 5 (x11-12):	0.504
Trend Last 12 (ex 11-12):	1.6%	Avg 10 (x11-12):	0.554
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)

$$(8) = (6) \times (7)$$
$$(9) = \text{Sel. Loss Cost} / [(5) * (7)]$$

(10) From Aon analysis as of June 30, 2011

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



Commonwealth of Massachusetts
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Reserve Analysis at June 30, 2012

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Page 5

Department of Mental Health - Cluster 2
Medical

Calculation of 1982 & Prior Reserves (Page 1)

Method 1			
(1)	Average Payment Trend	0.950	
(2)	Credibility	34%	
(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 2012	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)	8,537	13,804
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	59,759	96,629
(13)	Paid to Date (82 & Prior)	812,712	812,712
(14)	Est Ult Paid for 1982 & Prior	872,471	909,341
(14a)	Paid Counts During Fiscal Year	0	3
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	842,591	861,027
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	842,591	861,027
(18)	Implied Tail	1.037	1.059
(19)	Ult Loss Inc Lump Sums @ 6/11	897,434	903,928

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, 2011



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 3
Exhibit 2
Page 6

**Department of Mental Health - Cluster 2
Medical**

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paid	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				
				Selected Trend:	0.950	

NOTES:

(3) 2012 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2011

(4) LN [(3)]

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



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 3

Exhibit 2

Page 8

Department of Mental Health - Cluster 2

Medical

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Accident Year	Ultimate Loss As of 6/11		Ultimate Loss As of 6/12		Change in Ultimate Loss		Change in Ultimate Loss	
					(Dollar)	(Percent)	(Dollar)	(Percent)
	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	897,434	903,928	842,591	861,027	(54,843)	-6.1%	(42,901)	-4.7%
6/30/82-83	141,889	143,308	139,649	141,046	(2,239)	-1.6%	(2,262)	-1.6%
6/30/83-84	216,095	218,256	212,582	214,708	(3,512)	-1.6%	(3,547)	-1.6%
6/30/84-85	510,000	510,000	502,000	502,000	(8,000)	-1.6%	(8,000)	-1.6%
6/30/85-86	268,000	268,000	264,000	264,000	(4,000)	-1.5%	(4,000)	-1.5%
6/30/86-87	733,000	733,000	721,000	722,000	(12,000)	-1.6%	(11,000)	-1.5%
6/30/87-88	1,758,000	1,769,000	1,764,000	1,771,000	6,000	0.3%	2,000	0.1%
6/30/88-89	2,144,000	2,146,000	2,113,000	2,113,000	(31,000)	-1.4%	(33,000)	-1.5%
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	1,837,000	1,837,000	1,807,000	1,808,000	(30,000)	-1.6%	(29,000)	-1.6%
6/30/91-92	1,282,000	1,295,000	1,284,000	1,297,000	2,000	0.2%	2,000	0.2%
6/30/92-93	1,095,000	1,096,000	1,095,000	1,096,000	0	0.0%	0	0.0%
6/30/93-94	684,000	684,000	677,000	677,000	(7,000)	-1.0%	(7,000)	-1.0%
6/30/94-95	885,000	886,000	878,000	879,000	(7,000)	-0.8%	(7,000)	-0.8%
6/30/95-96	863,000	863,000	845,000	846,000	(18,000)	-2.1%	(17,000)	-2.0%
6/30/96-97	566,000	567,000	559,000	560,000	(7,000)	-1.2%	(7,000)	-1.2%
6/30/97-98	559,000	560,000	547,000	548,000	(12,000)	-2.1%	(12,000)	-2.1%
6/30/98-99	676,000	677,000	695,000	695,000	19,000	2.8%	18,000	2.7%
6/30/99-00	668,000	669,000	655,000	657,000	(13,000)	-1.9%	(12,000)	-1.8%
6/30/00-01	756,900	841,000	741,600	824,000	(15,300)	-2.0%	(17,000)	-2.0%
6/30/01-02	669,000	671,000	692,000	694,000	23,000	3.4%	23,000	3.4%
6/30/02-03	762,000	764,000	767,000	769,000	5,000	0.7%	5,000	0.7%
6/30/03-04	1,414,000	1,423,000	1,410,000	1,417,000	(4,000)	-0.3%	(6,000)	-0.4%
6/30/04-05	1,030,000	1,065,000	1,009,000	1,033,000	(21,000)	-2.0%	(32,000)	-3.0%
6/30/05-06	981,000	993,000	957,000	964,000	(24,000)	-2.4%	(29,000)	-2.9%
6/30/06-07	912,000	938,000	875,000	903,000	(37,000)	-4.1%	(35,000)	-3.7%
6/30/07-08	918,000	964,000	896,000	938,000	(22,000)	-2.4%	(26,000)	-2.7%
6/30/08-09	969,000	1,000,000	881,000	929,000	(88,000)	-9.1%	(71,000)	-7.1%
6/30/09-10	864,000	923,000	754,000	837,000	(110,000)	-12.7%	(86,000)	-9.3%
6/30/10-11	1,042,000	1,448,000	1,010,000	1,103,000	(32,000)	-3.1%	(345,000)	-23.8%
6/30/11-12								
Total	28,078,318	28,851,491	27,570,423	28,058,781	(507,894)	-1.8%	(792,711)	-2.7%

NOTES:

(2), (3) From Aon analysis as of June 30, 2011

(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



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 3

Exhibit 2

Page 9

**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%
372	100.0%	1.4%	0.0%	0.4%	0.2%	1.000	1.000
360	98.6%	0.3%	1.4%	0.1%	0.1%	0.981	0.971
348	98.3%	0.3%	1.7%	0.1%	0.1%	0.950	0.926
336	98.0%	0.3%	2.0%	0.1%	0.1%	0.923	0.888
324	97.7%	0.3%	2.3%	0.1%	0.1%	0.900	0.855
312	97.5%	0.3%	2.5%	0.1%	0.1%	0.878	0.826
300	97.2%	0.3%	2.8%	0.1%	0.1%	0.859	0.799
288	96.9%	0.3%	3.1%	0.1%	0.1%	0.840	0.774
276	96.6%	0.3%	3.4%	0.1%	0.1%	0.822	0.750
264	96.3%	0.4%	3.7%	0.2%	0.1%	0.805	0.729
252	95.9%	0.5%	4.1%	0.2%	0.1%	0.794	0.714
240	95.4%	0.4%	4.6%	0.2%	0.1%	0.786	0.705
228	95.1%	0.5%	4.9%	0.2%	0.2%	0.773	0.688
216	94.6%	0.3%	5.4%	0.1%	0.1%	0.764	0.677
204	94.3%	0.8%	5.7%	0.4%	0.3%	0.747	0.656
192	93.5%	1.0%	6.5%	0.5%	0.4%	0.751	0.662
180	92.5%	0.8%	7.5%	0.5%	0.4%	0.755	0.670
168	91.7%	0.9%	8.3%	0.5%	0.4%	0.751	0.665
156	90.8%	1.0%	9.2%	0.6%	0.5%	0.747	0.661
144	89.8%	1.0%	10.2%	0.6%	0.5%	0.744	0.657
132	88.8%	1.0%	11.2%	0.7%	0.6%	0.739	0.651
120	87.8%	1.5%	12.2%	1.0%	0.9%	0.734	0.645
108	86.3%	2.5%	13.7%	1.8%	1.5%	0.735	0.648
96	83.8%	4.1%	16.2%	3.1%	2.7%	0.749	0.667
84	79.7%	3.8%	20.3%	2.9%	2.6%	0.773	0.698
72	75.9%	3.4%	24.1%	2.8%	2.5%	0.780	0.708
60	72.5%	3.8%	27.5%	3.2%	2.9%	0.779	0.705
48	68.7%	7.0%	31.3%	6.1%	5.7%	0.777	0.702
36	61.7%	9.1%	38.3%	8.2%	7.9%	0.790	0.719
24	52.6%	28.4%	47.4%	26.7%	26.0%	0.802	0.735
12	24.3%	24.3%	75.7%	23.8%	23.6%	0.850	0.797
Total		100.0%					

NOTES:

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

(3) Incremental % based on (2)

(4) = 1 - (2)

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

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

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



Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012

Section 3
Exhibit 2
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Department of Mental Health - Cluster 2

Medical

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	29,879	48,315		26,132	42,255
6/30/82-83	1,915	3,312	0.981	1,878	3,247
6/30/83-84	3,542	5,668	0.950	3,364	5,382
6/30/84-85	10,145	10,145	0.923	9,365	9,365
6/30/85-86	6,225	6,225	0.900	5,601	5,601
6/30/86-87	18,165	19,165	0.878	15,956	16,834
6/30/87-88	43,362	50,362	0.859	37,230	43,240
6/30/88-89	66,437	66,437	0.840	55,804	55,804
6/30/89-90	38,922	57,922	0.822	32,006	47,630
6/30/90-91	66,122	67,122	0.805	53,260	54,066
6/30/91-92	25,171	38,171	0.794	19,982	30,302
6/30/92-93	49,351	50,351	0.786	38,790	39,576
6/30/93-94	33,195	33,195	0.773	25,661	25,661
6/30/94-95	46,792	47,792	0.764	35,749	36,513
6/30/95-96	47,610	48,610	0.747	35,556	36,303
6/30/96-97	36,185	37,185	0.751	27,167	27,918
6/30/97-98	40,947	41,947	0.755	30,929	31,685
6/30/98-99	57,761	57,761	0.751	43,395	43,395
6/30/99-00	59,762	61,762	0.747	44,655	46,150
6/30/00-01	1,397	83,797	0.744	1,039	62,328
6/30/01-02	77,642	79,642	0.739	57,392	58,870
6/30/02-03	93,291	95,291	0.734	68,453	69,920
6/30/03-04	187,107	194,107	0.735	137,616	142,764
6/30/04-05	142,952	166,952	0.749	107,103	125,084
6/30/05-06	188,689	195,689	0.773	145,856	151,267
6/30/06-07	210,907	238,907	0.780	164,592	186,444
6/30/07-08	246,305	288,305	0.779	191,905	224,629
6/30/08-09	275,551	323,551	0.777	214,152	251,456
6/30/09-10	288,676	371,676	0.790	228,032	293,596
6/30/10-11	429,330	522,330	0.802	344,298	418,879
6/30/11-12	710,204	728,204	0.850	603,347	618,639
Total	3,533,537	4,039,895		2,806,264	3,204,801

(7) Total Discount Factor: 0.794 0.793

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve: 29,879 48,315
(9) Projected Number of Years: 7 7
(10) Projected Paid Loss per Year: 4,268 6,902
(11) Discounted Value at 4%: 26,132 42,255

NOTES:

(2), (3) From Section 3, Exhibit 2, Page 1, Columns 8, 9

(4) From Section 3, Exhibit 2, Page 9, Column 7

(5) = (2) x (4)

(6) = (3) x (4)

(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)

(10) = (8) / (9)



Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012

Section 3
Exhibit 2
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Department of Mental Health - Cluster 2

Medical

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	29,879	48,315		24,543	39,686
6/30/82-83	1,915	3,312	0.971	1,860	3,217
6/30/83-84	3,542	5,668	0.926	3,280	5,249
6/30/84-85	10,145	10,145	0.888	9,011	9,011
6/30/85-86	6,225	6,225	0.855	5,324	5,324
6/30/86-87	18,165	19,165	0.826	15,000	15,826
6/30/87-88	43,362	50,362	0.799	34,638	40,229
6/30/88-89	66,437	66,437	0.774	51,410	51,410
6/30/89-90	38,922	57,922	0.750	29,209	43,468
6/30/90-91	66,122	67,122	0.729	48,170	48,899
6/30/91-92	25,171	38,171	0.714	17,970	27,251
6/30/92-93	49,351	50,351	0.705	34,773	35,477
6/30/93-94	33,195	33,195	0.688	22,847	22,847
6/30/94-95	46,792	47,792	0.677	31,697	32,374
6/30/95-96	47,610	48,610	0.656	31,210	31,866
6/30/96-97	36,185	37,185	0.662	23,968	24,630
6/30/97-98	40,947	41,947	0.670	27,421	28,090
6/30/98-99	57,761	57,761	0.665	38,419	38,419
6/30/99-00	59,762	61,762	0.661	39,475	40,796
6/30/00-01	1,397	83,797	0.657	918	55,036
6/30/01-02	77,642	79,642	0.651	50,576	51,878
6/30/02-03	93,291	95,291	0.645	60,167	61,457
6/30/03-04	187,107	194,107	0.648	121,237	125,772
6/30/04-05	142,952	166,952	0.667	95,293	111,292
6/30/05-06	188,689	195,689	0.698	131,722	136,608
6/30/06-07	210,907	238,907	0.708	149,219	169,029
6/30/07-08	246,305	288,305	0.705	173,746	203,373
6/30/08-09	275,551	323,551	0.702	193,572	227,292
6/30/09-10	288,676	371,676	0.719	207,593	267,280
6/30/10-11	429,330	522,330	0.735	315,384	383,702
6/30/11-12	710,204	728,204	0.797	566,185	580,535
Total	3,533,537	4,039,895		2,555,837	2,917,324

(7) Total Discount Factor: 0.723 0.722

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve: 29,879 48,315
(9) Projected Number of Years: 7 7
(10) Projected Paid Loss per Year: 4,268 6,902
(11) Discounted Value at 6%: 24,543 39,686

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, 2012
Department of Corrections - Cluster 3
Indemnity**

Section 4
Exhibit 1
Page 1

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		3,708,250			4,351,042	4,857,957	642,792	1,149,707		
6/30/82-83		2,747,816	3,082,843		3,005,772	3,083,000	257,956	335,184		
6/30/83-84		1,405,260	1,449,446		1,413,209	1,449,000	7,949	43,740		
6/30/84-85	115,258	3,834,301	5,101,270	3,937,005	4,293,181	4,519,000	458,879	684,699	3.725	3.921
6/30/85-86	123,937	6,387,508	9,155,429	6,588,119	7,478,185	7,872,000	1,090,677	1,484,492	6.034	6.352
6/30/86-87	142,396	3,884,640	4,041,632	4,049,829	4,042,000	4,050,000	157,360	165,360	2.839	2.844
6/30/87-88	166,792	6,097,875	6,640,779	6,381,020	6,381,000	6,641,000	283,125	543,125	3.826	3.982
6/30/88-89	180,117	7,101,712	8,154,276	7,424,498	7,424,000	8,154,000	322,288	1,052,288	4.122	4.527
6/30/89-90	180,883	9,092,932	9,621,387	9,616,457	9,616,000	9,621,000	523,068	528,068	5.316	5.319
6/30/90-91	169,902	9,423,147	13,826,584	10,404,613	10,405,000	13,827,000	981,853	4,403,853	6.124	8.138
6/30/91-92	165,926	4,183,974	4,571,163	4,573,026	4,571,000	4,573,000	387,026	389,026	2.755	2.756
6/30/92-93	174,198	3,155,590	3,451,338	3,457,214	3,451,000	3,457,000	295,410	301,410	1.981	1.985
6/30/93-94	185,946	4,868,100	5,393,505	5,395,848	5,394,000	5,396,000	525,900	527,900	2.901	2.902
6/30/94-95	194,051	6,148,615	6,929,133	6,923,661	6,924,000	6,929,000	775,385	780,385	3.568	3.571
6/30/95-96	205,262	5,072,397	5,754,234	5,757,154	5,754,000	5,757,000	681,603	684,603	2.803	2.805
6/30/96-97	234,073	6,000,261	6,864,512	6,868,936	6,865,000	6,869,000	864,739	868,739	2.933	2.935
6/30/97-98	221,865	7,915,996	9,279,099	9,247,497	9,247,000	9,279,000	1,331,004	1,363,004	4.168	4.182
6/30/98-99	256,071	7,511,960	8,987,017	8,965,098	8,965,000	8,987,000	1,453,040	1,475,040	3.501	3.510
6/30/99-00	268,486	8,142,719	9,873,903	9,842,210	9,842,000	9,874,000	1,699,281	1,731,281	3.666	3.678
6/30/00-01	279,182	10,523,035	12,949,734	12,871,091	12,264,892	12,950,000	1,741,856	2,426,965	4.393	4.639
6/30/01-02	283,070	8,873,927	11,051,765	11,010,875	11,011,000	11,052,000	2,137,073	2,178,073	3.890	3.904
6/30/02-03	289,846	8,671,068	10,961,887	10,927,482	10,397,450	10,962,000	1,726,382	2,290,932	3.587	3.782
6/30/03-04	293,771	7,876,100	10,158,722	10,142,422	9,643,043	10,159,000	1,766,943	2,282,900	3.283	3.458
6/30/04-05	291,382	8,213,814	10,871,510	10,513,196	10,513,000	10,872,000	2,299,186	2,658,186	3.608	3.731
6/30/05-06	294,709	5,781,264	7,873,643	8,316,106	7,874,000	8,316,000	2,092,736	2,534,736	2.672	2.822
6/30/06-07	289,603	4,616,792	6,579,069	7,423,776	7,001,000	7,424,000	2,384,208	2,807,208	2.417	2.564
6/30/07-08	354,668	4,333,272	6,502,716	8,175,406	7,339,000	8,175,000	3,005,728	3,841,728	2.069	2.305
6/30/08-09	332,413	3,401,645	5,572,692	7,622,040	6,597,000	8,003,000	3,195,355	4,601,355	1.985	2.408
6/30/09-10	336,338	2,042,041	3,968,074	7,340,583	5,654,000	7,708,000	3,611,959	5,665,959	1.681	2.292
6/30/10-11	333,783	2,222,551	5,917,585	9,035,421	7,477,000	9,487,000	5,254,449	7,264,449	2.240	2.842
6/30/11-12	348,187	628,004	3,633,622	10,065,532	6,850,000	10,569,000	6,221,996	9,940,996	1.967	3.035
Total	6,712,116	173,866,566	218,218,569	222,876,114	222,043,774	240,871,957	48,177,208	67,005,390		
Tot 6/30/84-12	6,712,116	166,005,240	213,686,280	222,876,114	213,273,751	231,482,000	47,268,510	65,476,760	3.177	3.449

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, 2012
Department of Corrections - Cluster 3
Indemnity
Paid Loss Development Method**

Section 4
Exhibit 1
Page 2

(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 7/1/10-11	Paid Counts 7/1/11-12	Average Outstanding Claim	Average Age
All Prior Yrs		3,548,250							3	4		68
6/30/82-83		2,566,735	1.028	1.100	2,901,762	181,081	3,082,843		0	0		
6/30/83-84		1,386,759	1.032	1.000	1,430,945	18,501	1,449,446		0	0		
6/30/84-85	115,258	3,653,451	1.036	1.300	4,920,420	180,850	5,101,270	4,426	1	1	1,266,969	68
6/30/85-86	123,937	6,067,508	1.040	1.400	8,835,429	320,000	9,155,429	7,387	2	2	1,383,960	74
6/30/86-87	142,396	3,544,280	1.044	1.000	3,701,272	340,360	4,041,632	2,838	0	0		
6/30/87-88	166,792	5,380,873	1.048	1.050	5,923,777	717,002	6,640,779	3,981	1	0		
6/30/88-89	180,117	6,475,512	1.057	1.100	7,528,076	626,200	8,154,276	4,527	3	3	350,855	55
6/30/89-90	180,883	8,148,032	1.065	1.000	8,676,487	944,900	9,621,387	5,319	2	2	264,228	65
6/30/90-91	169,902	8,541,379	1.083	1.400	12,944,816	881,768	13,826,584	8,138	4	4	1,100,859	60
6/30/91-92	165,926	3,800,723	1.102	1.000	4,187,912	383,251	4,571,163	2,755	1	2	193,594	64
6/30/92-93	174,198	2,518,289	1.117	1.000	2,814,037	637,301	3,451,338	1,981	0	0		
6/30/93-94	185,946	4,025,425	1.131	1.000	4,550,830	842,675	5,393,505	2,901	2	2	262,702	53
6/30/94-95	194,051	5,416,002	1.144	1.000	6,196,520	732,613	6,929,133	3,571	1	1	780,518	52
6/30/95-96	205,262	4,620,397	1.148	1.000	5,302,234	452,000	5,754,234	2,803	1	2	340,919	51
6/30/96-97	234,073	5,232,660	1.165	1.000	6,096,911	767,601	6,864,512	2,933	0	1	864,251	65
6/30/97-98	221,865	7,484,278	1.182	1.000	8,846,934	432,165	9,279,099	4,182	6	4	340,664	52
6/30/98-99	256,071	7,335,907	1.200	1.000	8,806,193	180,824	8,987,017	3,510	1	4	367,571	59
6/30/99-00	268,486	7,878,617	1.218	1.000	9,598,439	275,464	9,873,903	3,678	4	2	859,911	53
6/30/00-01	279,182	10,107,752	1.235	1.000	12,484,513	465,221	12,949,734	4,638	2	2	1,188,380	53
6/30/01-02	283,070	8,597,046	1.246	1.000	10,710,621	341,145	11,051,765	3,904	2	4	528,394	53
6/30/02-03	289,846	8,307,565	1.266	1.000	10,515,697	446,189	10,961,887	3,782	2	2	1,104,066	53
6/30/03-04	293,771	7,548,670	1.288	1.000	9,725,641	433,081	10,158,722	3,458	2	2	1,088,485	55
6/30/04-05	291,382	7,944,264	1.318	1.000	10,467,318	404,193	10,871,510	3,731	12	9	280,339	49
6/30/05-06	294,709	5,520,760	1.359	1.000	7,501,641	372,002	7,873,643	2,672	10	7	282,983	47
6/30/06-07	289,603	4,409,792	1.421	1.000	6,266,398	312,671	6,579,069	2,272	13	7	265,229	49
6/30/07-08	354,668	4,162,771	1.490	1.000	6,202,805	299,911	6,502,716	1,833	23	14	145,717	49
6/30/08-09	332,413	3,295,878	1.615	1.000	5,323,909	248,784	5,572,692	1,676	30	18	112,668	46
6/30/09-10	336,338	1,983,041	1.907	1.000	3,781,036	187,038	3,968,074	1,180	44	15	119,866	48
6/30/10-11	333,783	2,210,801	2.560	1.000	5,659,825	257,760	5,917,585	1,773	165	73	47,247	41
6/30/11-12	348,187	628,004	5.503	1.000	3,455,693	177,929	3,633,622	1,044		106	26,676	41
Total	6,712,116	162,341,421			205,358,088	12,860,481	218,218,569		337	293		

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



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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	3,653,451	1.036	3,756,155	180,850	3,937,005	3.416	3.259
6/30/85-86	123,937	4.195	6,067,508	1.040	6,268,119	320,000	6,588,119	5.316	5.057
6/30/86-87	142,396	2.735	3,544,280	1.044	3,709,469	340,360	4,049,829	2.844	2.605
6/30/87-88	166,792	3.672	5,380,873	1.048	5,664,018	717,002	6,381,020	3.826	3.396
6/30/88-89	180,117	3.331	6,475,512	1.057	6,798,298	626,200	7,424,498	4.122	3.774
6/30/89-90	180,883	4.752	8,148,032	1.065	8,671,557	944,900	9,616,457	5.316	4.794
6/30/90-91	169,902	7.577	8,541,379	1.083	9,522,845	881,768	10,404,613	6.124	5.605
6/30/91-92	165,926	2.536	3,800,723	1.102	4,189,775	383,251	4,573,026	2.756	2.525
6/30/92-93	174,198	1.648	2,518,289	1.117	2,819,913	637,301	3,457,214	1.985	1.619
6/30/93-94	185,946	2.458	4,025,425	1.131	4,553,173	842,675	5,395,848	2.902	2.449
6/30/94-95	194,051	3.171	5,416,002	1.144	6,191,048	732,613	6,923,661	3.568	3.190
6/30/95-96	205,262	2.594	4,620,397	1.148	5,305,154	452,000	5,757,154	2.805	2.585
6/30/96-97	234,073	2.618	5,232,660	1.165	6,101,335	767,601	6,868,936	2.935	2.607
6/30/97-98	221,865	3.895	7,484,278	1.182	8,815,332	432,165	9,247,497	4.168	3.973
6/30/98-99	256,071	3.388	7,335,907	1.200	8,784,274	180,824	8,965,098	3.501	3.430
6/30/99-00	268,486	3.509	7,878,617	1.218	9,566,746	275,464	9,842,210	3.666	3.563
6/30/00-01	279,182	4.324	10,107,752	1.235	12,405,870	465,221	12,871,091	4.610	4.444
6/30/01-02	283,070	3.711	8,597,046	1.246	10,669,731	341,145	11,010,875	3.890	3.769
6/30/02-03	289,846	3.571	8,307,565	1.266	10,481,292	446,189	10,927,482	3.770	3.616
6/30/03-04	293,771	3.286	7,548,670	1.288	9,709,341	433,081	10,142,422	3.452	3.305
6/30/04-05	291,382	3.082	7,944,264	1.318	10,109,003	404,193	10,513,196	3.608	3.469
6/30/05-06	294,709	3.114	5,520,760	1.359	7,944,104	372,002	8,316,106	2.822	2.696
6/30/06-07	289,603	3.148	4,409,792	1.421	7,111,104	312,671	7,423,776	2.563	2.455
6/30/07-08	354,668	3.183	4,162,771	1.490	7,875,495	299,911	8,175,406	2.305	2.221
6/30/08-09	332,413	3.220	3,295,878	1.615	7,373,257	248,784	7,622,040	2.293	2.218
6/30/09-10	336,338	3.233	1,983,041	1.907	7,153,545	187,038	7,340,583	2.183	2.127
6/30/10-11	333,783	3.228	2,210,801	2.560	8,777,660	257,760	9,035,421	2.707	2.630
6/30/11-12	348,187	3.250	628,004	5.503	9,887,603	177,929	10,065,532	2.891	2.840
Total	6,712,116		154,839,677		210,215,215	12,660,899	222,876,114		

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
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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	12,944,816	7.619	0.946	7.208	1.000	7.208	3.435	8.231	7.577
6/30/91-92	165,926	4,187,912	2.524	1.038	2.620	1.000	2.620	3.131	2.563	2.536
6/30/92-93	174,198	2,814,037	1.615	1.210	1.955	1.000	1.955	2.685	1.682	1.648
6/30/93-94	185,946	4,550,830	2.447	1.195	2.924	1.000	2.924	2.720	2.492	2.458
6/30/94-95	194,051	6,196,520	3.193	1.184	3.780	1.000	3.780	2.746	3.234	3.171
6/30/95-96	205,262	5,302,234	2.583	1.174	3.033	1.000	3.033	2.768	2.663	2.594
6/30/96-97	234,073	6,096,911	2.605	1.163	3.029	1.000	3.029	2.795	2.714	2.618
6/30/97-98	221,865	8,846,934	3.988	1.148	4.577	1.000	4.577	2.832	3.992	3.895
6/30/98-99	256,071	8,806,193	3.439	1.133	3.895	1.000	3.895	2.869	3.511	3.388
6/30/99-00	268,486	9,598,439	3.575	1.114	3.984	1.000	3.984	2.916	3.648	3.509
6/30/00-01	279,182	12,484,513	4.472	1.086	4.857	1.000	4.857	2.992	4.490	4.324
6/30/01-02	283,070	10,710,621	3.784	1.065	4.030	1.000	4.030	3.052	3.873	3.711
6/30/02-03	289,846	10,515,697	3.628	1.061	3.850	1.000	3.850	3.063	3.759	3.571
6/30/03-04	293,771	9,725,641	3.311	1.061	3.513	1.000	3.513	3.063	3.485	3.286
6/30/04-05	291,382	10,467,318	3.592	1.054	3.788	1.000	3.788	3.082	3.757	3.082
6/30/05-06	294,709	7,501,641	2.545	1.044	2.657	1.000	2.657	3.114	3.834	3.114
6/30/06-07	289,603	6,266,398	2.164	1.032	2.234	1.000	2.234	3.148	3.914	3.148
6/30/07-08	354,668	6,202,805	1.749	1.021	1.786	1.000	1.786	3.183	3.997	3.183
6/30/08-09	332,413	5,323,909	1.602	1.009	1.617	1.000	1.617	3.220	4.084	3.220
6/30/09-10	336,338	3,781,036	1.124	1.005	1.130	1.000	1.130	3.233	4.141	3.233
6/30/10-11	333,783	5,659,825	1.696	1.007	1.707	1.000	1.707	3.228	4.208	3.228
6/30/11-12	348,187	3,455,693	0.992	1.000	0.992	1.000	0.992	3.250		3.250
Total	5,802,733	161,439,921								
Trend Last 4 (ex 11-12):					-4.8%	Avg 3 (x11-12):	1.485			
Trend Last 8 (ex 11-12):					-14.1%	Avg 5 (x11-12):	1.695			
Trend Last 12 (ex 11-12):					-11.3%	Avg 10 (x11-12):	2.631			
Prior Selected Trend:					1.0%	Prior Sel Avg:	4.250			
Selected Trend:					0.0%	Sel. Loss Cost:	3.250			

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, 2011
- (11) Selected based on (9) and (4)



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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 2012	88,958	88,958
(7)	Estimated Reserve	1,632,580	3,839,730
(8)	Paid to Date (82 & Prior)	3,548,250	3,548,250
(9)	Est Ult Paid for 1982 & Prior	5,180,830	7,387,980

Method 2			
		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	104,287	113,997
(11)	Projected Number of Years	3	3
(12)	Estimated Reserve	312,862	341,990
(13)	Paid to Date (82 & Prior)	3,548,250	3,459,292
(14)	Est Ult Paid for 1982 & Prior	3,861,112	3,801,282
(14a)	Paid Counts During Fiscal Year	4	3
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	4,191,042	4,697,957
(16)	Lump Sum Ultimates	160,000	160,000
(17)	Ult Loss Including Lump Sums	4,351,042	4,857,957
(18)	Implied Tail	1.181	1.324
(19)	Ult Loss Inc Lump Sums @ 6/11	4,376,228	4,973,097

NOTES:

- | | |
|---|--|
| (1) From Section 4, Exhibit 1, Page 6 | (10) Avg of 3 latest years from Section 4, Exhibit 1, Page 6, Column 3 |
| (2) = (Average of Section 4, Exhibit 1, Page 6, Column 3 / 3,000,000) ^ 0.5 | (11) Selected judgmentally |
| (3) Average Statewide Trend | (12) = (10 x (11) |
| (4) = (1) x (2) + (4) x {1 - (2)} | (14) = (12) + (13) |
| (5) Selected judgmentally based on (4) | (15) = Average of (9) and (14) |
| (6), (14a) Provided by Commonwealth of Massachusetts | (16) From Section 4, Exhibit 1, Page 9, Column 13 |
| (7) = (6) x (5) / {1 - (5)} | (17) = (15) + (16) |
| (8), (16) From Section 4, Exhibit 1, Page 2, Column 3 | (18) = (15) / (8) |
| (9) = (7) + (8) | (19) From Aon analysis as of June 30, 2011 |



Commonwealth of Massachusetts
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Page 6

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paid	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 =	21
2001	10	66,717	11.108	0.908	S(x) =	42,042
2002	11	70,033	11.157	1.050	S(x-sq) =	84,168,854
2003	12	124,671	11.733	1.780	S(xy) =	484,900
2004	13	92,927	11.440	0.745	S(y) =	242
2005	14	283,599	12.555	3.052	D =	16,170
2006	15	99,838	11.511	0.352	slope =	0.003
2007	16	101,854	11.531	1.020	Avg Trend =	1.003
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		
				Selected Trend:	1.000	

NOTES:

(3) 2012 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2011

(4) LN [(3)]

(5) Eg. 2012: $0.816 = 88958 / 108994$



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	
June-83	160,888	374,220	534,542	675,661	811,997	954,058	1,116,099	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	
June-84	149,256	331,713	467,188	590,124	701,300	845,012	973,143	1,100,933	1,224,966	1,294,374	1,350,379	1,377,980	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	1,386,759	
June-85	278,562	647,928	925,510	1,158,844	1,390,342	1,636,071	1,810,725	1,948,970	2,082,835	2,178,082	2,319,274	2,402,755	2,445,792	2,537,445	2,628,105	2,728,723	2,834,546	2,914,527	2,998,669	3,082,607	3,169,057	3,258,902	3,352,791	3,451,011	3,510,756	3,557,919	3,604,884	3,653,451			
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				
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	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	5,243,019	5,243,019	5,243,019	5,243,019	5,243,019	5,243,019	5,243,019	5,243,019	5,243,019	5,243,019	5,243,019	5,243,019	5,243,019	5,243,019	5,243,019	5,243,019	
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	4,846,100	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							
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	7,296,311	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								
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									
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										
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	2,518,289	2,518,289	2,518,289	2,518,289	2,518,289	2,518,289	2,518,289	2,518,289	2,518,289	2,518,289	
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	3,490,949	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												
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													
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														
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															
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																
June-99	1,336,118	2,972,082	4,075,622	4,979,874	5,739,985	6,193,457	6,542,142	6,776,195	6,959,053	7,099,219	7,215,948	7,278,599	7,305,413	7,335,907																	
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	7,668,614	7,812,460	7,834,124	7,857,055	7,878,617																		
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																			
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																				
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																					
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																						
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																							
June-06	1,249,906	3,009,799	4,221,387	4,926,296	5,233,916	5,403,155	5,520,760																								
June-07	1,380,680	2,815,182	3,556,899	4,026,861	4,280,218	4,409,792																									
June-08	1,238,290	2,624,403	3,322,948	3,832,582	4,162,771																										
June-09	1,050,261	2,223,832	2,862,597	3,295,878																											
June-10	907,606	1,619,359	1,983,041																												
June-11	985,007	2,210,801																													
June-12	628,004																														

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	
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	
June-84	2,222	1,408	1,263	1,188	1,205	1,152	1,131	1,113	1,057	1,043	1,020	1,006	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
June-85	2,326	1,428	1,252	1,200	1,177	1,107	1,076	1,069	1,046	1,065	1,036	1,018	1,037	1,036	1,038	1,039	1,028	1,029	1,028	1,028	1,029	1,029	1,029	1,017	1,013	1,013	1,013			
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				
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	1,001	1,000	1,000	1,000	1,003	1,005	1,006	1,002	1,005	1,001	1,000	1,000	1,000	1,000	1,000	1,003	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	1,017	1,017	1,017	1,017				
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	1,007	1,007	1,007				
June-91	2,461	1,412	1,216	1,119	1,080	1,050	1,044	1,045	1,042	1,039	1,041	1,036	1,034	1,036	1,034	1,031	1,027	1,026	1,016	1,016	1,011	1,011								
June-92	1,749	1,200	1,130	1,069	1,044	1,051	1,048	1,043	1,045	1,042	1,041	1,048	1,012	1,007	1,011	1,007	1,008	1,014	1,014	1,011	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	1,000	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	1,009	1,009	1,009									
June-95	2,163	1,275	1,187	1,108	1,090	1,086	1,064	1,066	1,064	1,054	1,046	1,016	1,000	1,000	1,000	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	1,007	1,008												
June-97	2,132	1,237	1,177	1,103	1,073	1,066	1,054	1,009	1,007	1,006	1,001	1,000	1,001	1,000	1,000	1,000														
June-98	1,950	1,316	1,178	1,124	1,099	1,060	1,038	1,022	1,019	1,014	1,013	1,013	1,012	1,012	1,013															
June-99	2,227	1,370	1,222	1,076	1,056	1,056	1,037	1,029	1,029	1,016	1,009	1,004	1,004	1,004																
June-00	2,126	1,336	1,193	1,095	1,057	1,031	1,003	1,020	1,006	1,003	1,003	1,003																		
June-01	2,213	1,371	1,203	1,096	1,066	1,044	1,017	1,000	1,001	1,000	1,000																			
June-02	2,086	1,348	1,159	1,083	1,045	1,018	1,011	1,007	1,005	1,006																				
June-03	1,986	1,296	1,082	1,029	1,025	1,013	1,002	1,000	1,002																					
June-04	2,096	1,303	1,142	1,066	1,033	1,019	1,003	1,001																						
June-05	2,058	1,299	1,158	1,059	1,040	1,028	1,011																							
June-06	2,408	1,403	1,267	1,132	1,062	1,022																								
June-07	2,039	1,263	1,132	1,063	1,030																									
June-08	2,119	1,266	1,153	1,086																										
June-09	2,117	1,287	1,151																											
June-10	1,784	1,225																												
June-11	2,244																													



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012
Department of Corrections - Cluster 3
Indemnity**

Section 4
Exhibit 1
Page 8

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Accident	Ultimate Loss		Ultimate Loss		Change in Ultimate Loss		Change in Ultimate Loss	
Year	As of 6/11		As of 6/12		(Dollar)	(Percent)	(Dollar)	(Percent)
	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	4,376,228	4,973,097	4,351,042	4,857,957	(25,187)	-0.6%	(115,140)	-2.3%
6/30/82-83	3,037,503	3,115,000	3,005,772	3,083,000	(31,731)	-1.0%	(32,000)	-1.0%
6/30/83-84	1,428,857	1,465,000	1,413,209	1,449,000	(15,648)	-1.1%	(16,000)	-1.1%
6/30/84-85	4,279,940	4,505,000	4,293,181	4,519,000	13,240	0.3%	14,000	0.3%
6/30/85-86	7,548,280	7,946,000	7,478,185	7,872,000	(70,095)	-0.9%	(74,000)	-0.9%
6/30/86-87	4,083,000	4,091,000	4,042,000	4,050,000	(41,000)	-1.0%	(41,000)	-1.0%
6/30/87-88	6,469,000	6,731,000	6,381,000	6,641,000	(88,000)	-1.4%	(90,000)	-1.3%
6/30/88-89	7,374,000	8,111,000	7,424,000	8,154,000	50,000	0.7%	43,000	0.5%
6/30/89-90	9,745,000	9,763,000	9,616,000	9,621,000	(129,000)	-1.3%	(142,000)	-1.5%
6/30/90-91	10,714,000	14,946,000	10,405,000	13,827,000	(309,000)	-2.9%	(1,119,000)	-7.5%
6/30/91-92	4,609,000	4,612,000	4,571,000	4,573,000	(38,000)	-0.8%	(39,000)	-0.8%
6/30/92-93	3,502,000	3,510,000	3,451,000	3,457,000	(51,000)	-1.5%	(53,000)	-1.5%
6/30/93-94	5,440,000	5,445,000	5,394,000	5,396,000	(46,000)	-0.8%	(49,000)	-0.9%
6/30/94-95	7,026,000	7,029,000	6,924,000	6,929,000	(102,000)	-1.5%	(100,000)	-1.4%
6/30/95-96	5,864,000	5,872,000	5,754,000	5,757,000	(110,000)	-1.9%	(115,000)	-2.0%
6/30/96-97	7,046,000	7,059,000	6,865,000	6,869,000	(181,000)	-2.6%	(190,000)	-2.7%
6/30/97-98	9,417,000	9,444,000	9,247,000	9,279,000	(170,000)	-1.8%	(165,000)	-1.7%
6/30/98-99	9,222,000	9,232,000	8,965,000	8,987,000	(257,000)	-2.8%	(245,000)	-2.7%
6/30/99-00	10,146,000	10,162,000	9,842,000	9,874,000	(304,000)	-3.0%	(288,000)	-2.8%
6/30/00-01	13,269,000	13,734,000	12,264,892	12,950,000	(1,004,108)	-7.6%	(784,000)	-5.7%
6/30/01-02	11,389,000	11,407,000	11,011,000	11,052,000	(378,000)	-3.3%	(355,000)	-3.1%
6/30/02-03	11,404,000	11,411,000	10,397,450	10,962,000	(1,006,550)	-8.8%	(449,000)	-3.9%
6/30/03-04	10,630,000	10,647,000	9,643,043	10,159,000	(986,957)	-9.3%	(488,000)	-4.6%
6/30/04-05	11,366,000	11,367,000	10,513,000	10,872,000	(853,000)	-7.5%	(495,000)	-4.4%
6/30/05-06	8,807,000	9,344,000	7,874,000	8,316,000	(933,000)	-10.6%	(1,028,000)	-11.0%
6/30/06-07	7,711,000	8,541,000	7,001,000	7,424,000	(710,000)	-9.2%	(1,117,000)	-13.1%
6/30/07-08	8,241,000	9,796,000	7,339,000	8,175,000	(902,000)	-10.9%	(1,621,000)	-16.5%
6/30/08-09	7,822,000	9,774,000	6,597,000	8,003,000	(1,225,000)	-15.7%	(1,771,000)	-18.1%
6/30/09-10	7,418,000	10,412,000	5,654,000	7,708,000	(1,764,000)	-23.8%	(2,704,000)	-26.0%
6/30/10-11	9,259,000	12,775,000	7,477,000	9,487,000	(1,782,000)	-19.2%	(3,288,000)	-25.7%
6/30/11-12								
Total	228,643,808	247,219,097	215,193,774	230,302,957	(13,450,034)	-5.9%	(16,916,140)	-6.8%

NOTES:

- (2), (3) From Aon analysis as of June 30, 2011
 (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, 2012
Department of Corrections - Cluster 3
Indemnity

Section 4
Exhibit 1
Page 9

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	3,548,250	1.253	4,444,499	0.0%	0.0%	0	160,000	160,000	3.6%	1.000	160,000	160,000	160,000
6/30/82-83	2,566,735	1.131	2,901,762	0.0%	0.0%	0	181,081	181,081	6.2%	1.000	181,081	181,081	181,081
6/30/83-84	1,386,759	1.032	1,430,945	0.0%	0.0%	0	18,501	18,501	1.3%	1.000	18,501	18,501	18,501
6/30/84-85	3,653,451	1.347	4,920,420	0.0%	0.0%	0	180,850	180,850	3.7%	1.000	180,850	180,850	180,850
6/30/85-86	6,067,508	1.456	8,835,429	0.0%	0.0%	0	320,000	320,000	3.6%	1.000	320,000	320,000	318,000
6/30/86-87	3,544,280	1.044	3,701,272	0.0%	0.0%	0	340,360	340,360	9.2%	1.000	340,360	340,360	340,360
6/30/87-88	5,380,873	1.101	5,923,777	0.0%	0.0%	0	717,002	717,002	12.1%	1.000	717,002	717,002	717,002
6/30/88-89	6,475,512	1.163	7,528,076	0.0%	0.0%	0	626,200	626,200	8.3%	1.000	626,200	626,200	616,200
6/30/89-90	8,148,032	1.065	8,676,487	0.0%	0.0%	0	944,900	944,900	10.9%	1.000	944,900	944,900	944,900
6/30/90-91	8,541,379	1.516	12,944,816	0.0%	0.0%	0	881,768	881,768	6.8%	1.000	881,768	881,768	881,768
6/30/91-92	3,800,723	1.102	4,187,912	0.0%	0.0%	0	383,251	383,251	9.2%	1.000	383,251	383,251	383,251
6/30/92-93	2,518,289	1.117	2,814,037	0.0%	0.0%	0	637,301	637,301	22.6%	1.000	637,301	637,301	637,301
6/30/93-94	4,025,425	1.131	4,550,830	0.0%	0.0%	0	842,675	842,675	18.5%	1.000	842,675	842,675	842,675
6/30/94-95	5,416,002	1.144	6,196,520	0.0%	0.0%	0	732,613	732,613	11.8%	1.000	732,613	732,613	732,613
6/30/95-96	4,620,397	1.148	5,302,234	0.0%	0.0%	0	452,000	452,000	8.5%	1.000	452,000	452,000	452,000
6/30/96-97	5,232,660	1.165	6,096,911	0.0%	0.0%	0	767,601	767,601	12.6%	1.000	767,601	767,601	768,453
6/30/97-98	7,484,278	1.182	8,846,934	0.0%	0.0%	0	431,718	431,718	4.9%	1.002	432,612	432,165	437,187
6/30/98-99	7,335,907	1.200	8,806,193	0.1%	0.1%	8,806	176,053	184,859	2.1%	1.004	176,789	180,824	186,300
6/30/99-00	7,878,617	1.218	9,598,439	0.1%	0.2%	19,197	264,102	283,299	3.0%	1.013	267,629	275,464	287,347
6/30/00-01	10,107,752	1.235	12,484,513	0.2%	0.4%	49,938	415,283	465,221	3.7%	1.026	425,990	465,221	492,334
6/30/01-02	8,597,046	1.246	10,710,621	0.2%	0.6%	64,264	276,881	341,145	3.2%	1.040	287,834	341,145	361,521
6/30/02-03	8,307,565	1.266	10,515,697	0.2%	0.8%	82,686	363,503	446,189	4.2%	1.055	383,443	446,189	482,995
6/30/03-04	7,548,670	1.288	9,725,641	0.3%	1.1%	105,651	327,430	433,081	4.5%	1.085	355,343	433,081	458,978
6/30/04-05	7,944,264	1.318	10,467,318	0.2%	1.3%	134,643	269,550	404,193	3.9%	1.105	297,882	404,193	422,975
6/30/05-06	5,520,760	1.359	7,501,641	0.2%	1.5%	111,498	260,504	372,002	5.0%	1.145	298,168	372,002	393,881
6/30/06-07	4,409,792	1.421	6,266,398	0.2%	1.7%	105,671	207,000	312,671	5.0%	1.229	254,308	312,671	325,252
6/30/07-08	4,162,771	1.490	6,202,805	0.4%	2.1%	129,410	170,501	299,911	4.8%	1.357	231,334	299,911	316,571
6/30/08-09	3,295,878	1.615	5,323,909	0.6%	2.7%	143,017	105,767	248,784	4.7%	1.757	185,813	248,784	249,490
6/30/09-10	1,983,041	1.907	3,781,036	0.7%	3.4%	128,038	59,000	187,038	4.9%	3.047	179,757	187,038	180,917
6/30/10-11	2,210,801	2.560	5,659,825	1.0%	4.3%	246,010	11,750	257,760	4.6%	11.240	132,065	257,760	273,478
6/30/11-12	628,004	5.503	3,455,693	0.8%	5.1%	177,929	0	177,929	5.1%	55.523	0	177,929	
Total	162,341,421		209,802,587			1,506,759	11,525,145	13,031,903	6.2%		12,095,069	13,020,481	13,044,181

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, 2011



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

Section 4
Exhibit I
Page 11

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	
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	0.013	0.006	0.000	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-83	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.012	0.014	0.014	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-84	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-85	0.000	0.000	0.000	0.000	0.002	0.000	0.004	0.000	0.014	0.000	0.009	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	0.000	0.000	0.000	
Jun-86	0.000	0.000	0.000	0.003	0.008	0.001	0.005	0.003	0.006	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	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	0.000	0.000	0.000	
Jun-88	0.000	0.005	0.003	0.003	0.007	0.032	0.034	0.004	0.017	0.005	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-89	0.000	0.001	0.009	0.001	0.017	0.011	0.021	0.009	0.004	0.007	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
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	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-91	0.000	0.002	0.002	0.025	0.013	0.014	0.005	0.000	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-93	0.000	0.044	0.041	0.057	0.010	0.028	0.042	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	0.000	0.000	0.000	0.000	
Jun-94	0.011	0.036	0.040	0.049	0.022	0.017	0.002	0.002	0.000	0.003	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-95	0.003	0.028	0.030	0.013	0.022	0.011	0.002	0.000	0.000	0.004	0.000	0.000	0.000	0.000	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	0.000	0.000	
Jun-96	0.000	0.007	0.006	0.063	0.000	0.000	0.000	0.000	0.002	0.003	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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	0.010	0.044	0.031	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	0.000	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	0.006	0.018	0.014	0.000	0.000	0.003	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	0.000	0.000	0.000	0.000	
Jun-99	0.000	0.000	0.002	0.000	0.010	0.001	0.002	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	0.000	0.000	0.000	0.000	0.000	0.000	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	0.001	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	0.000	0.000	0.000	
Jun-01	0.001	0.000	0.006	0.007	0.007	0.006	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-02	0.000	0.001	0.004	0.009	0.004	0.006	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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-03	0.000	0.006	0.010	0.008	0.007	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-04	0.000	0.002	0.009	0.008	0.003	0.007	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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-05	0.000	0.001	0.010	0.009	0.004	0.000	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	0.000	0.000	
Jun-06	0.000	0.005	0.003	0.015	0.011	0.011	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	0.000	0.000	0.000	
Jun-07	0.000	0.006	0.011	0.005	0.008	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	0.000	0.000	0.000	0.000	
Jun-08	0.000	0.006	0.006	0.012	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-09	0.000	0.003	0.008	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-10	0.000	0.001	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	0.000	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-11	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	0.000	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-12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Averages																																
Simple Avg		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	
All Yrs (ex P)	0.008	0.011	0.014	0.008	0.008	0.006	0.000	0.002	0.003	0.004	0.002	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	
Latest 5	0.003	0.009	0.010	0.006	0.003	0.001	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	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	
Latest 3	0.002	0.010	0.009	0.008	0.001	0.002	0.0																									



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

Section 4
Exhibit 1
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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
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	
Jun-83	0	0	0	0	0	0	0	17,500	17,500	52,500	94,081	135,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	181,081	
Jun-84	0	0	0	0	0	0	0	0	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	
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	270,000	270,000	270,000	270,000	320,000	
Jun-87	0	20,000	45,000	67,500	90,000	117,000	155,250	180,251	191,501	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	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	717,001	717,001	717,001	717,001	717,001	717,001	717,001	717,001	717,001	717,001	717,001	717,001	717,001	
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	616,200	616,200	616,200	616,200	616,200	616,200	
Jun-90	0	16,700	121,200	254,200	405,900	545,400	618,400	716,400	756,400	926,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	927,400	
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	871,668	871,668	871,668	871,668	871,668	871,668	871,668	871,668	871,668	871,668	871,668	871,668	871,668	871,668	871,668	
Jun-92	0	30,500	124,500	219,500	269,500	359,500	359,500	359,500	359,500	359,500	370,750	370,750	370,750	370,750	370,750	370,750	370,750	370,750	370,750	370,750	370,750	370,750	370,750	370,750	370,750	370,750	370,750	370,750	370,750	370,750	
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	637,301	637,301	637,301	637,301	637,301	637,301	637,301	637,301	
Jun-94	52,000	214,000	395,925	616,925	717,925	795,425	802,925	810,425	810,425	826,175	826,175	830,675	836,675	836,675	836,675	836,675	836,675	836,675	836,675	836,675	836,675	836,675	836,675	836,675	836,675	836,675	836,675	836,675	836,675	836,675	
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	700,613	700,613	700,613	700,613	700,613	700,613	700,613	700,613	700,613	700,613	700,613	700,613	700,613	700,613	700,613	700,613	700,613	
Jun-96	0	35,000	67,000	402,000	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	452,000	452,000	452,000	452,000	452,000	452,000	452,000	452,000	452,000	452,000	
Jun-97	59,500	327,500	518,000	638,000	681,000	705,000	721,000	741,600	741,600	750,601	750,601	767,601	767,601	767,601	767,601	767,601	767,601	767,601	767,601	767,601	767,601	767,601	767,601	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	431,718	431,718	431,718	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	168,052	168,052	168,052	168,052	168,052	168,052	168,052	168,052	168,052	168,052	168,052	168,052	168,052	168,052	168,052	168,052	168,052	168,052	168,052	
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	264,102	264,102	264,102	264,102	264,102	264,102	264,102	264,102	264,102	264,102	264,102	264,102	264,102	264,102	264,102	264,102	264,102	
Jun-01	8,490	8,491	82,991	172,891	265,891	339,280	372,783	393,283	397,283	397,283	415,283	415,283	415,283	415,283	415,283	415,283	415,283	415,283	415,283	415,283	415,283	415,283	415,283	415,283	415,283	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	273,881	273,881	273,881	273,881	273,881	273,881	273,881	273,881	273,881	273,881	273,881	273,881	273,881	273,881	273,881	273,881	273,881	273,881	273,881	273,881	
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	363,503	363,503	363,503	363,503	363,503	363,503	363,503	363,503	363,503	363,503	363,503	363,503	363,503	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	327,430	327,430	327,430	327,430	327,430	327,430	327,430	327,430	327,430	327,430	327,430	327,430	327,430	327,430	327,430	327,430	327,430	327,430	327,430	327,430	
Jun-05	0	12,500	120,502	210,003	247,549	247,549	259,549	269,550	269,550	269,550	269,550	269,550	269,550	269,550	269,550	269,550	269,550	269,550	269,550	269,550	269,550	269,550	269,550	269,550	269,550	269,550	269,550	269,550	269,550	269,550	
Jun-06	0	35,001	59,503	173,004	254,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	260,504	
Jun-07	0	36,000	105,500	138,000	188,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	207,000	
Jun-08	0	36,001	73,001	145,001	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	170,501	
Jun-09	0	16,000	58,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	105,767	
Jun-10	0	3,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	59,000	
Jun-11	0	11,750	11,750	11,750	11,750	11,750																									



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

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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%
372	100.0%	2.7%	0.0%	0.8%	0.5%	1.000	1.000
360	97.3%	0.4%	2.7%	0.1%	0.1%	0.981	0.971
348	96.9%	0.4%	3.1%	0.1%	0.1%	0.948	0.923
336	96.5%	0.4%	3.5%	0.1%	0.1%	0.919	0.882
324	96.1%	0.4%	3.9%	0.1%	0.1%	0.893	0.846
312	95.8%	0.4%	4.2%	0.1%	0.1%	0.870	0.814
300	95.4%	0.8%	4.6%	0.3%	0.2%	0.848	0.785
288	94.6%	0.7%	5.4%	0.3%	0.2%	0.839	0.773
276	93.9%	1.5%	6.1%	0.6%	0.4%	0.827	0.757
264	92.4%	1.6%	7.6%	0.7%	0.5%	0.832	0.766
252	90.8%	1.3%	9.2%	0.6%	0.4%	0.832	0.766
240	89.5%	1.0%	10.5%	0.5%	0.3%	0.822	0.753
228	88.5%	1.1%	11.5%	0.5%	0.4%	0.807	0.734
216	87.4%	0.3%	12.6%	0.1%	0.1%	0.793	0.715
204	87.1%	1.3%	12.9%	0.7%	0.5%	0.767	0.681
192	85.8%	1.2%	14.2%	0.7%	0.5%	0.760	0.673
180	84.6%	1.3%	15.4%	0.7%	0.6%	0.751	0.662
168	83.3%	1.2%	16.7%	0.7%	0.6%	0.742	0.651
156	82.1%	1.1%	17.9%	0.7%	0.5%	0.732	0.639
144	81.0%	0.7%	19.0%	0.4%	0.4%	0.720	0.624
132	80.3%	1.3%	19.7%	0.8%	0.7%	0.702	0.602
120	79.0%	1.4%	21.0%	1.0%	0.8%	0.694	0.592
108	77.6%	1.7%	22.4%	1.2%	1.0%	0.686	0.584
96	75.9%	2.3%	24.1%	1.7%	1.5%	0.683	0.581
84	73.6%	3.2%	26.4%	2.5%	2.2%	0.685	0.585
72	70.4%	3.3%	29.6%	2.6%	2.4%	0.694	0.598
60	67.1%	5.2%	32.9%	4.4%	4.0%	0.698	0.604
48	61.9%	9.5%	38.1%	8.2%	7.7%	0.713	0.625
36	52.4%	13.4%	47.6%	12.1%	11.6%	0.745	0.665
24	39.1%	20.9%	60.9%	19.7%	19.1%	0.774	0.703
12	18.2%	18.2%	81.8%	17.8%	17.7%	0.805	0.742
Total		100.0%					

NOTES:

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

(3) Incremental % based on (2)

(4) = 1 - (2)

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

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

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



Commonwealth of Massachusetts
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Department of Corrections - Cluster 3

Indemnity

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	642,792	1,149,707		606,494	1,084,784
6/30/82-83	257,956	335,184	0.981	252,947	328,675
6/30/83-84	7,949	43,740	0.948	7,533	41,448
6/30/84-85	458,879	684,699	0.919	421,651	629,150
6/30/85-86	1,090,677	1,484,492	0.893	974,196	1,325,952
6/30/86-87	157,360	165,360	0.870	136,878	143,837
6/30/87-88	283,125	543,125	0.848	240,171	460,725
6/30/88-89	322,288	1,052,288	0.839	270,356	882,726
6/30/89-90	523,068	528,068	0.827	432,524	436,659
6/30/90-91	981,853	4,403,853	0.832	817,290	3,665,747
6/30/91-92	387,026	389,026	0.832	322,001	323,664
6/30/92-93	295,410	301,410	0.822	242,742	247,673
6/30/93-94	525,900	527,900	0.807	424,502	426,117
6/30/94-95	775,385	780,385	0.793	615,036	619,002
6/30/95-96	681,603	684,603	0.767	522,896	525,197
6/30/96-97	864,739	868,739	0.760	657,374	660,415
6/30/97-98	1,331,004	1,363,004	0.751	999,387	1,023,414
6/30/98-99	1,453,040	1,475,040	0.742	1,078,167	1,094,491
6/30/99-00	1,699,281	1,731,281	0.732	1,243,332	1,266,746
6/30/00-01	1,741,856	2,426,965	0.720	1,253,854	1,747,020
6/30/01-02	2,137,073	2,178,073	0.702	1,500,912	1,529,707
6/30/02-03	1,726,382	2,290,932	0.694	1,197,590	1,589,218
6/30/03-04	1,766,943	2,282,900	0.686	1,212,875	1,567,040
6/30/04-05	2,299,186	2,658,186	0.683	1,570,119	1,815,281
6/30/05-06	2,092,736	2,534,736	0.685	1,433,264	1,735,979
6/30/06-07	2,384,208	2,807,208	0.694	1,653,583	1,946,957
6/30/07-08	3,005,728	3,841,728	0.698	2,097,951	2,681,465
6/30/08-09	3,195,355	4,601,355	0.713	2,279,607	3,282,665
6/30/09-10	3,611,959	5,665,959	0.745	2,689,400	4,218,772
6/30/10-11	5,254,449	7,264,449	0.774	4,067,333	5,623,222
6/30/11-12	6,221,996	9,940,996	0.805	5,006,328	7,998,701
Total	48,177,208	67,005,390		36,228,291	50,922,450

(7) Total Discount Factor: 0.752 0.760

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve:	642,792	1,149,707
(9) Projected Number of Years:	3	3
(10) Projected Paid Loss per Year:	214,264	383,236
(11) Discounted Value at 4%:	606,494	1,084,784

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)

(9) = (8) / (9)



Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012

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Department of Corrections - Cluster 3

Indemnity

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	642,792	1,149,707		589,912	1,055,125
6/30/82-83	257,956	335,184	0.971	250,549	325,559
6/30/83-84	7,949	43,740	0.923	7,339	40,381
6/30/84-85	458,879	684,699	0.882	404,779	603,975
6/30/85-86	1,090,677	1,484,492	0.846	922,755	1,255,937
6/30/86-87	157,360	165,360	0.814	128,057	134,567
6/30/87-88	283,125	543,125	0.785	222,117	426,092
6/30/88-89	322,288	1,052,288	0.773	249,012	813,039
6/30/89-90	523,068	528,068	0.757	396,059	399,845
6/30/90-91	981,853	4,403,853	0.766	752,098	3,373,346
6/30/91-92	387,026	389,026	0.766	296,559	298,092
6/30/92-93	295,410	301,410	0.753	222,374	226,890
6/30/93-94	525,900	527,900	0.734	385,787	387,254
6/30/94-95	775,385	780,385	0.715	554,669	558,246
6/30/95-96	681,603	684,603	0.681	464,121	466,164
6/30/96-97	864,739	868,739	0.673	581,894	584,586
6/30/97-98	1,331,004	1,363,004	0.662	880,638	901,811
6/30/98-99	1,453,040	1,475,040	0.651	946,037	960,361
6/30/99-00	1,699,281	1,731,281	0.639	1,085,104	1,105,538
6/30/00-01	1,741,856	2,426,965	0.624	1,087,129	1,514,719
6/30/01-02	2,137,073	2,178,073	0.602	1,287,115	1,311,809
6/30/02-03	1,726,382	2,290,932	0.592	1,022,833	1,357,313
6/30/03-04	1,766,943	2,282,900	0.584	1,032,702	1,334,257
6/30/04-05	2,299,186	2,658,186	0.581	1,336,616	1,545,318
6/30/05-06	2,092,736	2,534,736	0.585	1,224,874	1,483,575
6/30/06-07	2,384,208	2,807,208	0.598	1,425,151	1,677,997
6/30/07-08	3,005,728	3,841,728	0.604	1,816,368	2,321,565
6/30/08-09	3,195,355	4,601,355	0.625	1,996,791	2,875,407
6/30/09-10	3,611,959	5,665,959	0.665	2,403,678	3,770,569
6/30/10-11	5,254,449	7,264,449	0.703	3,695,227	5,108,773
6/30/11-12	6,221,996	9,940,996	0.742	4,616,921	7,376,539
Total	48,177,208	67,005,390		32,285,268	45,594,651

(7) Total Discount Factor: 0.670 0.680

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve:	642,792	1,149,707
(9) Projected Number of Years:	3	3
(10) Projected Paid Loss per Year:	214,264	383,236
(11) Discounted Value at 6%:	589,912	1,055,125

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
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Department of Corrections - Cluster 3
Total Indemnity (Including Lump Sums) + Medical
Calculation of Fiscal Year 7/1/12 - 13 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Accident Year	Est Ult Losses (Low)	Est Ult Losses (High)	Paid Losses to Date	Reserves (Low)	Reserves (High)	Cumulative Percent Paid	Incremental Paid as a % of Ultimates	Incremental Paid as a % of Reserves	Estimated Payments from 7/1/12 - 6/30/13		FY 7/1/12 - 6/30/13 as a % of Reserves	
									(Low)	(High)	(Low)	(High)
All Prior Yrs	5,663,083	7,212,566	4,290,520	1,372,563	2,922,046				88,958	97,854	6.5%	3.3%
6/30/82-83	3,170,521	3,255,901	2,912,565	257,956	343,336	90.6%	0.5%	5.3%	13,785	18,347	5.3%	5.3%
6/30/83-84	2,143,623	2,218,623	2,135,674	7,949	82,949	97.9%	0.5%	24.0%	1,907	19,904	24.0%	24.0%
6/30/84-85	4,737,181	4,969,000	4,268,609	468,571	700,391	88.0%	1.0%	8.3%	38,907	58,155	8.3%	8.3%
6/30/85-86	8,056,185	8,455,000	6,947,276	1,108,909	1,507,724	84.2%	1.0%	6.3%	69,973	95,139	6.3%	6.3%
6/30/86-87	4,720,000	4,728,000	4,532,911	187,089	195,089	96.0%	1.0%	24.7%	46,251	48,229	24.7%	24.7%
6/30/87-88	7,584,000	7,847,000	7,243,616	340,384	603,384	93.9%	2.0%	32.7%	111,308	197,312	32.7%	32.7%
6/30/88-89	8,715,000	9,447,000	8,328,858	386,142	1,118,142	91.7%	2.0%	24.1%	93,242	269,998	24.1%	24.1%
6/30/89-90	11,580,000	11,587,000	10,949,384	630,616	637,616	94.5%	2.0%	36.5%	230,391	232,949	36.5%	36.5%
6/30/90-91	12,988,000	16,411,000	11,850,879	1,137,121	4,560,121	80.6%	2.0%	10.3%	117,356	470,624	10.3%	10.3%
6/30/91-92	6,517,000	6,520,000	6,003,883	513,117	516,117	92.1%	2.0%	25.3%	129,990	130,750	25.3%	25.3%
6/30/92-93	4,899,000	4,906,000	4,479,265	419,735	426,735	91.4%	2.0%	23.2%	97,239	98,861	23.2%	23.2%
6/30/93-94	7,012,000	7,016,000	6,326,608	685,392	689,392	90.2%	2.0%	20.4%	139,872	140,688	20.4%	20.4%
6/30/94-95	8,413,000	8,419,000	7,472,050	940,950	946,950	88.8%	2.0%	17.8%	167,785	168,855	17.8%	17.8%
6/30/95-96	7,405,000	7,410,000	6,528,672	876,328	881,328	88.1%	2.0%	16.9%	147,729	148,571	16.9%	16.9%
6/30/96-97	8,853,000	8,860,000	7,745,712	1,107,288	1,114,288	87.5%	2.0%	15.9%	176,572	177,688	15.9%	15.9%
6/30/97-98	11,427,000	11,465,000	9,816,106	1,610,894	1,648,894	85.8%	2.0%	14.0%	226,251	231,589	14.0%	14.0%
6/30/98-99	11,089,000	11,114,000	9,332,079	1,756,921	1,781,921	84.1%	2.0%	12.5%	220,461	223,599	12.5%	12.5%
6/30/99-00	12,223,000	12,262,000	10,146,176	2,076,824	2,115,824	82.9%	2.0%	11.7%	242,572	247,128	11.7%	11.7%
6/30/00-01	15,707,892	16,417,000	13,383,124	2,324,768	3,033,876	83.3%	2.0%	12.0%	278,738	363,760	12.0%	12.0%
6/30/01-02	13,313,000	13,356,000	10,725,098	2,587,902	2,630,902	80.4%	2.0%	10.2%	264,493	268,887	10.2%	10.2%
6/30/02-03	13,023,450	13,736,000	10,855,528	2,167,922	2,880,472	81.1%	2.0%	10.6%	229,825	305,364	10.6%	10.6%
6/30/03-04	12,101,043	12,750,000	9,864,841	2,236,203	2,885,159	79.4%	1.7%	8.5%	189,069	243,937	8.5%	8.5%
6/30/04-05	13,589,000	14,147,000	10,678,073	2,910,927	3,468,927	77.0%	2.4%	10.4%	302,940	361,012	10.4%	10.4%
6/30/05-06	10,611,000	11,131,000	7,825,917	2,785,083	3,305,083	72.0%	5.0%	17.9%	498,035	591,022	17.9%	17.9%
6/30/06-07	9,165,000	9,694,000	6,122,321	3,042,679	3,571,679	64.9%	7.1%	20.1%	612,621	719,131	20.1%	20.1%
6/30/07-08	9,582,000	10,714,000	5,807,518	3,774,482	4,906,482	57.2%	7.7%	18.0%	679,423	883,188	18.0%	18.0%
6/30/08-09	8,708,000	10,517,000	4,740,542	3,967,458	5,776,458	49.3%	7.9%	15.6%	619,325	901,712	15.6%	15.6%
6/30/09-10	7,213,000	9,949,000	2,831,389	4,381,611	7,117,611	33.0%	6.0%	9.0%	392,360	637,360	9.0%	9.0%
6/30/10-11	9,498,000	12,332,500	3,086,264	6,411,736	9,246,236	28.3%	4.7%	6.6%	422,046	608,624	6.6%	6.6%
6/30/11-12	8,801,000	13,772,550	921,493	7,879,507	12,851,057	8.2%	20.1%	21.9%	1,725,477	2,814,161	21.9%	21.9%
Total	278,507,978	302,619,140	218,152,954	60,355,024	84,466,186				8,574,901	11,774,396	14.2%	13.9%

NOTES:

(2) Exhibit 1, Page 1, Column (4) + Exhibit 2, Page 1, Column (4)

(3) Exhibit 1, Page 1, Column (5) + Exhibit 2, Page 1, Column (5)

(4) Exhibit 1, Page 1, Column (2) + Exhibit 2, Page 1, Column (2)

(5) = (2) - (4)

(6) = (3) - (4)

(7) = (4) / Average of Columns (2), (3)

(8) = (7) - Prior Year's (7)

(9) = (8) / (1.00 - (7))

(10) = (5) * (9)

(11) = (6) * (9)

(12) = (10) / (5)

(13) = (11) / (6)



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012
Department of Corrections - Cluster 3
Medical**

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Page 1

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		582,270			1,312,041	2,354,609	729,771	1,772,339		
6/30/82-83		164,749	169,511		164,749	172,901	0	8,152		
6/30/83-84		730,414	754,532		730,414	769,623	0	39,209		
6/30/84-85	115,258	434,308	450,444	443,846	444,000	450,000	9,692	15,692	0.385	0.390
6/30/85-86	123,937	559,768	582,887	578,448	578,000	583,000	18,232	23,232	0.466	0.470
6/30/86-87	142,396	648,271	677,745	678,491	678,000	678,000	29,729	29,729	0.476	0.476
6/30/87-88	166,792	1,145,741	1,202,624	1,206,408	1,203,000	1,206,000	57,259	60,259	0.721	0.723
6/30/88-89	180,117	1,227,147	1,293,224	1,291,385	1,291,000	1,293,000	63,853	65,853	0.717	0.718
6/30/89-90	180,883	1,856,452	1,966,198	1,963,976	1,964,000	1,966,000	107,548	109,548	1.086	1.087
6/30/90-91	169,902	2,427,731	2,584,104	2,583,198	2,583,000	2,584,000	155,269	156,269	1.520	1.521
6/30/91-92	165,926	1,819,909	1,946,818	1,945,683	1,946,000	1,947,000	126,091	127,091	1.173	1.173
6/30/92-93	174,198	1,323,675	1,448,779	1,447,980	1,448,000	1,449,000	124,325	125,325	0.831	0.832
6/30/93-94	185,946	1,458,508	1,619,731	1,618,223	1,618,000	1,620,000	159,492	161,492	0.870	0.871
6/30/94-95	194,051	1,323,435	1,490,136	1,489,169	1,489,000	1,490,000	165,565	166,565	0.767	0.768
6/30/95-96	205,262	1,456,275	1,652,925	1,651,299	1,651,000	1,653,000	194,725	196,725	0.804	0.805
6/30/96-97	234,073	1,745,451	1,990,881	1,988,098	1,988,000	1,991,000	242,549	245,549	0.849	0.851
6/30/97-98	221,865	1,900,110	2,186,398	2,180,250	2,180,000	2,186,000	279,890	285,890	0.983	0.985
6/30/98-99	256,071	1,820,118	2,126,962	2,123,556	2,124,000	2,127,000	303,882	306,882	0.829	0.831
6/30/99-00	268,486	2,003,457	2,387,927	2,381,271	2,381,000	2,388,000	377,543	384,543	0.887	0.889
6/30/00-01	279,182	2,860,089	3,467,010	3,443,465	3,443,000	3,467,000	582,911	606,911	1.233	1.242
6/30/01-02	283,070	1,851,171	2,304,392	2,302,133	2,302,000	2,304,000	450,829	452,829	0.813	0.814
6/30/02-03	289,846	2,184,461	2,774,168	2,764,582	2,626,000	2,774,000	441,539	589,539	0.906	0.957
6/30/03-04	293,771	1,988,740	2,590,955	2,587,412	2,458,000	2,591,000	469,260	602,260	0.837	0.882
6/30/04-05	291,382	2,464,260	3,275,311	3,075,524	3,076,000	3,275,000	611,740	810,740	1.056	1.124
6/30/05-06	294,709	2,044,654	2,814,831	2,737,006	2,737,000	2,815,000	692,346	770,346	0.929	0.955
6/30/06-07	289,603	1,505,529	2,163,815	2,269,564	2,164,000	2,270,000	658,471	764,471	0.747	0.784
6/30/07-08	354,668	1,474,245	2,243,385	2,539,272	2,243,000	2,539,000	768,755	1,064,755	0.632	0.716
6/30/08-09	332,413	1,338,898	2,222,096	2,513,907	2,111,000	2,514,000	772,102	1,175,102	0.635	0.756
6/30/09-10	336,338	789,348	1,484,311	2,241,365	1,559,000	2,241,000	769,652	1,451,652	0.464	0.666
6/30/10-11	333,783	863,714	2,127,648	2,710,301	2,021,000	2,845,500	1,157,287	1,981,787	0.605	0.852
6/30/11-12	348,187	293,489	1,857,656	3,051,096	1,951,000	3,203,550	1,657,511	2,910,061	0.560	0.920
Total	6,712,116	44,286,388	55,857,403	57,806,907	56,464,204	61,747,183	12,177,817	17,460,796		
Tot 6/30/84-12	6,712,116	42,808,954	54,933,360	57,806,907	54,257,000	58,450,050	11,448,046	15,641,096	0.808	0.871

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, 2012
Department of Corrections - Cluster 3
Medical
Paid Loss Development Method**

Section 4
Exhibit 2
Page 2

(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 7/1/10-11	Paid Counts 7/1/11-12	Average Outstanding Claim
All Prior Yrs		582,270							5	4	
6/30/82-83		164,749	1.029	1.000	169,511	N/A	169,511		0	0	
6/30/83-84		730,414	1.033	1.000	754,532	N/A	754,532		0	0	
6/30/84-85	115,258	434,308	1.037	1.000	450,444	N/A	450,444	0.391	1	1	16,135
6/30/85-86	123,937	559,768	1.041	1.000	582,887	N/A	582,887	0.470	3	1	23,119
6/30/86-87	142,396	648,271	1.045	1.000	677,745	N/A	677,745	0.476	1	1	29,474
6/30/87-88	166,792	1,145,741	1.050	1.000	1,202,624	N/A	1,202,624	0.721	1	1	56,883
6/30/88-89	180,117	1,227,147	1.054	1.000	1,293,224	N/A	1,293,224	0.718	2	2	33,039
6/30/89-90	180,883	1,856,452	1.059	1.000	1,966,198	N/A	1,966,198	1.087	4	2	54,873
6/30/90-91	169,902	2,427,731	1.064	1.000	2,584,104	N/A	2,584,104	1.521	8	8	19,547
6/30/91-92	165,926	1,819,909	1.070	1.000	1,946,818	N/A	1,946,818	1.173	4	2	63,454
6/30/92-93	174,198	1,323,675	1.095	1.000	1,448,779	N/A	1,448,779	0.832	2	1	125,103
6/30/93-94	185,946	1,458,508	1.111	1.000	1,619,731	N/A	1,619,731	0.871	7	7	23,032
6/30/94-95	194,051	1,323,435	1.126	1.000	1,490,136	N/A	1,490,136	0.768	3	2	83,350
6/30/95-96	205,262	1,456,275	1.135	1.000	1,652,925	N/A	1,652,925	0.805	3	3	65,550
6/30/96-97	234,073	1,745,451	1.141	1.000	1,990,881	N/A	1,990,881	0.851	4	4	61,358
6/30/97-98	221,865	1,900,110	1.151	1.000	2,186,398	N/A	2,186,398	0.985	6	8	35,786
6/30/98-99	256,071	1,820,118	1.169	1.000	2,126,962	N/A	2,126,962	0.831	8	7	43,835
6/30/99-00	268,486	2,003,457	1.192	1.000	2,387,927	N/A	2,387,927	0.889	11	8	48,059
6/30/00-01	279,182	2,860,089	1.212	1.000	3,467,010	N/A	3,467,010	1.242	10	7	86,703
6/30/01-02	283,070	1,851,171	1.245	1.000	2,304,392	N/A	2,304,392	0.814	13	14	32,373
6/30/02-03	289,846	2,184,461	1.270	1.000	2,774,168	N/A	2,774,168	0.957	11	8	73,713
6/30/03-04	293,771	1,988,740	1.303	1.000	2,590,955	N/A	2,590,955	0.882	12	8	75,277
6/30/04-05	291,382	2,464,260	1.329	1.000	3,275,311	N/A	3,275,311	1.124	24	19	42,687
6/30/05-06	294,709	2,044,654	1.377	1.000	2,814,831	N/A	2,814,831	0.955	23	21	36,675
6/30/06-07	289,603	1,505,529	1.437	1.000	2,163,815	N/A	2,163,815	0.747	26	16	41,143
6/30/07-08	354,668	1,474,245	1.522	1.000	2,243,385	N/A	2,243,385	0.633	32	21	36,626
6/30/08-09	332,413	1,338,898	1.660	1.000	2,222,096	N/A	2,222,096	0.668	65	25	35,328
6/30/09-10	336,338	789,348	1.880	1.000	1,484,311	N/A	1,484,311	0.441	134	28	24,820
6/30/10-11	333,783	863,714	2.463	1.000	2,127,648	N/A	2,127,648	0.637	280	157	8,051
6/30/11-12	348,187	293,489	6.330	1.000	1,857,656	N/A	1,857,656	0.534		218	7,175
Total	6,712,116	44,286,388			55,857,403		55,857,403		703	604	

NOTES:

(2) Provided by Commonwealth of Massachusetts

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

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

(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, 2012**

Section 4

Exhibit 2

Page 3

Department of Corrections - Cluster 3

Medical

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident	Payroll	A Priori		Paid	Ultimate Loss	Est Ult	Ultimate Loss	Ultimate	Ultimate Loss
Year	(000's)	Loss		LDF	Excluding	Lump Sum	Including	Loss	Cost Excluding
		Rate	Paid Loss		Lump Sum	Payments	Lump Sum	Cost	Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	115,258	0.231	434,308	1.037	443,846	N/A	443,846	0.385	0.385
6/30/85-86	123,937	0.380	559,768	1.041	578,448	N/A	578,448	0.467	0.467
6/30/86-87	142,396	0.488	648,271	1.045	678,491	N/A	678,491	0.476	0.476
6/30/87-88	166,792	0.769	1,145,741	1.050	1,206,408	N/A	1,206,408	0.723	0.723
6/30/88-89	180,117	0.698	1,227,147	1.054	1,291,385	N/A	1,291,385	0.717	0.717
6/30/89-90	180,883	1.065	1,856,452	1.059	1,963,976	N/A	1,963,976	1.086	1.086
6/30/90-91	169,902	1.512	2,427,731	1.064	2,583,198	N/A	2,583,198	1.520	1.520
6/30/91-92	165,926	1.163	1,819,909	1.070	1,945,683	N/A	1,945,683	1.173	1.173
6/30/92-93	174,198	0.826	1,323,675	1.095	1,447,980	N/A	1,447,980	0.831	0.831
6/30/93-94	185,946	0.863	1,458,508	1.111	1,618,223	N/A	1,618,223	0.870	0.870
6/30/94-95	194,051	0.763	1,323,435	1.126	1,489,169	N/A	1,489,169	0.767	0.767
6/30/95-96	205,262	0.799	1,456,275	1.135	1,651,299	N/A	1,651,299	0.804	0.804
6/30/96-97	234,073	0.841	1,745,451	1.141	1,988,098	N/A	1,988,098	0.849	0.849
6/30/97-98	221,865	0.964	1,900,110	1.151	2,180,250	N/A	2,180,250	0.983	0.983
6/30/98-99	256,071	0.821	1,820,118	1.169	2,123,556	N/A	2,123,556	0.829	0.829
6/30/99-00	268,486	0.874	2,003,457	1.192	2,381,271	N/A	2,381,271	0.887	0.887
6/30/00-01	279,182	1.194	2,860,089	1.212	3,443,465	N/A	3,443,465	1.233	1.233
6/30/01-02	283,070	0.810	1,851,171	1.245	2,302,133	N/A	2,302,133	0.813	0.813
6/30/02-03	289,846	0.942	2,184,461	1.270	2,764,582	N/A	2,764,582	0.954	0.954
6/30/03-04	293,771	0.877	1,988,740	1.303	2,587,412	N/A	2,587,412	0.881	0.881
6/30/04-05	291,382	0.847	2,464,260	1.329	3,075,524	N/A	3,075,524	1.055	1.055
6/30/05-06	294,709	0.859	2,044,654	1.377	2,737,006	N/A	2,737,006	0.929	0.929
6/30/06-07	289,603	0.867	1,505,529	1.437	2,269,564	N/A	2,269,564	0.784	0.784
6/30/07-08	354,668	0.876	1,474,245	1.522	2,539,272	N/A	2,539,272	0.716	0.716
6/30/08-09	332,413	0.889	1,338,898	1.660	2,513,907	N/A	2,513,907	0.756	0.756
6/30/09-10	336,338	0.922	789,348	1.880	2,241,365	N/A	2,241,365	0.666	0.666
6/30/10-11	333,783	0.931	863,714	2.463	2,710,301	N/A	2,710,301	0.812	0.812
6/30/11-12	348,187	0.941	293,489	6.330	3,051,096	N/A	3,051,096	0.876	0.876
Total	6,712,116		42,808,954		57,806,907		57,806,907		

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, 2012
Department of Corrections - Cluster 3
Medical**

Section 4
Exhibit 2
Page 4

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	2,584,104	1.521	1.194	1.816	1.245	2.260	0.639	1.460	1.512
6/30/91-92	165,926	1,946,818	1.173	1.189	1.395	1.232	1.719	0.649	1.094	1.163
6/30/92-93	174,198	1,448,779	0.832	1.189	0.989	1.220	1.207	0.655	0.830	0.826
6/30/93-94	185,946	1,619,731	0.871	1.178	1.026	1.208	1.240	0.667	0.860	0.863
6/30/94-95	194,051	1,490,136	0.768	1.170	0.898	1.196	1.075	0.679	0.761	0.763
6/30/95-96	205,262	1,652,925	0.805	1.155	0.930	1.184	1.102	0.694	0.794	0.799
6/30/96-97	234,073	1,990,881	0.851	1.137	0.967	1.173	1.134	0.713	0.826	0.841
6/30/97-98	221,865	2,186,398	0.985	1.135	1.118	1.161	1.299	0.721	0.943	0.964
6/30/98-99	256,071	2,126,962	0.831	1.135	0.943	1.149	1.084	0.728	0.820	0.821
6/30/99-00	268,486	2,387,927	0.889	1.135	1.009	1.138	1.149	0.735	0.869	0.874
6/30/00-01	279,182	3,467,010	1.242	1.109	1.377	1.127	1.552	0.760	1.182	1.194
6/30/01-02	283,070	2,304,392	0.814	1.101	0.896	1.116	1.000	0.773	0.819	0.810
6/30/02-03	289,846	2,774,168	0.957	1.073	1.027	1.105	1.134	0.802	0.953	0.942
6/30/03-04	293,771	2,590,955	0.882	1.046	0.923	1.094	1.009	0.830	0.896	0.877
6/30/04-05	291,382	3,275,311	1.124	1.036	1.164	1.083	1.260	0.847	0.914	0.847
6/30/05-06	294,709	2,814,831	0.955	1.032	0.986	1.072	1.057	0.859	0.930	0.859
6/30/06-07	289,603	2,163,815	0.747	1.032	0.771	1.062	0.819	0.867	0.944	0.867
6/30/07-08	354,668	2,243,385	0.633	1.032	0.653	1.051	0.686	0.876	0.959	0.876
6/30/08-09	332,413	2,222,096	0.668	1.027	0.686	1.041	0.714	0.889	0.978	0.889
6/30/09-10	336,338	1,484,311	0.441	1.000	0.441	1.030	0.455	0.922	1.019	0.922
6/30/10-11	333,783	2,127,648	0.637	1.000	0.637	1.020	0.650	0.931	1.034	0.931
6/30/11-12	348,187	1,857,656	0.534	1.000	0.534	1.010	0.539	0.941		0.941
Total	5,802,733	48,760,238								
Trend Last 4 (ex 11-12):					-5.0%	Avg 3 (x11-12):	0.606			
Trend Last 8 (ex 11-12):					-9.8%	Avg 5 (x11-12):	0.665			
Trend Last 12 (ex 11-12):					-6.8%	Avg 10 (x11-12):	0.878			
Prior Selected Trend:					1.5%	Prior Sel Avg:	1.050			
Selected Trend:					1.0%	Sel. Loss Cost:	0.950			

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, 2011
- (11) Selected based on (9) and (4)



Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012
Department of Corrections - Cluster 3
Medical

Section 4
Exhibit 2
Page 5

Calculation of 1982 & Prior Reserves (Page 1)

Method 1			
(1)	Average Payment Trend	0.950	
(2)	Credibility	37%	
(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 2012	74,810	74,810
(7)	Estimated Reserve	1,182,493	1,772,339
(8)	Paid to Date (82 & Prior)	582,270	582,270
(9)	Est Ult Paid for 1982 & Prior	1,764,764	2,354,609
Method 2			
		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	92,350	100,913
(11)	Projected Number of Years	3	3
(12)	Estimated Reserve	277,049	302,740
(13)	Paid to Date (82 & Prior)	582,270	507,461
(14)	Est Ult Paid for 1982 & Prior	859,319	810,201
(14a)	Paid Counts During Fiscal Year	4	3
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	1,312,041	2,354,609
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	1,312,041	2,354,609
(18)	Implied Tail	2.253	4.044
(19)	Ult Loss Inc Lump Sums @ 6/11	1,113,295	1,667,901

NOTES:

- | | |
|---|--|
| (1) From Section 4, Exhibit 2, Page 6 | (10) Avg of 3 latest years from Section 4, Exhibit 2, Page 6, Column 3 |
| (2) = (Average of Section 4, Exhibit 2, Page 6, Column 3 / 175,000) ^ 0.5 | (11) Selected judgmentally |
| (3) Average Statewide Trend | (12) = (10 x (11)) |
| (4) = (1) x (2) + (4) x {1 - (2)} | (14) = (12) + (13) |
| (5) Selected judgmentally based on (4) | (15) = Average of (9) and (14) |
| (6), (14a) Provided by Commonwealth of Massachusetts | (16) Lump Sums are considered in Indemnity analysis (Section 1) |
| (7) = (6) x (5) / {1 - (5)} | (17) = (15) + (16) |
| (8), (16) From Section 4, Exhibit 2, Page 2, Column 3 | (18) = (15) / (8) |
| (9) = (7) + (8) | (19) From Prior Aon Analysis as of June 30, 2011 |



Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012
Department of Corrections - Cluster 3
Medical

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Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paid	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 =	21
2001	10	18,860	9.845	1.348	S(x) =	42,042
2002	11	1,907	7.553	0.101	S(x-sq) =	84,168,854
2003	12	725	6.586	0.380	S(xy) =	378,882
2004	13	1,808	7.500	2.494	S(y) =	189
2005	14	2,687	7.896	1.486	D =	16,170
2006	15	3,792	8.241	1.411	slope =	0.115
2007	16	10,343	9.244	2.728	Avg Trend =	1.115
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		
				Selected Trend:	0.950	

NOTES:

(3) 2012 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2011

(4) LN [(3)]

(5) Eg. 2012: $0.819 = 74810 / 91392$



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

Section 4
Exhibit 2
Page 7

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
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	142,748	144,456	154,891	160,448	164,749	164,749	164,749	164,749	164,749	164,749
June-84	52,670	137,962	203,703	257,882	317,818	352,402	422,888	501,855	591,716	647,521	689,358	721,711	724,580	728,685	728,693	728,709	728,709	729,143	729,143	730,066	730,414	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		
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			
June-87	77,936	181,278	229,911	293,633	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				
June-88	139,053	319,817	519,537	680,966	823,361	912,703	998,546	1,039,983	1,059,846	1,077,337	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					
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	1,040,186	1,074,102	1,089,934	1,108,376	1,126,325	1,147,403	1,157,458	1,164,985	1,178,930	1,193,712	1,206,048	1,216,929	1,227,147						
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							
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								
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									
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	1,300,910	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											
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											
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												
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													
June-97	404,402	880,944	1,029,045	1,129,661	1,192,806	1,242,248	1,291,581	1,327,755	1,404,699	1,468,293	1,534,845	1,608,334	1,629,854	1,671,824	1,708,017	1,745,451														
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															
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																
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																	
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																		
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																			
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																				
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																					
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																						
June-06	456,471	1,195,789	1,564,242	1,729,098	1,847,555	1,939,187	2,044,654																							
June-07	537,825	1,000,141	1,218,822	1,380,770	1,450,003	1,505,529																								
June-08	539,208	1,080,479	1,291,808	1,419,250	1,474,245																									
June-09	508,581	995,354	1,230,224	1,338,898																										
June-10	391,950	706,776	789,348																											
June-11	496,567	863,714																												
June-12	293,489																													

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	
June-83	2.326	1.428	1.264	1.202	1.175	1.097	1.146	1.288	1.104	1.086	1.054	1.015	1.002	1.019	1.006	1.000	1.002	1.003	1.000	1.000	1.003	1.012	1.072	1.036	1.027	1.000	1.000	1.000	1.000	1.000
June-84	2.477	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	1.001	1.000	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			
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				
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					
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	1.001	1.001				
June-89	3.155	1.389	1.269	1.103	1.046	1.109	1.015	1.027	1.013	1.015	1.027	1.013	1.015	1.017	1.016	1.019	1.009	1.007	1.012	1.013	1.019	1.009	1.008	1.001	1.001					
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	1.001						
June-91	3.984	1.265	1.191	1.078	1.034	1.025	1.014	1.020	1.014	1.029	1.029	1.025	1.024	1.033	1.054	1.025	1.014	1.043	1.017	1.030	1.039									
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										
June-93	2.614	1.178	1.089	1.037	1.018	1.037	1.005	1.016	1.013	1.003	1.001	1.004	1.003	1.006	1.002	1.001	1.001	1.000	1.000											
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												
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													
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														
June-97	2.178	1.168	1.098	1.056	1.041	1.040	1.032	1.054	1.054	1.045	1.048	1.013	1.026	1.022	1.022															
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																
June-99	2.325	1.293	1.104	1.087	1.110	1.087	1.104	1.079	1.087	1.075	1.038	1.036	1.027	1.016																
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																		
June-01	2.099	1.280	1.163	1.222	1.086	1.052	1.036	1.027	1.050	1.029	1.031																			
June-02	2.164	1.247	1.224	1.117	1.043	1.023	1.019	1.025	1.010	1.011																				
June-03	3.463	1.671	1.144	1.073	1.044	1.029	1.028	1.021	1.017																					
June-04	7.678	1.373	1.082	1.038	1.082	1.038	1.047	1.006	1.007																					
June-05	2.924	1.226	1.132	1.071	1.047	1.041	1.030																							
June-06	2.620	1.308	1.105	1.069	1.050	1.054																								
June-07	1.860	1.219	1.133	1.050	1.038																									
June-08	2.004	1.196	1.099	1.039																										
June-09			1.088																											
June-10	1.803	1.117																												
June-11	1.739																													



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012
Department of Corrections - Cluster 3
Medical**

Section 4
Exhibit 2
Page 8

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Accident Year	Ultimate Loss As of 6/11		Ultimate Loss As of 6/12		Change in Ultimate Loss		Change in Ultimate Loss	
					(Dollar)	(Percent)	(Dollar)	(Percent)
	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	1,113,295	1,667,901	1,312,041	2,354,609	198,747	17.9%	686,708	41.2%
6/30/82-83	164,749	173,195	164,749	172,901	0	0.0%	(294)	-0.2%
6/30/83-84	730,414	770,933	730,414	769,623	0	0.0%	(1,310)	-0.2%
6/30/84-85	425,000	431,000	444,000	450,000	19,000	4.5%	19,000	4.4%
6/30/85-86	578,000	582,000	578,000	583,000	0	0.0%	1,000	0.2%
6/30/86-87	674,000	675,000	678,000	678,000	4,000	0.6%	3,000	0.4%
6/30/87-88	1,204,000	1,208,000	1,203,000	1,206,000	(1,000)	-0.1%	(2,000)	-0.2%
6/30/88-89	1,284,000	1,286,000	1,291,000	1,293,000	7,000	0.5%	7,000	0.5%
6/30/89-90	1,966,000	1,969,000	1,964,000	1,966,000	(2,000)	-0.1%	(3,000)	-0.2%
6/30/90-91	2,494,000	2,495,000	2,583,000	2,584,000	89,000	3.6%	89,000	3.6%
6/30/91-92	1,829,000	1,830,000	1,946,000	1,947,000	117,000	6.4%	117,000	6.4%
6/30/92-93	1,454,000	1,455,000	1,448,000	1,449,000	(6,000)	-0.4%	(6,000)	-0.4%
6/30/93-94	1,612,000	1,613,000	1,618,000	1,620,000	6,000	0.4%	7,000	0.4%
6/30/94-95	1,483,000	1,484,000	1,489,000	1,490,000	6,000	0.4%	6,000	0.4%
6/30/95-96	1,639,000	1,641,000	1,651,000	1,653,000	12,000	0.7%	12,000	0.7%
6/30/96-97	1,947,000	1,949,000	1,988,000	1,991,000	41,000	2.1%	42,000	2.2%
6/30/97-98	2,123,000	2,128,000	2,180,000	2,186,000	57,000	2.7%	58,000	2.7%
6/30/98-99	2,111,000	2,114,000	2,124,000	2,127,000	13,000	0.6%	13,000	0.6%
6/30/99-00	2,357,000	2,362,000	2,381,000	2,388,000	24,000	1.0%	26,000	1.1%
6/30/00-01	3,397,000	3,419,000	3,443,000	3,467,000	46,000	1.4%	48,000	1.4%
6/30/01-02	2,316,000	2,316,000	2,302,000	2,304,000	(14,000)	-0.6%	(12,000)	-0.5%
6/30/02-03	2,646,000	2,792,000	2,626,000	2,774,000	(20,000)	-0.8%	(18,000)	-0.6%
6/30/03-04	2,502,000	2,634,000	2,458,000	2,591,000	(44,000)	-1.8%	(43,000)	-1.6%
6/30/04-05	3,129,000	3,307,000	3,076,000	3,275,000	(53,000)	-1.7%	(32,000)	-1.0%
6/30/05-06	2,780,000	2,796,000	2,737,000	2,815,000	(43,000)	-1.5%	19,000	0.7%
6/30/06-07	2,216,000	2,395,000	2,164,000	2,270,000	(52,000)	-2.3%	(125,000)	-5.2%
6/30/07-08	2,371,000	2,784,000	2,243,000	2,539,000	(128,000)	-5.4%	(245,000)	-8.8%
6/30/08-09	2,217,000	2,768,000	2,111,000	2,514,000	(106,000)	-4.8%	(254,000)	-9.2%
6/30/09-10	1,854,000	2,763,000	1,559,000	2,241,000	(295,000)	-15.9%	(522,000)	-18.9%
6/30/10-11	3,063,000	3,418,000	2,021,000	2,845,500	(1,042,000)	-34.0%	(572,500)	-16.7%
6/30/11-12								
Total	55,679,458	59,226,030	54,513,204	58,543,633	(1,166,253)	-2.1%	(682,397)	-1.2%

NOTES:

- (2), (3) From Aon analysis as of June 30, 2011
 (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



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 4

Exhibit 2

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**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%
372	100.0%	2.8%	0.0%	0.8%	0.5%	1.000	1.000
360	97.2%	0.4%	2.8%	0.1%	0.1%	0.981	0.971
348	96.8%	0.4%	3.2%	0.1%	0.1%	0.947	0.923
336	96.4%	0.4%	3.6%	0.1%	0.1%	0.918	0.882
324	96.0%	0.4%	4.0%	0.1%	0.1%	0.893	0.845
312	95.7%	0.4%	4.3%	0.1%	0.1%	0.869	0.813
300	95.3%	0.4%	4.7%	0.1%	0.1%	0.847	0.783
288	94.9%	0.5%	5.1%	0.2%	0.1%	0.827	0.756
276	94.4%	0.5%	5.6%	0.2%	0.1%	0.811	0.735
264	93.9%	0.5%	6.1%	0.2%	0.1%	0.795	0.715
252	93.5%	2.1%	6.5%	0.9%	0.6%	0.780	0.696
240	91.4%	1.3%	8.6%	0.6%	0.4%	0.807	0.734
228	90.0%	1.2%	10.0%	0.6%	0.4%	0.803	0.729
216	88.8%	0.7%	11.2%	0.4%	0.3%	0.795	0.719
204	88.1%	0.4%	11.9%	0.2%	0.2%	0.777	0.696
192	87.7%	0.8%	12.3%	0.4%	0.3%	0.755	0.667
180	86.9%	1.3%	13.1%	0.8%	0.6%	0.741	0.650
168	85.6%	1.7%	14.4%	1.0%	0.8%	0.738	0.646
156	83.9%	1.4%	16.1%	0.9%	0.7%	0.737	0.647
144	82.5%	2.2%	17.5%	1.4%	1.1%	0.731	0.639
132	80.3%	1.6%	19.7%	1.1%	0.9%	0.733	0.644
120	78.7%	2.0%	21.3%	1.4%	1.1%	0.726	0.634
108	76.8%	1.5%	23.2%	1.1%	0.9%	0.722	0.630
96	75.2%	2.6%	24.8%	1.9%	1.7%	0.712	0.618
84	72.6%	3.1%	27.4%	2.4%	2.1%	0.712	0.620
72	69.6%	3.9%	30.4%	3.1%	2.8%	0.715	0.624
60	65.7%	5.5%	34.3%	4.6%	4.2%	0.720	0.631
48	60.3%	7.1%	39.7%	6.2%	5.8%	0.732	0.647
36	53.2%	12.6%	46.8%	11.4%	10.9%	0.746	0.665
24	40.6%	24.8%	59.4%	23.4%	22.7%	0.773	0.700
12	15.8%	15.8%	84.2%	15.5%	15.3%	0.813	0.752
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
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Department of Corrections - Cluster 3
Medical**

Section 4
Exhibit 2
Page 10

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident Year	Undiscounted Outstanding Losses		Discount Factor at 4.0%	Discounted Outstanding Losses	
	(Low)	(High)		(Low)	(High)
All Prior Yrs	729,771	1,772,339		688,562	1,672,257
6/30/82-83	0	8,152	0.981	0	7,994
6/30/83-84	0	39,209	0.947	0	37,148
6/30/84-85	9,692	15,692	0.918	8,902	14,413
6/30/85-86	18,232	23,232	0.893	16,274	20,737
6/30/86-87	29,729	29,729	0.869	25,836	25,836
6/30/87-88	57,259	60,259	0.847	48,515	51,057
6/30/88-89	63,853	65,853	0.827	52,808	54,462
6/30/89-90	107,548	109,548	0.811	87,209	88,831
6/30/90-91	155,269	156,269	0.795	123,484	124,280
6/30/91-92	126,091	127,091	0.780	98,374	99,154
6/30/92-93	124,325	125,325	0.807	100,286	101,093
6/30/93-94	159,492	161,492	0.803	128,036	129,641
6/30/94-95	165,565	166,565	0.795	131,608	132,403
6/30/95-96	194,725	196,725	0.777	151,348	152,902
6/30/96-97	242,549	245,549	0.755	183,244	185,510
6/30/97-98	279,890	285,890	0.741	207,485	211,932
6/30/98-99	303,882	306,882	0.738	224,121	226,333
6/30/99-00	377,543	384,543	0.737	278,394	283,556
6/30/00-01	582,911	606,911	0.731	426,002	443,542
6/30/01-02	450,829	452,829	0.733	330,573	332,040
6/30/02-03	441,539	589,539	0.726	320,405	427,802
6/30/03-04	469,260	602,260	0.722	338,764	434,778
6/30/04-05	611,740	810,740	0.712	435,390	577,023
6/30/05-06	692,346	770,346	0.712	493,287	548,861
6/30/06-07	658,471	764,471	0.715	470,685	546,455
6/30/07-08	768,755	1,064,755	0.720	553,779	767,005
6/30/08-09	772,102	1,175,102	0.732	565,346	860,429
6/30/09-10	769,652	1,451,652	0.746	574,034	1,082,694
6/30/10-11	1,157,287	1,981,787	0.773	894,532	1,531,834
6/30/11-12	1,657,511	2,910,061	0.813	1,347,762	2,366,240
Total	12,177,817	17,460,796		9,305,040	13,538,239
(7) Total Discount Factor:				0.764	0.775
				Discount Calculation for All Prior Years	
				(Low)	(High)
(8) Estimated Total Reserve:				729,771	1,772,339
(9) Projected Number of Years:				3	3
(10) Projected Paid Loss per Year:				243,257	590,780
(11) Discounted Value at 4%:				688,562	1,672,257

NOTES:

(2), (3) From Section 4, Exhibit 2, Page 1, Columns 8, 9

(4) From Section 4, Exhibit 2, Page 9, Column 7

$$(5) = (2) \times (4)$$
$$(6) = (3) \times (4)$$

(7) = Sum of (5) / Sum of (2) and Sum of (6) / Sum of (3)

$$(10) = (8) / (9)$$



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012
Department of Corrections - Cluster 3
Medical**

Section 4
Exhibit 2
Page 11

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident Year	Undiscounted Outstanding Losses (Low)	Undiscounted Outstanding Losses (High)	Discount Factor at 6.0%	Discounted Outstanding Losses (Low)	Discounted Outstanding Losses (High)
All Prior Yrs	729,771	1,772,339		669,736	1,626,536
6/30/82-83	0	8,152	0.971	0	7,918
6/30/83-84	0	39,209	0.923	0	36,189
6/30/84-85	9,692	15,692	0.882	8,544	13,833
6/30/85-86	18,232	23,232	0.845	15,409	19,635
6/30/86-87	29,729	29,729	0.813	24,159	24,159
6/30/87-88	57,259	60,259	0.783	44,841	47,191
6/30/88-89	63,853	65,853	0.756	48,278	49,790
6/30/89-90	107,548	109,548	0.735	79,058	80,528
6/30/90-91	155,269	156,269	0.715	111,025	111,740
6/30/91-92	126,091	127,091	0.696	87,740	88,436
6/30/92-93	124,325	125,325	0.734	91,207	91,941
6/30/93-94	159,492	161,492	0.729	116,283	117,741
6/30/94-95	165,565	166,565	0.719	119,052	119,771
6/30/95-96	194,725	196,725	0.696	135,499	136,891
6/30/96-97	242,549	245,549	0.667	161,891	163,893
6/30/97-98	279,890	285,890	0.650	181,836	185,734
6/30/98-99	303,882	306,882	0.646	196,306	198,244
6/30/99-00	377,543	384,543	0.647	244,291	248,821
6/30/00-01	582,911	606,911	0.639	372,709	388,055
6/30/01-02	450,829	452,829	0.644	290,182	291,470
6/30/02-03	441,539	589,539	0.634	280,135	374,034
6/30/03-04	469,260	602,260	0.630	295,815	379,656
6/30/04-05	611,740	810,740	0.618	377,942	500,887
6/30/05-06	692,346	770,346	0.620	429,074	477,413
6/30/06-07	658,471	764,471	0.624	410,596	476,694
6/30/07-08	768,755	1,064,755	0.631	485,402	672,300
6/30/08-09	772,102	1,175,102	0.647	499,770	760,626
6/30/09-10	769,652	1,451,652	0.665	511,924	965,547
6/30/10-11	1,157,287	1,981,787	0.700	810,470	1,387,884
6/30/11-12	1,657,511	2,910,061	0.752	1,246,693	2,188,795
Total	12,177,817	17,460,796		8,345,866	12,232,349
(7) Total Discount Factor:				0.685	0.701
Discount Calculation for All Prior Years					
				(Low)	(High)
(8) Estimated Total Reserve:				729,771	1,772,339
(9) Projected Number of Years:				3	3
(10) Projected Paid Loss per Year:				243,257	590,780
(11) Discounted Value at 6%:				669,736	1,626,536

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, 2011**

University of Massachusetts (Amherst) - Cluster 4

Indemnity

Section 5
Exhibit 1
Page 1

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		2,098,860			2,492,484	2,614,353	393,624	515,493		
6/30/82-83		134,406	136,792		138,000	140,000	3,594	5,594		
6/30/83-84		188,031	190,881		192,000	196,000	3,969	7,969		
6/30/84-85	176,924	1,782,901	2,167,723	1,810,180	1,810,000	2,168,000	27,099	385,099	1.023	1.225
6/30/85-86	188,662	1,624,227	2,225,064	1,644,826	1,645,000	1,934,945	20,773	310,718	0.872	1.026
6/30/86-87	212,277	2,286,636	3,148,506	2,317,293	2,317,000	3,149,000	30,364	862,364	1.092	1.483
6/30/87-88	243,118	2,057,591	2,092,545	2,091,556	2,092,000	2,093,000	34,409	35,409	0.860	0.861
6/30/88-89	248,990	1,802,395	1,842,009	1,842,149	1,842,000	1,842,000	39,605	39,605	0.740	0.740
6/30/89-90	250,404	522,038	537,628	544,561	538,000	545,000	15,962	22,962	0.215	0.218
6/30/90-91	235,170	2,242,794	2,365,772	2,364,826	2,365,000	2,366,000	122,206	123,206	1.006	1.006
6/30/91-92	235,607	2,373,362	2,787,600	2,571,849	2,572,000	2,788,000	198,638	414,638	1.092	1.183
6/30/92-93	241,161	450,365	482,627	482,847	455,000	473,000	4,635	22,635	0.189	0.196
6/30/93-94	254,321	710,933	920,492	802,642	719,000	747,000	8,067	36,067	0.283	0.294
6/30/94-95	256,665	761,806	860,739	858,757	770,000	800,000	8,194	38,194	0.300	0.312
6/30/95-96	265,739	591,722	679,914	678,869	598,000	622,000	6,278	30,278	0.225	0.234
6/30/96-97	296,336	512,528	613,105	612,326	518,000	539,000	5,473	26,473	0.175	0.182
6/30/97-98	296,982	463,804	541,872	543,737	469,000	487,000	5,196	23,196	0.158	0.164
6/30/98-99	299,530	670,669	803,154	801,638	802,000	803,000	131,331	132,331	0.268	0.268
6/30/99-00	323,627	1,216,150	1,540,149	1,521,899	1,522,000	1,540,000	305,850	323,850	0.470	0.476
6/30/00-01	338,348	1,284,014	1,648,739	1,628,169	1,628,000	1,649,000	343,986	364,986	0.481	0.487
6/30/01-02	329,555	775,125	983,288	979,131	979,000	983,000	203,875	207,875	0.297	0.298
6/30/02-03	329,179	759,940	981,231	976,972	977,000	981,000	217,060	221,060	0.297	0.298
6/30/03-04	344,547	268,295	357,051	366,991	357,000	367,000	88,705	98,705	0.104	0.107
6/30/04-05	325,530	624,705	837,709	828,577	829,000	838,000	204,295	213,295	0.255	0.257
6/30/05-06	403,750	353,027	493,795	609,868	494,000	610,000	140,973	256,973	0.122	0.151
6/30/06-07	420,219	439,328	634,416	742,356	634,000	742,000	194,672	302,672	0.151	0.177
6/30/07-08	425,998	367,025	580,305	708,294	580,000	708,000	212,975	340,975	0.136	0.166
6/30/08-09	420,566	647,624	1,267,275	1,224,336	1,224,000	1,267,000	576,376	619,376	0.291	0.301
6/30/09-10	433,206	373,835	1,091,389	1,236,652	1,091,000	1,237,000	717,165	863,165	0.252	0.286
6/30/10-11	444,673	361,140	1,166,402	1,101,228	1,101,000	1,166,000	739,860	804,860	0.248	0.262
6/30/11-12	467,753	198,403	1,411,063	1,230,023	1,230,000	1,411,000	1,031,597	1,212,597	0.263	0.302
Total	8,708,837	28,943,679	35,389,231	33,122,553	34,980,484	37,806,298	6,036,805	8,862,619		
Tot 6/30/84-12	8,708,837	26,522,382	35,061,559	33,122,553	32,158,000	34,855,945	5,635,618	8,333,563	0.369	0.400

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, 2011**

**University of Massachusetts (Amherst) - Cluster 4
Indemnity**

Section 5
Exhibit 1
Page 2

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 7/1/10-11	Paid Counts 7/1/11-12	Average Outstanding Claim	Average Age
All Prior Yrs		2,010,820							1	1		77
6/30/82-83		134,406	1.018	1.000	136,792	0	136,792		0	0		
6/30/83-84		160,531	1.018	1.000	163,381	27,500	190,881		0	0		
6/30/84-85	176,924	1,738,901	1.018	1.200	2,123,723	44,000	2,167,723	1.225	1	1	384,822	73
6/30/85-86	188,662	1,414,227	1.018	1.400	2,015,064	210,000	2,225,064	1.179	1	0		
6/30/86-87	212,277	2,028,636	1.018	1.400	2,890,506	258,000	3,148,506	1.483	1	1	861,870	61
6/30/87-88	243,118	1,969,091	1.018	1.000	2,004,045	88,500	2,092,545	0.861	1	1	34,954	62
6/30/88-89	248,990	1,734,395	1.023	1.000	1,774,009	68,000	1,842,009	0.740	1	1	39,614	63
6/30/89-90	250,404	471,448	1.033	1.000	487,038	50,590	537,628	0.215	0	0		
6/30/90-91	235,170	2,034,294	1.060	1.000	2,157,272	208,500	2,365,772	1.006	1	1	122,979	73
6/30/91-92	235,607	2,124,362	1.086	1.100	2,538,600	249,000	2,787,600	1.183	1	1	414,238	71
6/30/92-93	241,161	292,355	1.110	1.000	324,617	158,010	482,627	0.200	0	0		
6/30/93-94	254,321	580,633	1.134	1.200	790,192	130,300	920,492	0.362	0	0		
6/30/94-95	256,665	624,606	1.158	1.000	723,539	137,200	860,739	0.335	0	0		
6/30/95-96	265,739	475,722	1.185	1.000	563,914	116,000	679,914	0.256	0	0		
6/30/96-97	296,336	472,528	1.213	1.000	573,105	40,000	613,105	0.207	0	1	100,577	65
6/30/97-98	296,982	320,304	1.241	1.000	397,654	144,218	541,872	0.182	0	0		
6/30/98-99	299,530	477,169	1.273	1.000	607,405	195,748	803,154	0.268	0	1	130,236	63
6/30/99-00	323,627	1,036,650	1.308	1.000	1,355,895	184,253	1,540,149	0.476	0	0		
6/30/00-01	338,348	1,114,014	1.320	1.000	1,470,875	177,864	1,648,739	0.487	1	1	356,861	50
6/30/01-02	329,555	582,625	1.342	1.000	781,968	201,320	983,288	0.298	0	1	199,343	62
6/30/02-03	329,179	569,968	1.367	1.000	779,073	202,158	981,231	0.298	1	1	209,105	49
6/30/03-04	344,547	212,295	1.390	1.000	295,076	61,974	357,051	0.104	0	0		
6/30/04-05	325,530	457,755	1.417	1.000	648,482	189,227	837,709	0.257	2	1	190,726	60
6/30/05-06	403,750	276,027	1.452	1.000	400,747	93,048	493,795	0.122	0	0		
6/30/06-07	420,219	324,328	1.471	1.000	477,234	157,181	634,416	0.151	2	1	152,906	39
6/30/07-08	425,998	304,525	1.537	1.000	468,020	112,285	580,305	0.136	2	2	81,747	41
6/30/08-09	420,566	555,124	1.691	1.000	938,488	328,786	1,267,275	0.301	10	6	63,894	57
6/30/09-10	433,206	286,244	1.992	1.000	570,058	521,331	1,091,389	0.252	18	9	31,535	51
6/30/10-11	444,673	361,140	2.731	1.000	986,286	180,116	1,166,402	0.262	55	15	41,676	50
6/30/11-12	467,753	198,403	5.817	1.000	1,154,130	256,933	1,411,063	0.302		64	14,933	45
Total	8,708,837	25,343,526			30,597,188	4,792,043	35,389,231		99	110		

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, 2011**

Section 5
Exhibit 1
Page 3

**University of Massachusetts (Amherst) - Cluster 4
Indemnity**

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident	Payroll	A Priori	Paid Loss		Ultimate Loss	Est Ult	Ultimate Loss	Ultimate	Ultimate Loss
Year	(000's)	Loss	Excluding	Paid	Excluding	Lump Sum	Including	Loss	Cost Excluding
		Rate	Lump Sum	LDF	Lump Sum	Payments	Lump Sum	Cost	Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	176,924	0.884	1,738,901	1.018	1,766,180	44,000	1,810,180	1.023	0.998
6/30/85-86	188,662	0.626	1,414,227	1.018	1,434,826	210,000	1,644,826	0.872	0.761
6/30/86-87	212,277	0.828	2,028,636	1.018	2,059,293	258,000	2,317,293	1.092	0.970
6/30/87-88	243,118	0.801	1,969,091	1.018	2,003,056	88,500	2,091,556	0.860	0.824
6/30/88-89	248,990	0.715	1,734,395	1.023	1,774,149	68,000	1,842,149	0.740	0.713
6/30/89-90	250,404	0.281	471,448	1.033	493,971	50,590	544,561	0.217	0.197
6/30/90-91	235,170	0.910	2,034,294	1.060	2,156,326	208,500	2,364,826	1.006	0.917
6/30/91-92	235,607	1.060	2,124,362	1.086	2,322,849	249,000	2,571,849	1.092	0.986
6/30/92-93	241,161	0.136	292,355	1.110	324,837	158,010	482,847	0.200	0.135
6/30/93-94	254,321	0.305	580,633	1.134	672,342	130,300	802,642	0.316	0.264
6/30/94-95	256,665	0.276	624,606	1.158	721,557	137,200	858,757	0.335	0.281
6/30/95-96	265,739	0.210	475,722	1.185	562,869	116,000	678,869	0.255	0.212
6/30/96-97	296,336	0.192	472,528	1.213	572,326	40,000	612,326	0.207	0.193
6/30/97-98	296,982	0.137	320,304	1.241	399,519	144,218	543,737	0.183	0.135
6/30/98-99	299,530	0.200	477,169	1.273	605,890	195,748	801,638	0.268	0.202
6/30/99-00	323,627	0.395	1,036,650	1.308	1,337,645	184,253	1,521,899	0.470	0.413
6/30/00-01	338,348	0.410	1,114,014	1.320	1,450,305	177,864	1,628,169	0.481	0.429
6/30/01-02	329,555	0.232	582,625	1.342	777,811	201,320	979,131	0.297	0.236
6/30/02-03	329,179	0.232	569,968	1.367	774,815	202,158	976,972	0.297	0.235
6/30/03-04	344,547	0.096	212,295	1.390	305,016	61,974	366,991	0.107	0.089
6/30/04-05	325,530	0.190	457,755	1.417	639,350	189,227	828,577	0.255	0.196
6/30/05-06	403,750	0.192	276,027	1.452	516,820	93,048	609,868	0.151	0.128
6/30/06-07	420,219	0.194	324,328	1.471	585,175	157,181	742,356	0.177	0.139
6/30/07-08	425,998	0.196	304,525	1.537	596,009	112,285	708,294	0.166	0.140
6/30/08-09	420,566	0.198	555,124	1.691	895,550	328,786	1,224,336	0.291	0.213
6/30/09-10	433,206	0.199	286,244	1.992	715,321	521,331	1,236,652	0.285	0.165
6/30/10-11	444,673	0.199	361,140	2.731	921,112	180,116	1,101,228	0.248	0.207
6/30/11-12	467,753	0.200	198,403	5.817	973,090	256,933	1,230,023	0.263	0.208
Total	8,708,837		23,037,769		28,358,010	4,764,543	33,122,553		

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, 2011

University of Massachusetts (Amherst) - Cluster 4

Indemnity

Calculation of Initial Expected Loss Rate

Section 5

Exhibit 1

Page 4

(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	2,157,272	0.917	0.946	0.868	1.000	0.868	0.211	0.923	0.910
6/30/91-92	235,607	2,538,600	1.077	1.038	1.118	1.000	1.118	0.193	1.076	1.060
6/30/92-93	241,161	324,617	0.135	1.210	0.163	1.000	0.163	0.165	0.139	0.136
6/30/93-94	254,321	790,192	0.311	1.195	0.371	1.000	0.371	0.167	0.314	0.305
6/30/94-95	256,665	723,539	0.282	1.184	0.334	1.000	0.334	0.169	0.285	0.276
6/30/95-96	265,739	563,914	0.212	1.174	0.249	1.000	0.249	0.170	0.216	0.210
6/30/96-97	296,336	573,105	0.193	1.163	0.225	1.000	0.225	0.172	0.198	0.192
6/30/97-98	296,982	397,654	0.134	1.148	0.154	1.000	0.154	0.174	0.142	0.137
6/30/98-99	299,530	607,405	0.203	1.133	0.230	1.000	0.230	0.177	0.208	0.200
6/30/99-00	323,627	1,355,895	0.419	1.114	0.467	1.000	0.467	0.179	0.404	0.395
6/30/00-01	338,348	1,470,875	0.435	1.086	0.472	1.000	0.472	0.184	0.409	0.410
6/30/01-02	329,555	781,968	0.237	1.065	0.253	1.000	0.253	0.188	0.238	0.232
6/30/02-03	329,179	779,073	0.237	1.061	0.251	1.000	0.251	0.188	0.227	0.232
6/30/03-04	344,547	295,076	0.086	1.061	0.091	1.000	0.091	0.188	0.099	0.096
6/30/04-05	325,530	648,482	0.199	1.054	0.210	1.000	0.210	0.190	0.190	0.190
6/30/05-06	403,750	400,747	0.099	1.044	0.104	1.000	0.104	0.192	0.192	0.192
6/30/06-07	420,219	477,234	0.114	1.032	0.117	1.000	0.117	0.194	0.194	0.194
6/30/07-08	425,998	468,020	0.110	1.021	0.112	1.000	0.112	0.196	0.196	0.196
6/30/08-09	420,566	938,488	0.223	1.009	0.225	1.000	0.225	0.198	0.198	0.198
6/30/09-10	433,206	570,058	0.132	1.005	0.132	1.000	0.132	0.199	0.199	0.199
6/30/10-11	444,673	986,286	0.222	1.007	0.223	1.000	0.223	0.199	0.200	0.199
6/30/11-12	467,753	1,154,130	0.247	1.000	0.247	1.000	0.247	0.200		0.200
Total	7,388,463	19,002,631								
Trend Last 4 (ex 11-12):					16.6%	Avg 3 (x11-12):	0.194			
Trend Last 8 (ex 11-12):					7.7%	Avg 5 (x11-12):	0.162			
Trend Last 12 (ex 11-12):					-8.2%	Avg 10 (x11-12):	0.172			
Prior Selected Trend:					0.0%	Prior Sel Avg:	0.200			
Selected Trend:					0.0%	Sel. Loss Cost:	0.200			

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, 2011

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



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2011**

Section 5
Exhibit 1
Page 5

**University of Massachusetts (Amherst) - Cluster 4
Indemnity**

Calculation of 1982 & Prior Reserves (Page 1)

Method 1			
(1)	Average Payment Trend	0.940	
(2)	Credibility	15%	
(3)	Average Pmt Trend Statewide	0.960	
(4)	Credibility Weighted Trend	0.957	
		(Low)	(High)
(5)	Selected Range	0.947	0.976
(6)	Incremental Paid for 2012	32,723	32,723
(7)	Estimated Reserve	590,236	1,341,224
(8)	Paid to Date (82 & Prior)	2,010,820	2,010,820
(9)	Est Ult Paid for 1982 & Prior	2,601,056	3,352,044

Method 2			
		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	32,835	32,389
(11)	Projected Number of Years	6	6
(12)	Estimated Reserve	197,012	194,331
(13)	Paid to Date (82 & Prior)	2,010,820	1,978,098
(14)	Est Ult Paid for 1982 & Prior	2,207,832	2,172,429
(14a)	Paid Counts During Fiscal Year	1	1
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	2,404,444	2,526,313
(16)	Lump Sum Ultimates	88,040	88,040
(17)	Ult Loss Including Lump Sums	2,492,484	2,614,353
(18)	Implied Tail	1.196	1.256
(19)	Ult Loss Inc Lump Sums @ 6/11	2,448,480	2,568,345

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, 2011



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2011**

Section 5
Exhibit 1
Page 6

**University of Massachusetts (Amherst) - Cluster 4
Indemnity**

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paid	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 =	21
2001	10	69,462	11.149	1.066	S(x) =	42,042
2002	11	72,621	11.193	1.045	S(x-sq) =	84,168,854
2003	12	73,534	11.206	1.013	S(xy) =	462,447
2004	13	73,411	11.204	0.998	S(y) =	231
2005	14	77,899	11.263	1.061	D =	16,170
2006	15	44,021	10.692	0.565	slope =	-0.067
2007	16	28,745	10.266	0.653	Avg Trend =	0.933
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		
				Selected Trend:	0.940	

NOTES:

(3) 2012 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2011

(4) LN [(3)]

(5) Eg. 2012: 1.034 = 32723 / 31644

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**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2011**

Section 5
Exhibit 1
Page 8

University of Massachusetts (Amherst) - Cluster 4

Indemnity

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Accident Year	Ultimate Loss As of 6/11		Ultimate Loss As of 6/12		Change in Ultimate Loss		Change in Ultimate Loss	
					(Dollar)	(Percent)	(Dollar)	(Percent)
	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	2,448,480	2,568,345	2,492,484	2,614,353	44,005	1.8%	46,009	1.8%
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	1,761,000	2,108,000	1,810,000	2,168,000	49,000	2.8%	60,000	2.8%
6/30/85-86	1,647,000	1,937,325	1,645,000	1,934,945	(2,000)	-0.1%	(2,380)	-0.1%
6/30/86-87	2,288,000	3,108,000	2,317,000	3,149,000	29,000	1.3%	41,000	1.3%
6/30/87-88	2,068,000	2,069,000	2,092,000	2,093,000	24,000	1.2%	24,000	1.2%
6/30/88-89	1,829,000	1,830,000	1,842,000	1,842,000	13,000	0.7%	12,000	0.7%
6/30/89-90	552,000	564,000	538,000	545,000	(14,000)	-2.5%	(19,000)	-3.4%
6/30/90-91	2,394,000	2,396,000	2,365,000	2,366,000	(29,000)	-1.2%	(30,000)	-1.3%
6/30/91-92	2,612,000	2,826,000	2,572,000	2,788,000	(40,000)	-1.5%	(38,000)	-1.3%
6/30/92-93	492,000	492,000	455,000	473,000	(37,000)	-7.5%	(19,000)	-3.9%
6/30/93-94	826,000	944,000	719,000	747,000	(107,000)	-13.0%	(197,000)	-20.9%
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	827,000	829,000	802,000	803,000	(25,000)	-3.0%	(26,000)	-3.1%
6/30/99-00	1,554,000	1,574,000	1,522,000	1,540,000	(32,000)	-2.1%	(34,000)	-2.2%
6/30/00-01	1,630,000	1,652,000	1,628,000	1,649,000	(2,000)	-0.1%	(3,000)	-0.2%
6/30/01-02	1,001,000	1,006,000	979,000	983,000	(22,000)	-2.2%	(23,000)	-2.3%
6/30/02-03	964,000	968,000	977,000	981,000	13,000	1.3%	13,000	1.3%
6/30/03-04	371,000	381,000	357,000	367,000	(14,000)	-3.8%	(14,000)	-3.7%
6/30/04-05	843,000	863,000	829,000	838,000	(14,000)	-1.7%	(25,000)	-2.9%
6/30/05-06	528,000	649,000	494,000	610,000	(34,000)	-6.4%	(39,000)	-6.0%
6/30/06-07	681,000	795,000	634,000	742,000	(47,000)	-6.9%	(53,000)	-6.7%
6/30/07-08	739,000	880,000	580,000	708,000	(159,000)	-21.5%	(172,000)	-19.5%
6/30/08-09	1,323,000	1,419,000	1,224,000	1,267,000	(99,000)	-7.5%	(152,000)	-10.7%
6/30/09-10	1,021,000	1,163,000	1,091,000	1,237,000	70,000	6.9%	74,000	6.4%
6/30/10-11	1,240,000	1,528,000	1,101,000	1,166,000	(139,000)	-11.2%	(362,000)	-23.7%
6/30/11-12								
Total	34,324,480	37,333,670	33,750,484	36,395,298	(573,995)	-1.7%	(938,372)	-2.5%

NOTES:

(2), (3) From Aon analysis as of June 30, 2011

(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, 2011
University of Massachusetts (Amherst) - Cluster 4
Indemnity
Calculation of Ultimate Lump Sum Payments

Section 5
Exhibit 1
Page 9

(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	2,010,820	1.226	2,465,379	0.0%	0.0%	0	88,040	88,040	3.6%	1.000	88,040	88,040	88,040
6/30/82-83	134,406	1.018	136,792	0.0%	0.0%	0	0	0	0.0%	1.000	0	0	0
6/30/83-84	160,531	1.018	163,381	0.0%	0.0%	0	27,500	27,500	16.8%	1.000	27,500	27,500	27,500
6/30/84-85	1,738,901	1.221	2,123,723	0.0%	0.0%	0	44,000	44,000	2.1%	1.000	44,000	44,000	44,000
6/30/85-86	1,414,227	1.425	2,015,064	0.0%	0.0%	0	210,000	210,000	10.4%	1.000	210,000	210,000	210,000
6/30/86-87	2,028,636	1.425	2,890,506	0.0%	0.0%	0	258,000	258,000	8.9%	1.000	258,000	258,000	258,000
6/30/87-88	1,969,091	1.018	2,004,045	0.0%	0.0%	0	88,500	88,500	4.4%	1.000	88,500	88,500	88,500
6/30/88-89	1,734,395	1.023	1,774,009	0.0%	0.0%	0	68,000	68,000	3.8%	1.000	68,000	68,000	68,000
6/30/89-90	471,448	1.033	487,038	0.0%	0.0%	0	50,590	50,590	10.4%	1.000	50,590	50,590	50,590
6/30/90-91	2,034,294	1.060	2,157,272	0.0%	0.0%	0	208,500	208,500	9.7%	1.000	208,500	208,500	208,500
6/30/91-92	2,124,362	1.195	2,538,600	0.0%	0.0%	0	249,000	249,000	9.8%	1.000	249,000	249,000	249,000
6/30/92-93	292,355	1.110	324,617	0.0%	0.0%	0	158,010	158,010	48.7%	1.000	158,010	158,010	158,010
6/30/93-94	580,633	1.361	790,192	0.0%	0.0%	0	130,300	130,300	16.5%	1.000	130,300	130,300	130,300
6/30/94-95	624,606	1.158	723,539	0.0%	0.0%	0	137,200	137,200	19.0%	1.000	137,200	137,200	137,200
6/30/95-96	475,722	1.185	563,914	0.0%	0.0%	0	116,000	116,000	20.6%	1.000	116,000	116,000	116,000
6/30/96-97	472,528	1.213	573,105	0.0%	0.0%	0	40,000	40,000	7.0%	1.000	40,000	40,000	40,200
6/30/97-98	320,304	1.241	397,654	0.0%	0.0%	0	143,500	143,500	36.1%	1.010	144,935	144,218	145,148
6/30/98-99	477,169	1.273	607,405	0.1%	0.1%	607	193,500	194,107	32.0%	1.020	197,389	195,748	197,379
6/30/99-00	1,036,650	1.308	1,355,895	0.2%	0.3%	4,068	179,500	183,568	13.5%	1.030	184,939	184,253	187,305
6/30/00-01	1,114,014	1.320	1,470,875	0.3%	0.6%	8,825	170,000	178,825	12.2%	1.041	176,903	177,864	181,687
6/30/01-02	582,625	1.342	781,968	0.4%	1.0%	7,820	192,500	200,320	25.6%	1.051	202,319	201,320	204,937
6/30/02-03	569,968	1.367	779,073	0.5%	1.5%	11,686	189,972	201,658	25.9%	1.067	202,657	202,158	207,878
6/30/03-04	212,295	1.390	295,076	0.7%	2.2%	6,492	56,000	62,492	21.2%	1.097	61,457	61,974	64,877
6/30/04-05	457,755	1.417	648,482	0.7%	2.9%	18,806	166,950	185,756	28.6%	1.154	192,698	189,227	185,102
6/30/05-06	276,027	1.452	400,747	0.8%	3.7%	14,828	77,000	91,828	22.9%	1.224	94,269	93,048	108,115
6/30/06-07	324,328	1.471	477,234	1.0%	4.7%	22,443	115,000	137,443	28.8%	1.538	176,919	157,181	172,071
6/30/07-08	304,525	1.537	468,020	3.4%	8.1%	37,794	62,500	100,294	21.4%	1.988	124,276	112,285	232,022
6/30/08-09	555,124	1.691	938,488	2.8%	10.9%	102,007	92,500	194,507	20.7%	5.006	463,065	328,786	401,539
6/30/09-10	286,244	1.992	570,058	4.5%	15.4%	87,614	87,591	175,205	30.7%	9.904	867,457	521,331	379,421
6/30/10-11	361,140	2.731	986,286	2.9%	18.3%	180,116	0	180,116	18.3%	27.568	0	180,116	293,899
6/30/11-12	198,403	5.817	1,154,130	4.0%	22.3%	256,933	0	256,933	22.3%	27.568	0	256,933	
Total	25,343,526		33,062,567			760,039	3,600,153	4,360,192	13.2%		4,962,924	4,880,083	4,835,222

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, 2011

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

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[illegible]

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**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2011**

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**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%
372	100.0%	1.7%	0.0%	0.5%	0.3%	1.000	1.000
360	98.3%	0.0%	1.7%	0.0%	0.0%	0.981	0.971
348	98.3%	0.0%	1.7%	0.0%	0.0%	0.943	0.916
336	98.3%	0.0%	1.7%	0.0%	0.0%	0.907	0.864
324	98.3%	0.0%	1.7%	0.0%	0.0%	0.872	0.816
312	98.3%	0.0%	1.7%	0.0%	0.0%	0.838	0.769
300	98.3%	0.5%	1.7%	0.2%	0.1%	0.806	0.726
288	97.8%	1.0%	2.2%	0.4%	0.2%	0.820	0.747
276	96.8%	2.5%	3.2%	1.0%	0.7%	0.847	0.786
264	94.3%	2.2%	5.7%	1.0%	0.6%	0.887	0.842
252	92.1%	2.0%	7.9%	0.9%	0.6%	0.889	0.844
240	90.1%	1.9%	9.9%	0.9%	0.6%	0.880	0.832
228	88.2%	1.8%	11.8%	0.9%	0.6%	0.868	0.814
216	86.3%	2.0%	13.7%	1.0%	0.7%	0.854	0.796
204	84.4%	1.9%	15.6%	1.0%	0.7%	0.841	0.778
192	82.5%	1.9%	17.5%	1.0%	0.8%	0.828	0.760
180	80.5%	2.0%	19.5%	1.1%	0.9%	0.814	0.742
168	78.6%	2.1%	21.4%	1.2%	1.0%	0.801	0.725
156	76.5%	0.7%	23.5%	0.4%	0.3%	0.789	0.710
144	75.7%	1.2%	24.3%	0.8%	0.6%	0.765	0.678
132	74.5%	1.3%	25.5%	0.9%	0.7%	0.747	0.656
120	73.2%	1.2%	26.8%	0.8%	0.7%	0.732	0.637
108	71.9%	1.4%	28.1%	1.0%	0.8%	0.716	0.617
96	70.6%	1.7%	29.4%	1.3%	1.1%	0.702	0.600
84	68.9%	0.9%	31.1%	0.7%	0.6%	0.692	0.588
72	68.0%	2.9%	32.0%	2.3%	2.1%	0.674	0.567
60	65.1%	5.9%	34.9%	5.0%	4.6%	0.676	0.571
48	59.2%	8.9%	40.8%	7.8%	7.3%	0.698	0.601
36	50.2%	13.6%	49.8%	12.3%	11.8%	0.726	0.640
24	36.6%	19.4%	63.4%	18.3%	17.8%	0.759	0.682
12	17.2%	17.2%	82.8%	16.9%	16.7%	0.789	0.721
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)



Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2011

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University of Massachusetts (Amherst) - Cluster 4

Indemnity

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	393,624	515,493		350,783	459,388
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	27,099	385,099	0.907	24,568	349,131
6/30/85-86	20,773	310,718	0.872	18,109	270,863
6/30/86-87	30,364	862,364	0.838	25,451	722,837
6/30/87-88	34,409	35,409	0.806	27,733	28,539
6/30/88-89	39,605	39,605	0.820	32,475	32,475
6/30/89-90	15,962	22,962	0.847	13,513	19,438
6/30/90-91	122,206	123,206	0.887	108,401	109,288
6/30/91-92	198,638	414,638	0.889	176,596	368,626
6/30/92-93	4,635	22,635	0.880	4,079	19,919
6/30/93-94	8,067	36,067	0.868	6,998	31,291
6/30/94-95	8,194	38,194	0.854	6,998	32,618
6/30/95-96	6,278	30,278	0.841	5,281	25,470
6/30/96-97	5,473	26,473	0.828	4,529	21,907
6/30/97-98	5,196	23,196	0.814	4,228	18,877
6/30/98-99	131,331	132,331	0.801	105,180	105,981
6/30/99-00	305,850	323,850	0.789	241,280	255,480
6/30/00-01	343,986	364,986	0.765	263,184	279,251
6/30/01-02	203,875	207,875	0.747	152,396	155,386
6/30/02-03	217,060	221,060	0.732	158,865	161,793
6/30/03-04	88,705	98,705	0.716	63,489	70,646
6/30/04-05	204,295	213,295	0.702	143,351	149,666
6/30/05-06	140,973	256,973	0.692	97,484	177,700
6/30/06-07	194,672	302,672	0.674	131,201	203,989
6/30/07-08	212,975	340,975	0.676	143,882	230,356
6/30/08-09	576,376	619,376	0.698	402,041	432,035
6/30/09-10	717,165	863,165	0.726	520,901	626,945
6/30/10-11	739,860	804,860	0.759	561,502	610,832
6/30/11-12	1,031,597	1,212,597	0.789	813,500	956,233
Total	6,036,805	8,862,619		4,615,264	6,939,963

(7) Total Discount Factor: 0.765 0.783

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve: 393,624 515,493
(9) Projected Number of Years: 6 6
(10) Projected Paid Loss per Year: 65,604 85,916
(11) Discounted Value at 4%: 350,783 459,388

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)



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University of Massachusetts (Amherst) - Cluster 4

Indemnity

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	393,624	515,493		332,274	435,149
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	27,099	385,099	0.864	23,425	332,895
6/30/85-86	20,773	310,718	0.816	16,941	253,394
6/30/86-87	30,364	862,364	0.769	23,360	663,459
6/30/87-88	34,409	35,409	0.726	24,974	25,700
6/30/88-89	39,605	39,605	0.747	29,603	29,603
6/30/89-90	15,962	22,962	0.786	12,540	18,040
6/30/90-91	122,206	123,206	0.842	102,905	103,747
6/30/91-92	198,638	414,638	0.844	167,738	350,136
6/30/92-93	4,635	22,635	0.832	3,854	18,823
6/30/93-94	8,067	36,067	0.814	6,569	29,369
6/30/94-95	8,194	38,194	0.796	6,520	30,390
6/30/95-96	6,278	30,278	0.778	4,887	23,568
6/30/96-97	5,473	26,473	0.760	4,160	20,122
6/30/97-98	5,196	23,196	0.742	3,855	17,210
6/30/98-99	131,331	132,331	0.725	95,231	95,956
6/30/99-00	305,850	323,850	0.710	217,074	229,850
6/30/00-01	343,986	364,986	0.678	233,388	247,636
6/30/01-02	203,875	207,875	0.656	133,756	136,380
6/30/02-03	217,060	221,060	0.637	138,185	140,732
6/30/03-04	88,705	98,705	0.617	54,699	60,865
6/30/04-05	204,295	213,295	0.600	122,516	127,913
6/30/05-06	140,973	256,973	0.588	82,898	151,111
6/30/06-07	194,672	302,672	0.567	110,320	171,523
6/30/07-08	212,975	340,975	0.571	121,563	194,623
6/30/08-09	576,376	619,376	0.601	346,492	372,342
6/30/09-10	717,165	863,165	0.640	458,758	552,152
6/30/10-11	739,860	804,860	0.682	504,863	549,217
6/30/11-12	1,031,597	1,212,597	0.721	743,353	873,779
Total	6,036,805	8,862,619		4,133,829	6,268,420

(7) Total Discount Factor: 0.685 0.707

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve: 393,624 515,493
(9) Projected Number of Years: 6 6
(10) Projected Paid Loss per Year: 65,604 85,916
(11) Discounted Value at 6%: 332,274 435,149

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, 2011**

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

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

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Accident Year	Est Ult Losses (Low)	Est Ult Losses (High)	Paid Losses to Date	Reserves (Low)	Reserves (High)	Cumulative Percent Paid	Incremental Paid as a % of Ultimates	as a % of Reserves	Estimated Payments from 7/1/12 - 6/30/13 (Low) (High)		FY 7/1/12 - 6/30/13 as a % of Reserves (Low) (High)	
All Prior Yrs	2,600,897	2,724,843	2,207,273	393,624	517,570				30,759	33,835	7.8%	6.5%
6/30/82-83	229,124	232,625	225,530	3,594	7,095	97.7%	0.0%	0.0%	0	0	0.0%	0.0%
6/30/83-84	224,907	230,145	220,938	3,969	9,207	97.1%	0.0%	0.0%	0	0	0.0%	0.0%
6/30/84-85	1,884,805	2,243,546	1,856,966	27,839	386,580	90.0%	0.5%	5.0%	1,387	19,255	5.0%	5.0%
6/30/85-86	1,697,741	1,988,208	1,676,445	21,296	311,763	91.0%	0.5%	5.5%	1,178	17,251	5.5%	5.5%
6/30/86-87	2,515,000	3,347,000	2,482,506	32,494	864,494	84.7%	0.5%	3.3%	1,062	28,248	3.3%	3.3%
6/30/87-88	2,315,000	2,316,000	2,277,944	37,056	38,056	98.4%	0.5%	30.8%	11,423	11,732	30.8%	30.8%
6/30/88-89	2,142,000	2,143,000	2,098,825	43,175	44,175	98.0%	0.5%	24.5%	10,590	10,835	24.5%	24.5%
6/30/89-90	696,890	705,463	679,355	17,535	26,108	96.9%	0.5%	16.1%	2,817	4,195	16.1%	16.1%
6/30/90-91	2,881,000	2,882,000	2,750,093	130,907	131,907	95.4%	0.5%	11.0%	14,353	14,462	11.0%	11.0%
6/30/91-92	3,132,000	3,348,000	2,922,997	209,003	425,003	90.2%	0.5%	5.1%	10,681	21,719	5.1%	5.1%
6/30/92-93	719,696	740,317	712,440	7,256	27,877	97.6%	0.5%	20.8%	1,508	5,792	20.8%	20.8%
6/30/93-94	1,218,000	1,246,000	1,195,789	22,211	50,211	97.1%	0.5%	17.0%	3,778	8,542	17.0%	17.0%
6/30/94-95	1,078,423	1,111,476	1,067,175	11,248	44,301	97.5%	0.5%	19.7%	2,217	8,732	19.7%	19.7%
6/30/95-96	844,425	870,865	835,707	8,718	35,158	97.4%	0.5%	19.5%	1,704	6,872	19.5%	19.5%
6/30/96-97	707,847	730,726	700,495	7,352	30,232	97.4%	0.5%	19.1%	1,407	5,786	19.1%	19.1%
6/30/97-98	666,000	685,000	651,817	14,183	33,183	96.5%	0.5%	14.3%	2,023	4,732	14.3%	14.3%
6/30/98-99	1,022,000	1,024,000	879,447	142,553	144,553	86.0%	2.0%	14.3%	20,317	20,603	14.3%	14.3%
6/30/99-00	1,901,000	1,919,000	1,572,444	328,556	346,556	82.3%	2.0%	11.3%	37,182	39,218	11.3%	11.3%
6/30/00-01	2,031,000	2,052,000	1,658,822	372,178	393,178	81.3%	2.0%	10.7%	39,710	41,950	10.7%	10.7%
6/30/01-02	1,418,000	1,423,000	1,179,755	238,245	243,245	83.1%	2.0%	11.8%	28,115	28,705	11.8%	11.8%
6/30/02-03	1,252,000	1,256,000	1,010,210	241,790	245,790	80.6%	2.0%	10.3%	24,874	25,286	10.3%	10.3%
6/30/03-04	520,000	533,000	414,340	105,660	118,660	78.7%	2.0%	9.4%	9,920	11,140	9.4%	9.4%
6/30/04-05	1,169,000	1,180,000	912,330	256,670	267,670	77.7%	2.0%	9.0%	22,997	23,983	9.0%	9.0%
6/30/05-06	847,000	980,000	640,143	206,857	339,857	70.1%	2.0%	6.7%	13,825	22,715	6.7%	6.7%
6/30/06-07	896,000	1,048,000	646,248	249,752	401,752	66.5%	3.6%	10.7%	26,749	43,029	10.7%	10.7%
6/30/07-08	1,077,000	1,209,000	749,181	327,819	459,819	65.5%	2.0%	5.8%	19,029	26,691	5.8%	5.8%
6/30/08-09	1,859,000	1,955,000	1,150,260	708,740	804,740	60.3%	5.2%	13.2%	93,363	106,009	13.2%	13.2%
6/30/09-10	1,503,000	1,694,000	630,280	872,720	1,063,720	39.4%	5.0%	8.3%	72,042	87,808	8.3%	8.3%
6/30/10-11	1,668,000	1,743,000	663,244	1,004,756	1,079,756	38.9%	5.0%	8.2%	82,207	88,343	8.2%	8.2%
6/30/11-12	1,835,000	2,044,000	354,598	1,480,402	1,689,402	18.3%	20.6%	25.2%	373,295	425,996	25.2%	25.2%
Total	44,551,754	47,605,214	37,023,597	7,528,157	10,581,616				960,511	1,193,465	12.8%	11.3%

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, 2012**

University of Massachusetts (Amherst) - Cluster 4

Medical

Section 5
Exhibit 2
Page 1

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		108,413			108,413	110,490	0	2,077		
6/30/82-83		91,124	91,708		91,124	92,625	0	1,501		
6/30/83-84		32,907	33,151		32,907	34,145	0	1,238		
6/30/84-85	176,924	74,065	74,688	74,818	74,805	75,546	741	1,481	0.042	0.043
6/30/85-86	188,662	52,218	52,711	52,835	52,741	53,263	522	1,044	0.028	0.028
6/30/86-87	212,277	195,870	197,914	197,909	198,000	198,000	2,130	2,130	0.093	0.093
6/30/87-88	243,118	220,354	222,876	222,885	223,000	223,000	2,646	2,646	0.092	0.092
6/30/88-89	248,990	296,430	300,123	300,872	300,000	301,000	3,570	4,570	0.120	0.121
6/30/89-90	250,404	157,317	159,436	160,113	158,890	160,463	1,573	3,146	0.063	0.064
6/30/90-91	235,170	507,299	515,675	515,618	516,000	516,000	8,701	8,701	0.219	0.219
6/30/91-92	235,607	549,635	560,386	560,236	560,000	560,000	10,365	10,365	0.238	0.238
6/30/92-93	241,161	262,075	268,537	268,472	264,696	267,317	2,621	5,242	0.110	0.111
6/30/93-94	254,321	484,855	499,295	498,940	499,000	499,000	14,145	14,145	0.196	0.196
6/30/94-95	256,665	305,369	316,036	315,839	308,423	311,476	3,054	6,107	0.120	0.121
6/30/95-96	265,739	243,985	253,770	253,677	246,425	248,865	2,440	4,880	0.093	0.094
6/30/96-97	296,336	187,967	196,483	196,636	189,847	191,726	1,880	3,759	0.064	0.065
6/30/97-98	296,982	188,013	197,337	197,546	197,000	198,000	8,987	9,987	0.066	0.067
6/30/98-99	299,530	208,778	220,389	220,577	220,000	221,000	11,222	12,222	0.073	0.074
6/30/99-00	323,627	356,294	379,442	378,875	379,000	379,000	22,706	22,706	0.117	0.117
6/30/00-01	338,348	374,808	403,150	402,514	403,000	403,000	28,192	28,192	0.119	0.119
6/30/01-02	329,555	404,630	439,580	438,574	439,000	440,000	34,370	35,370	0.133	0.134
6/30/02-03	329,179	250,270	274,605	275,071	275,000	275,000	24,730	24,730	0.084	0.084
6/30/03-04	344,547	146,045	163,451	165,525	163,000	166,000	16,955	19,955	0.047	0.048
6/30/04-05	325,530	287,625	340,291	341,604	340,000	342,000	52,375	54,375	0.104	0.105
6/30/05-06	403,750	287,115	353,498	370,262	353,000	370,000	65,885	82,885	0.087	0.092
6/30/06-07	420,219	206,920	261,883	305,571	262,000	306,000	55,080	99,080	0.062	0.073
6/30/07-08	425,998	382,156	500,570	497,132	497,000	501,000	114,844	118,844	0.117	0.118
6/30/08-09	420,566	502,636	688,417	635,423	635,000	688,000	132,364	185,364	0.151	0.164
6/30/09-10	433,206	256,446	411,639	456,521	412,000	457,000	155,554	200,554	0.095	0.105
6/30/10-11	444,673	302,104	576,884	566,759	567,000	577,000	264,896	274,896	0.128	0.130
6/30/11-12	467,753	156,195	633,497	605,363	605,000	633,000	448,805	476,805	0.129	0.135
Total	8,708,837	8,079,918	9,587,422	9,476,168	9,571,270	9,798,915	1,491,352	1,718,997		
Tot 6/30/84-12	8,708,837	7,847,474	9,462,563	9,476,168	9,338,826	9,561,656	1,491,352	1,714,182	0.107	0.110

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, 2012

Section 5
Exhibit 2
Page 2

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 7/1/10-11	Paid Counts 7/1/11-12	Average Outstanding Claim
All Prior Yrs		108,413							0	0	
6/30/82-83		91,124	1.006	1.000	91,708	N/A	91,708		0	0	
6/30/83-84		32,907	1.007	1.000	33,151	N/A	33,151		0	0	
6/30/84-85	176,924	74,065	1.008	1.000	74,688	N/A	74,688	0.042	1	0	
6/30/85-86	188,662	52,218	1.009	1.000	52,711	N/A	52,711	0.028	1	0	
6/30/86-87	212,277	195,870	1.010	1.000	197,914	N/A	197,914	0.093	2	2	1,022
6/30/87-88	243,118	220,354	1.011	1.000	222,876	N/A	222,876	0.092	2	2	1,261
6/30/88-89	248,990	296,430	1.012	1.000	300,123	N/A	300,123	0.121	1	0	
6/30/89-90	250,404	157,317	1.013	1.000	159,436	N/A	159,436	0.064	0	0	
6/30/90-91	235,170	507,299	1.017	1.000	515,675	N/A	515,675	0.219	1	1	8,376
6/30/91-92	235,607	549,635	1.020	1.000	560,386	N/A	560,386	0.238	2	1	10,751
6/30/92-93	241,161	262,075	1.025	1.000	268,537	N/A	268,537	0.111	0	0	
6/30/93-94	254,321	484,855	1.030	1.000	499,295	N/A	499,295	0.196	1	1	14,440
6/30/94-95	256,665	305,369	1.035	1.000	316,036	N/A	316,036	0.123	0	0	
6/30/95-96	265,739	243,985	1.040	1.000	253,770	N/A	253,770	0.095	0	0	
6/30/96-97	296,336	187,967	1.045	1.000	196,483	N/A	196,483	0.066	0	0	
6/30/97-98	296,982	188,013	1.050	1.000	197,337	N/A	197,337	0.066	1	1	9,324
6/30/98-99	299,530	208,778	1.056	1.000	220,389	N/A	220,389	0.074	1	1	11,611
6/30/99-00	323,627	356,294	1.065	1.000	379,442	N/A	379,442	0.117	2	2	11,574
6/30/00-01	338,348	374,808	1.076	1.000	403,150	N/A	403,150	0.119	3	2	14,171
6/30/01-02	329,555	404,630	1.086	1.000	439,580	N/A	439,580	0.133	5	4	8,737
6/30/02-03	329,179	250,270	1.097	1.000	274,605	N/A	274,605	0.083	1	1	24,336
6/30/03-04	344,547	146,045	1.119	1.000	163,451	N/A	163,451	0.047	1	0	
6/30/04-05	325,530	287,625	1.183	1.000	340,291	N/A	340,291	0.105	1	1	52,666
6/30/05-06	403,750	287,115	1.231	1.000	353,498	N/A	353,498	0.088	0	1	66,383
6/30/06-07	420,219	206,920	1.266	1.000	261,883	N/A	261,883	0.062	11	3	18,321
6/30/07-08	425,998	382,156	1.310	1.000	500,570	N/A	500,570	0.118	7	5	23,683
6/30/08-09	420,566	502,636	1.370	1.000	688,417	N/A	688,417	0.164	25	7	26,540
6/30/09-10	433,206	256,446	1.605	1.000	411,639	N/A	411,639	0.095	102	15	10,346
6/30/10-11	444,673	302,104	1.910	1.000	576,884	N/A	576,884	0.130	196	93	2,955
6/30/11-12	467,753	156,195	4.056	1.000	633,497	N/A	633,497	0.135		185	2,580
Total	8,708,837	8,079,918			9,587,422		9,587,422		367	328	

NOTES:

(2) Provided by Commonwealth of Massachusetts

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

(5) Based on information from the MA WCRI 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, 2012**

Section 5
Exhibit 2
Page 3

**University of Massachusetts (Amherst) - Cluster 4
Medical**

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident	Payroll	A Priori		Paid	Ultimate Loss	Est Ult	Ultimate Loss	Ultimate	Ultimate Loss
Year	(000's)	Loss		LDF	Excluding	Lump Sum	Including	Loss	Cost Excluding
		Rate	Paid Loss		Lump Sum	Payments	Lump Sum	Cost	Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	176,924	0.051	74,065	1.008	74,818	N/A	74,818	0.042	0.042
6/30/85-86	188,662	0.035	52,218	1.009	52,835	N/A	52,835	0.028	0.028
6/30/86-87	212,277	0.093	195,870	1.010	197,909	N/A	197,909	0.093	0.093
6/30/87-88	243,118	0.092	220,354	1.011	222,885	N/A	222,885	0.092	0.092
6/30/88-89	248,990	0.145	296,430	1.012	300,872	N/A	300,872	0.121	0.121
6/30/89-90	250,404	0.084	157,317	1.013	160,113	N/A	160,113	0.064	0.064
6/30/90-91	235,170	0.218	507,299	1.017	515,618	N/A	515,618	0.219	0.219
6/30/91-92	235,607	0.235	549,635	1.020	560,236	N/A	560,236	0.238	0.238
6/30/92-93	241,161	0.110	262,075	1.025	268,472	N/A	268,472	0.111	0.111
6/30/93-94	254,321	0.192	484,855	1.030	498,940	N/A	498,940	0.196	0.196
6/30/94-95	256,665	0.121	305,369	1.035	315,839	N/A	315,839	0.123	0.123
6/30/95-96	265,739	0.095	243,985	1.040	253,677	N/A	253,677	0.095	0.095
6/30/96-97	296,336	0.067	187,967	1.045	196,636	N/A	196,636	0.066	0.066
6/30/97-98	296,982	0.068	188,013	1.050	197,546	N/A	197,546	0.067	0.067
6/30/98-99	299,530	0.075	208,778	1.056	220,577	N/A	220,577	0.074	0.074
6/30/99-00	323,627	0.114	356,294	1.065	378,875	N/A	378,875	0.117	0.117
6/30/00-01	338,348	0.116	374,808	1.076	402,514	N/A	402,514	0.119	0.119
6/30/01-02	329,555	0.130	404,630	1.086	438,574	N/A	438,574	0.133	0.133
6/30/02-03	329,179	0.085	250,270	1.097	275,071	N/A	275,071	0.084	0.084
6/30/03-04	344,547	0.053	146,045	1.119	165,525	N/A	165,525	0.048	0.048
6/30/04-05	325,530	0.107	287,625	1.183	341,604	N/A	341,604	0.105	0.105
6/30/05-06	403,750	0.110	287,115	1.231	370,262	N/A	370,262	0.092	0.092
6/30/06-07	420,219	0.112	206,920	1.266	305,571	N/A	305,571	0.073	0.073
6/30/07-08	425,998	0.114	382,156	1.310	497,132	N/A	497,132	0.117	0.117
6/30/08-09	420,566	0.117	502,636	1.370	635,423	N/A	635,423	0.151	0.151
6/30/09-10	433,206	0.123	256,446	1.605	456,521	N/A	456,521	0.105	0.105
6/30/10-11	444,673	0.125	302,104	1.910	566,759	N/A	566,759	0.127	0.127
6/30/11-12	467,753	0.127	156,195	4.056	605,363	N/A	605,363	0.129	0.129
Total	8,708,837		7,847,474		9,476,168		9,476,168		

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, 2012

University of Massachusetts (Amherst) - Cluster 4

Medical

Calculation of Initial Expected Loss Rate

Section 5

Exhibit 2

Page 4

(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	515,675	0.219	1.194	0.262	1.546	0.405	0.070	0.219	0.218
6/30/91-92	235,607	560,386	0.238	1.189	0.283	1.516	0.428	0.072	0.234	0.235
6/30/92-93	241,161	268,537	0.111	1.189	0.132	1.486	0.197	0.074	0.111	0.110
6/30/93-94	254,321	499,295	0.196	1.178	0.231	1.457	0.337	0.076	0.188	0.192
6/30/94-95	256,665	316,036	0.123	1.170	0.144	1.428	0.206	0.078	0.122	0.121
6/30/95-96	265,739	253,770	0.095	1.155	0.110	1.400	0.154	0.080	0.096	0.095
6/30/96-97	296,336	196,483	0.066	1.137	0.075	1.373	0.103	0.083	0.068	0.067
6/30/97-98	296,982	197,337	0.066	1.135	0.075	1.346	0.102	0.085	0.069	0.068
6/30/98-99	299,530	220,389	0.074	1.135	0.084	1.319	0.110	0.087	0.075	0.075
6/30/99-00	323,627	379,442	0.117	1.135	0.133	1.294	0.172	0.089	0.113	0.114
6/30/00-01	338,348	403,150	0.119	1.109	0.132	1.268	0.168	0.092	0.117	0.116
6/30/01-02	329,555	439,580	0.133	1.101	0.147	1.243	0.183	0.095	0.124	0.130
6/30/02-03	329,179	274,605	0.083	1.073	0.090	1.219	0.109	0.099	0.086	0.085
6/30/03-04	344,547	163,451	0.047	1.046	0.050	1.195	0.059	0.104	0.057	0.053
6/30/04-05	325,530	340,291	0.105	1.036	0.108	1.172	0.127	0.107	0.118	0.107
6/30/05-06	403,750	353,498	0.088	1.032	0.090	1.149	0.104	0.110	0.120	0.110
6/30/06-07	420,219	261,883	0.062	1.032	0.064	1.126	0.072	0.112	0.123	0.112
6/30/07-08	425,998	500,570	0.118	1.032	0.121	1.104	0.134	0.114	0.125	0.114
6/30/08-09	420,566	688,417	0.164	1.027	0.168	1.082	0.182	0.117	0.129	0.117
6/30/09-10	433,206	411,639	0.095	1.000	0.095	1.061	0.101	0.123	0.135	0.123
6/30/10-11	444,673	576,884	0.130	1.000	0.130	1.040	0.135	0.125	0.137	0.125
6/30/11-12	467,753	633,497	0.135	1.000	0.135	1.020	0.138	0.127		0.127
Total	7,388,463	8,454,816								

Trend Last 4 (ex 11-12):	-3.6%	Avg 3 (x11-12):	0.139
Trend Last 8 (ex 11-12):	10.7%	Avg 5 (x11-12):	0.125
Trend Last 12 (ex 11-12):	-0.1%	Avg 10 (x11-12):	0.121
Prior Selected Trend:	2.0%	Prior Sel Avg:	0.140
Selected Trend:	2.0%	Sel. Loss Cost:	0.130

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3) From Section 5, Exhibit 2, Page 2, Column 6

(4) = (3) / (2) / 10

(5) Based on information from the MA WCIRB

(6) = (4) x (5)

(7) Based on Selected Trend from (6)

(8) = (6) x (7)

(9) = Sel. Loss Cost / [(5) * (7)]

(10) From Aon analysis as of June 30, 2011

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



Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012

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Page 5

University of Massachusetts (Amherst) - Cluster 4
Medical

Calculation of 1982 & Prior Reserves (Page 1)

Method 1			
(1)	Average Payment Trend	0.950	
(2)	Credibility	12%	
(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 2012	0	0
(7)	Estimated Reserve	0	0
(8)	Paid to Date (82 & Prior)	108,413	108,413
(9)	Est Ult Paid for 1982 & Prior	108,413	108,413
Method 2			
		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	1,027	2,077
(11)	Projected Number of Years	2	2
(12)	Estimated Reserve	2,053	4,153
(13)	Paid to Date (82 & Prior)	108,413	108,413
(14)	Est Ult Paid for 1982 & Prior	110,466	112,566
(14a)	Paid Counts During Fiscal Year	0	0
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	108,413	110,490
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	108,413	110,490
(18)	Implied Tail	1.000	1.019
(19)	Ult Loss Inc Lump Sums @ 6/11	108,413	111,105

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, 2011



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 5
Exhibit 2
Page 6

**University of Massachusetts (Amherst) - Cluster 4
Medical**

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paid	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 =	13
2001	10	0			S(x) =	26,015
2002	11	0			S(x-sq) =	52,060,521
2003	12	0			S(xy) =	192,691
2004	13	1,400	7.244		S(y) =	96
2005	14	0			D =	6,548
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				
				Selected Trend:	0.950	

NOTES:

(3) 2012 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2011

(4) LN [(3)]

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



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

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University of Massachusetts (Amherst) - Cluster 4

Medical

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Accident Year	Ultimate Loss As of 6/11		Ultimate Loss As of 6/12		Change in Ultimate Loss		Change in Ultimate Loss	
					(Dollar)	(Percent)	(Dollar)	(Percent)
	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	108,413	111,105	108,413	110,490	0	0.0%	(615)	-0.6%
6/30/82-83	91,124	92,786	91,124	92,625	0	0.0%	(161)	-0.2%
6/30/83-84	32,907	34,205	32,907	34,145	0	0.0%	(59)	-0.2%
6/30/84-85	74,805	75,546	74,805	75,546	0	0.0%	0	0.0%
6/30/85-86	52,741	53,263	52,741	53,263	0	0.0%	0	0.0%
6/30/86-87	197,000	197,000	198,000	198,000	1,000	0.5%	1,000	0.5%
6/30/87-88	219,000	219,000	223,000	223,000	4,000	1.8%	4,000	1.8%
6/30/88-89	301,000	301,000	300,000	301,000	(1,000)	-0.3%	0	0.0%
6/30/89-90	158,890	160,463	158,890	160,463	0	0.0%	0	0.0%
6/30/90-91	517,000	517,000	516,000	516,000	(1,000)	-0.2%	(1,000)	-0.2%
6/30/91-92	558,000	559,000	560,000	560,000	2,000	0.4%	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	489,000	489,000	499,000	499,000	10,000	2.0%	10,000	2.0%
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	198,000	198,000	197,000	198,000	(1,000)	-0.5%	0	0.0%
6/30/98-99	218,000	218,000	220,000	221,000	2,000	0.9%	3,000	1.4%
6/30/99-00	370,000	371,000	379,000	379,000	9,000	2.4%	8,000	2.2%
6/30/00-01	403,000	403,000	403,000	403,000	0	0.0%	0	0.0%
6/30/01-02	415,000	416,000	439,000	440,000	24,000	5.8%	24,000	5.8%
6/30/02-03	275,000	276,000	275,000	275,000	0	0.0%	(1,000)	-0.4%
6/30/03-04	175,000	178,000	163,000	166,000	(12,000)	-6.9%	(12,000)	-6.7%
6/30/04-05	352,000	358,000	340,000	342,000	(12,000)	-3.4%	(16,000)	-4.5%
6/30/05-06	368,000	394,000	353,000	370,000	(15,000)	-4.1%	(24,000)	-6.1%
6/30/06-07	266,000	327,000	262,000	306,000	(4,000)	-1.5%	(21,000)	-6.4%
6/30/07-08	512,000	518,000	497,000	501,000	(15,000)	-2.9%	(17,000)	-3.3%
6/30/08-09	687,000	781,000	635,000	688,000	(52,000)	-7.6%	(93,000)	-11.9%
6/30/09-10	402,000	490,000	412,000	457,000	10,000	2.5%	(33,000)	-6.7%
6/30/10-11	658,000	817,000	567,000	577,000	(91,000)	-13.8%	(240,000)	-29.4%
6/30/11-12								
Total	9,108,270	9,573,751	8,966,270	9,165,915	(142,000)	-1.6%	(407,836)	-4.3%

NOTES:

(2), (3) From Aon analysis as of June 30, 2011

(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



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 5

Exhibit 2

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**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%
372	100.0%	0.6%	0.0%	0.2%	0.1%	1.000	1.000
360	99.4%	0.1%	0.6%	0.0%	0.0%	0.981	0.971
348	99.3%	0.1%	0.7%	0.0%	0.0%	0.948	0.924
336	99.2%	0.1%	0.8%	0.0%	0.0%	0.920	0.883
324	99.1%	0.1%	0.9%	0.0%	0.0%	0.895	0.848
312	99.0%	0.1%	1.0%	0.0%	0.0%	0.872	0.816
300	98.9%	0.1%	1.1%	0.0%	0.0%	0.851	0.788
288	98.8%	0.1%	1.2%	0.0%	0.0%	0.831	0.761
276	98.7%	0.3%	1.3%	0.1%	0.1%	0.812	0.737
264	98.4%	0.3%	1.6%	0.1%	0.1%	0.817	0.746
252	98.1%	0.5%	1.9%	0.2%	0.1%	0.816	0.744
240	97.6%	0.5%	2.4%	0.2%	0.2%	0.824	0.757
228	97.1%	0.5%	2.9%	0.2%	0.2%	0.824	0.757
216	96.6%	0.5%	3.4%	0.2%	0.2%	0.819	0.751
204	96.1%	0.5%	3.9%	0.3%	0.2%	0.812	0.741
192	95.7%	0.4%	4.3%	0.2%	0.2%	0.803	0.729
180	95.3%	0.5%	4.7%	0.3%	0.2%	0.789	0.712
168	94.7%	0.8%	5.3%	0.5%	0.4%	0.782	0.702
156	93.9%	0.9%	6.1%	0.6%	0.4%	0.783	0.705
144	93.0%	0.9%	7.0%	0.6%	0.5%	0.783	0.705
132	92.0%	0.9%	8.0%	0.6%	0.5%	0.779	0.701
120	91.1%	1.8%	8.9%	1.2%	1.0%	0.773	0.693
108	89.4%	4.8%	10.6%	3.5%	2.9%	0.783	0.707
96	84.5%	3.3%	15.5%	2.5%	2.1%	0.824	0.762
84	81.2%	2.2%	18.8%	1.7%	1.5%	0.825	0.763
72	79.0%	2.7%	21.0%	2.2%	1.9%	0.813	0.746
60	76.3%	3.3%	23.7%	2.8%	2.6%	0.804	0.734
48	73.0%	10.7%	27.0%	9.3%	8.7%	0.799	0.727
36	62.3%	9.9%	37.7%	9.0%	8.6%	0.829	0.767
24	52.4%	27.7%	47.6%	26.1%	25.4%	0.835	0.775
12	24.7%	24.7%	75.3%	24.2%	23.9%	0.868	0.820
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)



Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012

Section 5
Exhibit 2
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University of Massachusetts (Amherst) - Cluster 4

Medical

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	0	2,077		0	1,998
6/30/82-83	0	1,501	0.981	0	1,472
6/30/83-84	0	1,238	0.948	0	1,174
6/30/84-85	741	1,481	0.920	681	1,362
6/30/85-86	522	1,044	0.895	467	934
6/30/86-87	2,130	2,130	0.872	1,857	1,857
6/30/87-88	2,646	2,646	0.851	2,251	2,251
6/30/88-89	3,570	4,570	0.831	2,967	3,797
6/30/89-90	1,573	3,146	0.812	1,278	2,556
6/30/90-91	8,701	8,701	0.817	7,113	7,113
6/30/91-92	10,365	10,365	0.816	8,456	8,456
6/30/92-93	2,621	5,242	0.824	2,160	4,320
6/30/93-94	14,145	14,145	0.824	11,657	11,657
6/30/94-95	3,054	6,107	0.819	2,502	5,004
6/30/95-96	2,440	4,880	0.812	1,981	3,962
6/30/96-97	1,880	3,759	0.803	1,509	3,018
6/30/97-98	8,987	9,987	0.789	7,091	7,880
6/30/98-99	11,222	12,222	0.782	8,771	9,553
6/30/99-00	22,706	22,706	0.783	17,774	17,774
6/30/00-01	28,192	28,192	0.783	22,070	22,070
6/30/01-02	34,370	35,370	0.779	26,777	27,556
6/30/02-03	24,730	24,730	0.773	19,115	19,115
6/30/03-04	16,955	19,955	0.783	13,276	15,625
6/30/04-05	52,375	54,375	0.824	43,154	44,802
6/30/05-06	65,885	82,885	0.825	54,379	68,410
6/30/06-07	55,080	99,080	0.813	44,797	80,582
6/30/07-08	114,844	118,844	0.804	92,382	95,600
6/30/08-09	132,364	185,364	0.799	105,764	148,113
6/30/09-10	155,554	200,554	0.829	128,897	166,186
6/30/10-11	264,896	274,896	0.835	221,211	229,562
6/30/11-12	448,805	476,805	0.868	389,695	414,007
Total	1,491,352	1,718,997		1,240,031	1,427,764

(7) Total Discount Factor: 0.831 0.831

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve: 0 2,077
(9) Projected Number of Years: 2 2
(10) Projected Paid Loss per Year: 0 1,038
(11) Discounted Value at 4%: 0 1,998

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, 2012

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University of Massachusetts (Amherst) - Cluster 4

Medical

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident Year	Undiscounted Outstanding Losses		Discount Factor at 6.0%	Discounted Outstanding Losses	
	(Low)	(High)		(Low)	(High)
All Prior Yrs	0	2,077		0	1,961
6/30/82-83	0	1,501	0.971	0	1,458
6/30/83-84	0	1,238	0.924	0	1,144
6/30/84-85	741	1,481	0.883	654	1,308
6/30/85-86	522	1,044	0.848	443	886
6/30/86-87	2,130	2,130	0.816	1,739	1,739
6/30/87-88	2,646	2,646	0.788	2,085	2,085
6/30/88-89	3,570	4,570	0.761	2,718	3,480
6/30/89-90	1,573	3,146	0.737	1,160	2,319
6/30/90-91	8,701	8,701	0.746	6,487	6,487
6/30/91-92	10,365	10,365	0.744	7,716	7,716
6/30/92-93	2,621	5,242	0.757	1,983	3,967
6/30/93-94	14,145	14,145	0.757	10,710	10,710
6/30/94-95	3,054	6,107	0.751	2,294	4,587
6/30/95-96	2,440	4,880	0.741	1,809	3,618
6/30/96-97	1,880	3,759	0.729	1,371	2,742
6/30/97-98	8,987	9,987	0.712	6,394	7,106
6/30/98-99	11,222	12,222	0.702	7,880	8,582
6/30/99-00	22,706	22,706	0.705	15,998	15,998
6/30/00-01	28,192	28,192	0.705	19,882	19,882
6/30/01-02	34,370	35,370	0.701	24,084	24,785
6/30/02-03	24,730	24,730	0.693	17,138	17,138
6/30/03-04	16,955	19,955	0.707	11,988	14,109
6/30/04-05	52,375	54,375	0.762	39,906	41,430
6/30/05-06	65,885	82,885	0.763	50,283	63,257
6/30/06-07	55,080	99,080	0.746	41,114	73,958
6/30/07-08	114,844	118,844	0.734	84,332	87,270
6/30/08-09	132,364	185,364	0.727	96,246	134,784
6/30/09-10	155,554	200,554	0.767	119,319	153,837
6/30/10-11	264,896	274,896	0.775	205,367	213,119
6/30/11-12	448,805	476,805	0.820	367,851	390,801
Total	1,491,352	1,718,997		1,148,951	1,322,261

(7) Total Discount Factor: 0.770 0.769

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve: 0 2,077
(9) Projected Number of Years: 2 2
(10) Projected Paid Loss per Year: 0 1,038
(11) Discounted Value at 6%: 0 1,961

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, 2012**

Section 6
Exhibit 1
Page 1

**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	307,765		306,340	313,999	0	7,659		
6/30/83-84		1,443,839	1,450,245		1,472,716	1,501,593	28,877	57,754		
6/30/84-85	116,303	852,745	857,144	858,772	869,800	886,855	17,055	34,110	0.748	0.763
6/30/85-86	123,981	2,517,941	2,530,657	2,533,453	2,531,000	2,533,000	13,059	15,059	2.041	2.043
6/30/86-87	139,388	3,297,460	3,914,208	3,313,203	3,313,000	3,613,705	15,540	316,245	2.377	2.593
6/30/87-88	159,499	2,967,363	3,244,591	2,980,503	2,981,000	3,112,547	13,637	145,184	1.869	1.951
6/30/88-89	180,644	2,623,646	2,646,724	2,655,439	2,676,119	2,754,828	52,473	131,182	1.481	1.525
6/30/89-90	142,494	3,243,583	3,292,688	3,310,823	3,308,455	3,405,762	64,872	162,179	2.322	2.390
6/30/90-91	143,694	1,101,823	1,124,448	1,124,282	1,123,859	1,156,914	22,036	55,091	0.782	0.805
6/30/91-92	155,170	1,518,304	1,559,636	1,558,976	1,548,670	1,594,219	30,366	75,915	0.998	1.027
6/30/92-93	163,283	638,167	660,872	660,482	650,930	670,075	12,763	31,908	0.399	0.410
6/30/93-94	177,184	1,795,090	1,873,050	1,870,455	1,870,000	1,873,000	74,910	77,910	1.055	1.057
6/30/94-95	188,391	521,127	538,394	538,322	538,000	538,000	16,873	16,873	0.286	0.286
6/30/95-96	201,751	491,723	508,525	508,598	501,557	511,392	9,834	19,669	0.249	0.253
6/30/96-97	231,872	422,390	430,306	431,303	430,838	439,286	8,448	16,896	0.186	0.189
6/30/97-98	232,237	545,727	579,207	578,479	556,642	567,556	10,915	21,829	0.240	0.244
6/30/98-99	232,075	631,001	655,246	655,545	655,000	656,000	23,999	24,999	0.282	0.283
6/30/99-00	211,819	687,583	729,802	728,285	728,000	730,000	40,417	42,417	0.344	0.345
6/30/00-01	215,099	737,973	778,516	777,586	778,000	779,000	40,027	41,027	0.362	0.362
6/30/01-02	227,797	341,709	366,404	367,379	366,000	367,000	24,291	25,291	0.161	0.161
6/30/02-03	242,008	822,359	898,968	895,464	895,000	899,000	72,641	76,641	0.370	0.371
6/30/03-04	276,758	962,971	1,052,691	1,050,052	1,050,000	1,053,000	87,029	90,029	0.379	0.380
6/30/04-05	260,378	192,745	216,506	260,189	217,000	260,000	24,255	67,255	0.083	0.100
6/30/05-06	317,741	778,823	890,919	887,911	888,000	891,000	109,177	112,177	0.279	0.280
6/30/06-07	325,922	368,698	434,851	488,507	435,000	489,000	66,302	120,302	0.133	0.150
6/30/07-08	354,130	1,284,003	1,590,733	1,517,884	1,518,000	1,591,000	233,998	306,998	0.429	0.449
6/30/08-09	362,309	479,096	677,532	736,435	678,000	736,000	198,904	256,904	0.187	0.203
6/30/09-10	383,298	496,986	852,134	907,220	852,000	907,000	355,014	410,014	0.222	0.237
6/30/10-11	394,924	411,900	1,055,583	1,049,179	1,049,000	1,056,000	637,100	644,100	0.266	0.267
6/30/11-12	381,943	169,232	1,008,945	1,044,543	1,009,000	1,045,000	839,768	875,768	0.264	0.274
Total	6,542,094	33,981,758	36,727,288	34,289,267	37,126,338	38,261,143	3,144,580	4,279,385		
Tot 6/30/84-12	6,542,094	30,902,167	34,969,278	34,289,267	34,017,870	35,116,140	3,115,703	4,213,973	0.520	0.537

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, 2012**

Section 6
Exhibit 1
Page 2

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 7/1/10-11	Paid Counts 7/1/11-12	Average Outstanding Claim	Average Age
All Prior Yrs		1,242,912							0	0		
6/30/82-83		271,340	1.005	1.000	272,765	35,000	307,765		0	0		
6/30/83-84		1,219,902	1.005	1.000	1,226,308	223,937	1,450,245		0	0		
6/30/84-85	116,303	837,745	1.005	1.000	842,144	15,000	857,144	0.737	0	0		
6/30/85-86	123,981	2,421,446	1.005	1.000	2,434,162	96,495	2,530,657	2.041	0	0		
6/30/86-87	139,388	2,989,542	1.005	1.200	3,606,290	307,918	3,914,208	2.808	1	1	616,748	81
6/30/87-88	159,499	2,620,881	1.005	1.100	2,898,109	346,482	3,244,591	2.034	2	1	277,228	84
6/30/88-89	180,644	2,245,396	1.010	1.000	2,268,474	378,250	2,646,724	1.465	0	0		
6/30/89-90	142,494	2,830,333	1.017	1.000	2,879,438	413,250	3,292,688	2.311	0	0		
6/30/90-91	143,694	887,647	1.025	1.000	910,272	214,176	1,124,448	0.783	0	0		
6/30/91-92	155,170	1,163,553	1.036	1.000	1,204,885	354,751	1,559,636	1.005	0	0		
6/30/92-93	163,283	494,916	1.046	1.000	517,621	143,251	660,872	0.405	0	0		
6/30/93-94	177,184	1,383,838	1.056	1.000	1,461,798	411,252	1,873,050	1.057	1	1	77,960	70
6/30/94-95	188,391	273,127	1.063	1.000	290,394	248,000	538,394	0.286	0	0		
6/30/95-96	201,751	253,697	1.066	1.000	270,499	238,026	508,525	0.252	0	0		
6/30/96-97	231,872	113,590	1.070	1.000	121,506	308,800	430,306	0.186	0	0		
6/30/97-98	232,237	445,227	1.075	1.000	478,707	100,500	579,207	0.249	0	0		
6/30/98-99	232,075	289,251	1.084	1.000	313,496	341,750	655,246	0.282	1	0		
6/30/99-00	211,819	489,166	1.084	1.000	530,168	199,633	729,802	0.345	0	1	41,002	63
6/30/00-01	215,099	431,926	1.086	1.000	469,033	309,483	778,516	0.362	0	0		
6/30/01-02	227,797	246,210	1.093	1.000	269,165	97,239	366,404	0.161	0	0		
6/30/02-03	242,008	720,943	1.101	1.000	793,956	105,012	898,968	0.371	1	1	73,012	51
6/30/03-04	276,758	635,971	1.125	1.000	715,190	337,501	1,052,691	0.380	0	0		
6/30/04-05	260,378	125,745	1.164	1.000	146,396	70,110	216,506	0.083	0	1	20,651	58
6/30/05-06	317,741	498,323	1.179	1.000	587,702	303,217	890,919	0.280	0	0		
6/30/06-07	325,922	238,698	1.213	1.000	289,605	145,246	434,851	0.133	0	0		
6/30/07-08	354,130	799,003	1.263	1.000	1,009,429	581,304	1,590,733	0.449	6	1	210,426	44
6/30/08-09	362,309	345,595	1.422	1.000	491,505	186,027	677,532	0.187	4	5	29,182	51
6/30/09-10	383,298	367,986	1.620	1.000	596,205	255,929	852,134	0.222	11	4	57,055	47
6/30/10-11	394,924	361,900	2.158	1.000	781,093	274,489	1,055,583	0.267	50	12	34,933	52
6/30/11-12	381,943	169,232	4.193	1.000	709,575	299,370	1,008,945	0.264		76	7,110	42
Total	6,542,094	27,415,040			29,385,890	7,341,399	36,727,288		77	104		

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, 2012

Section 6

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Page 3

University of Massachusetts (Medical Center) - Cluster 4

Indemnity

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident	Payroll	A Priori	Paid Loss		Ultimate Loss	Est Ult	Ultimate Loss	Ultimate	Ultimate Loss
Year	(000's)	Loss	Excluding	Paid	Excluding	Lump Sum	Including	Loss	Cost Excluding
		Rate	Lump Sum	LDF	Lump Sum	Payments	Lump Sum	Cost	Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	116,303	0.992	837,745	1.005	843,772	15,000	858,772	0.738	0.725
6/30/85-86	123,981	2.395	2,421,446	1.005	2,436,958	96,495	2,533,453	2.043	1.966
6/30/86-87	139,388	2.162	2,989,542	1.005	3,005,285	307,918	3,313,203	2.377	2.156
6/30/87-88	159,499	1.577	2,620,881	1.005	2,634,021	346,482	2,980,503	1.869	1.651
6/30/88-89	180,644	1.730	2,245,396	1.010	2,277,189	378,250	2,655,439	1.470	1.261
6/30/89-90	142,494	2.767	2,830,333	1.017	2,897,573	413,250	3,310,823	2.323	2.033
6/30/90-91	143,694	0.629	887,647	1.025	910,106	214,176	1,124,282	0.782	0.633
6/30/91-92	155,170	0.764	1,163,553	1.036	1,204,225	354,751	1,558,976	1.005	0.776
6/30/92-93	163,283	0.312	494,916	1.046	517,231	143,251	660,482	0.405	0.317
6/30/93-94	177,184	0.798	1,383,838	1.056	1,459,203	411,252	1,870,455	1.056	0.824
6/30/94-95	188,391	0.153	273,127	1.063	290,322	248,000	538,322	0.286	0.154
6/30/95-96	201,751	0.135	253,697	1.066	270,572	238,026	508,598	0.252	0.134
6/30/96-97	231,872	0.059	113,590	1.070	122,503	308,800	431,303	0.186	0.053
6/30/97-98	232,237	0.202	445,227	1.075	477,979	100,500	578,479	0.249	0.206
6/30/98-99	232,075	0.137	289,251	1.084	313,795	341,750	655,545	0.282	0.135
6/30/99-00	211,819	0.241	489,166	1.084	528,651	199,633	728,285	0.344	0.250
6/30/00-01	215,099	0.213	431,926	1.086	468,103	309,483	777,586	0.362	0.218
6/30/01-02	227,797	0.123	246,210	1.093	270,140	97,239	367,379	0.161	0.119
6/30/02-03	242,008	0.312	720,943	1.101	790,452	105,012	895,464	0.370	0.327
6/30/03-04	276,758	0.250	635,971	1.125	712,551	337,501	1,050,052	0.379	0.257
6/30/04-05	260,378	0.175	125,745	1.164	190,078	70,110	260,189	0.100	0.073
6/30/05-06	317,741	0.179	498,323	1.179	584,694	303,217	887,911	0.279	0.184
6/30/06-07	325,922	0.183	238,698	1.213	343,260	145,246	488,507	0.150	0.105
6/30/07-08	354,130	0.186	799,003	1.263	936,580	581,304	1,517,884	0.429	0.264
6/30/08-09	362,309	0.190	345,595	1.422	550,408	186,027	736,435	0.203	0.152
6/30/09-10	383,298	0.193	367,986	1.620	651,291	255,929	907,220	0.237	0.170
6/30/10-11	394,924	0.195	361,900	2.158	774,690	274,489	1,049,179	0.266	0.196
6/30/11-12	381,943	0.198	169,232	4.193	745,173	299,370	1,044,543	0.273	0.195
Total	6,542,094		24,680,886		27,206,805	7,082,462	34,289,267		

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, 2012**

Section 6
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Page 4

**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	910,272	0.633	0.946	0.599	1.245	0.746	0.170	0.637	0.629
6/30/91-92	155,170	1,204,885	0.776	1.038	0.806	1.232	0.993	0.156	0.775	0.764
6/30/92-93	163,283	517,621	0.317	1.210	0.384	1.220	0.468	0.135	0.317	0.312
6/30/93-94	177,184	1,461,798	0.825	1.195	0.986	1.208	1.191	0.139	0.790	0.798
6/30/94-95	188,391	290,394	0.154	1.184	0.182	1.196	0.218	0.141	0.155	0.153
6/30/95-96	201,751	270,499	0.134	1.174	0.157	1.184	0.186	0.144	0.137	0.135
6/30/96-97	231,872	121,506	0.052	1.163	0.061	1.173	0.071	0.147	0.062	0.059
6/30/97-98	232,237	478,707	0.206	1.148	0.237	1.161	0.275	0.150	0.206	0.202
6/30/98-99	232,075	313,496	0.135	1.133	0.153	1.149	0.176	0.154	0.141	0.137
6/30/99-00	211,819	530,168	0.250	1.114	0.279	1.138	0.317	0.158	0.246	0.241
6/30/00-01	215,099	469,033	0.218	1.086	0.237	1.127	0.267	0.163	0.219	0.213
6/30/01-02	227,797	269,165	0.118	1.065	0.126	1.116	0.140	0.168	0.129	0.123
6/30/02-03	242,008	793,956	0.328	1.061	0.348	1.105	0.385	0.171	0.300	0.312
6/30/03-04	276,758	715,190	0.258	1.061	0.274	1.094	0.300	0.172	0.261	0.250
6/30/04-05	260,378	146,396	0.056	1.054	0.059	1.083	0.064	0.175	0.221	0.175
6/30/05-06	317,741	587,702	0.185	1.044	0.193	1.072	0.207	0.179	0.226	0.179
6/30/06-07	325,922	289,605	0.089	1.032	0.092	1.062	0.097	0.183	0.230	0.183
6/30/07-08	354,130	1,009,429	0.285	1.021	0.291	1.051	0.306	0.186	0.235	0.186
6/30/08-09	362,309	491,505	0.136	1.009	0.137	1.041	0.142	0.190	0.240	0.190
6/30/09-10	383,298	596,205	0.156	1.005	0.156	1.030	0.161	0.193	0.244	0.193
6/30/10-11	394,924	781,093	0.198	1.007	0.199	1.020	0.203	0.195	0.248	0.195
6/30/11-12	381,943	709,575	0.186	1.000	0.186	1.010	0.188	0.198		0.198
Total	5,679,784	12,958,200								
Trend Last 4 (ex 11-12):					-9.6%	Avg 3 (x11-12):	0.169			
Trend Last 8 (ex 11-12):					3.3%	Avg 5 (x11-12):	0.182			
Trend Last 12 (ex 11-12):					-3.4%	Avg 10 (x11-12):	0.201			
Prior Selected Trend:					1.0%	Prior Sel Avg:	0.250			
Selected Trend:					1.0%	Sel. Loss Cost:	0.200			

NOTES:

- (2) Provided by Commonwealth of Massachusetts
- (3) From Section 6, Exhibit 1, Page 2, Column 6
- (4) = (3) / (2) / 10
- (5) Based on information from the MA WCRIB
- (6) = (4) x (5)
- (7) Based on Selected Trend from (6)
- (8) = (6) x (7)
- (9) = Sel. Loss Cost / [(5) * (7)]
- (10) From Aon analysis as of June 30, 2011
- (11) Selected based on (9) and (4)



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

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**University of Massachusetts (Medical Center) - Cluster 4
Indemnity**

Calculation of 1982 & Prior Reserves (Page 1)

Method 1			
(1)	Average Payment Trend	0.860	
(2)	Credibility	10%	
(3)	Average Pmt Trend Statewide	0.960	
(4)	Credibility Weighted Trend	0.950	
		(Low)	(High)
(5)	Selected Range	0.940	0.969
(6)	Incremental Paid for 2012	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 @ 6/11	1,329,412	1,329,412

NOTES:

- | | |
|--|--|
| <p>(1) From Section 6, Exhibit 1, Page 6</p> <p>(2) = (Average of Section 6, Exhibit 1, Page 6, Column 3 / 3,000,000) ^ 0.5</p> <p>(3) Average Statewide Trend</p> <p>(4) = (1) x (2) + (4) x {1 - (2)}</p> <p>(5) Selected judgmentally based on (4)</p> <p>(6), (14a) Provided by Commonwealth of Massachusetts</p> <p>(7) = (6) x (5) / {1 - (5)}</p> <p>(8), (16) From Section 6, Exhibit 1, Page 2, Column 3</p> <p>(9) = (7) + (8)</p> | <p>(10) Avg of 3 latest years from Section 6, Exhibit 1, Page 6, Column 3</p> <p>(11) Selected judgmentally</p> <p>(12) = (10 x (11)</p> <p>(14) = (12) + (13)</p> <p>(15) = Average of (9) and (14)</p> <p>(16) From Section 6, Exhibit 1, Page 9, Column 13</p> <p>(17) = (15) + (16)</p> <p>(18) = (15) / (8)</p> <p>(19) From Aon analysis as of June 30, 2011</p> |
|--|--|



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 6
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Page 6

**University of Massachusetts (Medical Center) - Cluster 4
Indemnity**

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paid	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				
				Selected Trend:	0.860	

NOTES:

(3) 2012 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2011

(4) LN [(3)]

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

			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			
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			
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	882,453	912,918	944,937	977,381	1,013,642	1,052,979	1,095,405	1,138,804	1,183,544	1,219,902	1,219,902	1,219,902	1,219,902	1,219,902	1,219,902	1,219,902	1,219,902	1,219,902			
June-85	63,759	160,290	251,092	325,415	403,737	509,752	570,921	613,784	663,935	693,110	702,075	726,654	753,001	779,914	809,196	840,064	837,165	837,745	837,745	837,745	837,745	837,745	837,745	837,745	837,745	837,745	837,745	837,745	837,745	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	2,421,446			
June-87	166,736	419,172	641,668	854,284	1,072,274	1,298,138	1,388,337	1,542,716	1,758,390	1,875,627	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	2,378,676	2,397,626	2,416,196	2,434,830	2,453,484	2,472,124	2,490,748	2,509,354	2,527,948	2,546,532			
June-88	174,528	435,032	660,480	886,856	1,054,966	1,193,356	1,302,385	1,395,659	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	2,658,126	2,695,371	2,732,616	2,769,861	2,807,106			
June-89	244,579	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	2,239,652	2,239,652	2,239,652	2,239,652	2,239,652	2,239,652	2,239,652	2,239,652	2,239,652	2,239,652	2,239,652	2,239,652	2,239,652	2,239,652	2,239,652			
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	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	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	1,161,55																							



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

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University of Massachusetts (Medical Center) - Cluster 4

Indemnity

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Accident Year	Ultimate Loss As of 6/11		Ultimate Loss As of 6/12		Change in Ultimate Loss		Change in Ultimate Loss	
					(Dollar)	(Percent)	(Dollar)	(Percent)
	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	2,534,000	2,538,000	2,531,000	2,533,000	(3,000)	-0.1%	(5,000)	-0.2%
6/30/86-87	3,259,000	3,554,330	3,313,000	3,613,705	54,000	1.7%	59,375	1.7%
6/30/87-88	2,901,000	3,032,767	2,981,000	3,112,547	80,000	2.8%	79,779	2.6%
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	1,854,000	1,856,000	1,870,000	1,873,000	16,000	0.9%	17,000	0.9%
6/30/94-95	538,000	538,000	538,000	538,000	0	0.0%	0	0.0%
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	659,000	660,000	655,000	656,000	(4,000)	-0.6%	(4,000)	-0.6%
6/30/99-00	733,000	734,000	728,000	730,000	(5,000)	-0.7%	(4,000)	-0.5%
6/30/00-01	786,000	786,000	778,000	779,000	(8,000)	-1.0%	(7,000)	-0.9%
6/30/01-02	371,000	373,000	366,000	367,000	(5,000)	-1.3%	(6,000)	-1.6%
6/30/02-03	853,000	856,000	895,000	899,000	42,000	4.9%	43,000	5.0%
6/30/03-04	1,077,000	1,079,000	1,050,000	1,053,000	(27,000)	-2.5%	(26,000)	-2.4%
6/30/04-05	205,000	270,000	217,000	260,000	12,000	5.9%	(10,000)	-3.7%
6/30/05-06	927,000	947,000	888,000	891,000	(39,000)	-4.2%	(56,000)	-5.9%
6/30/06-07	464,000	558,000	435,000	489,000	(29,000)	-6.3%	(69,000)	-12.4%
6/30/07-08	1,689,000	1,770,000	1,518,000	1,591,000	(171,000)	-10.1%	(179,000)	-10.1%
6/30/08-09	621,000	766,000	678,000	736,000	57,000	9.2%	(30,000)	-3.9%
6/30/09-10	967,000	1,085,000	852,000	907,000	(115,000)	-11.9%	(178,000)	-16.4%
6/30/10-11	1,140,000	1,182,000	1,049,000	1,056,000	(91,000)	-8.0%	(126,000)	-10.7%
6/30/11-12								
Total	36,353,338	37,716,988	36,117,338	37,216,143	(236,000)	-0.6%	(500,845)	-1.3%

NOTES:

(2), (3) From Aon analysis as of June 30, 2011

(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



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Indemnity

Calculation of Ultimate Lump Sum Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Accident Year	Paid Loss Excluding Lump Sum	Implied Cumulative LDF	Ult Loss Excluding Lump Sum	Selected Incr Lump Sum % Outstdg	Cumulative Lump Sum % Outstdg	Total Lump Sum Outstdg	Paid Lump Sum to Date	Est Ult Lump Sum - Incr Method	Ultimate Lump Sum Percentage	Lump Sum LDF	Est Ult Lump Sum - Paid Method	Selected Est Ultimate Lump Sums	Prior Est Ultimate Lump Sums
All Prior Yrs	1,242,912	1.000	1,242,912	0.0%	0.0%	0	86,500	86,500	7.0%	1.000	86,500	86,500	86,500
6/30/82-83	271,340	1.005	272,765	0.0%	0.0%	0	35,000	35,000	12.8%	1.000	35,000	35,000	35,000
6/30/83-84	1,219,902	1.005	1,226,308	0.0%	0.0%	0	223,937	223,937	18.3%	1.000	223,937	223,937	223,937
6/30/84-85	837,745	1.005	842,144	0.0%	0.0%	0	15,000	15,000	1.8%	1.000	15,000	15,000	15,000
6/30/85-86	2,421,446	1.005	2,434,162	0.0%	0.0%	0	96,495	96,495	4.0%	1.000	96,495	96,495	96,495
6/30/86-87	2,989,542	1.206	3,606,290	0.0%	0.0%	0	307,918	307,918	8.5%	1.000	307,918	307,918	307,918
6/30/87-88	2,620,881	1.106	2,898,109	0.0%	0.0%	0	346,482	346,482	12.0%	1.000	346,482	346,482	288,482
6/30/88-89	2,245,396	1.010	2,268,474	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	1.017	2,879,438	0.0%	0.0%	0	413,250	413,250	14.4%	1.000	413,250	413,250	413,250
6/30/90-91	887,647	1.025	910,272	0.0%	0.0%	0	214,176	214,176	23.5%	1.000	214,176	214,176	214,176
6/30/91-92	1,163,553	1.036	1,204,885	0.0%	0.0%	0	354,751	354,751	29.4%	1.000	354,751	354,751	354,751
6/30/92-93	494,916	1.046	517,621	0.0%	0.0%	0	143,251	143,251	27.7%	1.000	143,251	143,251	143,251
6/30/93-94	1,383,838	1.056	1,461,798	0.0%	0.0%	0	411,252	411,252	28.1%	1.000	411,252	411,252	411,252
6/30/94-95	273,127	1.063	290,394	0.0%	0.0%	0	248,000	248,000	85.4%	1.000	248,000	248,000	248,000
6/30/95-96	253,697	1.066	270,499	0.0%	0.0%	0	238,026	238,026	88.0%	1.000	238,026	238,026	238,026
6/30/96-97	113,590	1.070	121,506	0.0%	0.0%	0	308,800	308,800	254.1%	1.000	308,800	308,800	308,800
6/30/97-98	445,227	1.075	478,707	0.0%	0.0%	0	100,500	100,500	21.0%	1.000	100,500	100,500	100,500
6/30/98-99	289,251	1.084	313,496	0.0%	0.0%	0	341,750	341,750	109.0%	1.000	341,750	341,750	343,603
6/30/99-00	489,166	1.084	530,168	0.1%	0.1%	449	198,417	198,866	37.5%	1.010	200,401	199,633	200,848
6/30/00-01	431,926	1.086	469,033	0.1%	0.2%	720	306,047	306,767	65.4%	1.020	312,199	309,483	311,237
6/30/01-02	246,210	1.093	269,165	0.1%	0.2%	586	95,499	96,085	35.7%	1.030	98,393	97,239	98,002
6/30/02-03	720,943	1.101	793,956	0.2%	0.4%	3,075	101,416	104,491	13.2%	1.041	105,534	105,012	106,214
6/30/03-04	635,971	1.125	715,190	0.1%	0.5%	3,800	327,000	330,800	46.3%	1.053	344,201	337,501	343,012
6/30/04-05	125,745	1.164	146,396	0.2%	0.7%	1,063	67,000	68,063	46.5%	1.077	72,157	70,110	74,127
6/30/05-06	498,323	1.179	587,702	1.6%	2.3%	13,428	280,500	293,928	50.0%	1.114	312,507	303,217	321,262
6/30/06-07	238,698	1.213	289,605	1.0%	3.3%	9,431	130,000	139,431	48.1%	1.162	151,062	145,246	161,202
6/30/07-08	799,003	1.263	1,009,429	2.3%	5.5%	55,822	485,000	540,822	53.6%	1.282	621,786	581,304	670,020
6/30/08-09	345,595	1.422	491,505	5.2%	10.7%	52,825	133,501	186,326	37.9%	1.391	185,728	186,027	118,620
6/30/09-10	367,986	1.620	596,205	12.0%	22.7%	135,622	129,000	264,622	44.4%	1.917	247,236	255,929	246,550
6/30/10-11	361,900	2.158	781,093	11.5%	34.3%	267,679	50,000	317,679	40.7%	4.626	231,300	274,489	216,213
6/30/11-12	169,232	4.193	709,575	7.9%	42.2%	299,370	0	299,370	42.2%	4.626	0	299,370	
Total	27,415,040		30,628,802			843,867	6,566,718	7,410,585	24.2%		7,145,842	7,427,899	7,074,498

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, 2011



Lump Sum Development
Incremental Lump Sum Payments

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[illegible]

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**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%
372	100.0%	0.5%	0.0%	0.2%	0.1%	1.000	1.000
360	99.5%	0.0%	0.5%	0.0%	0.0%	0.981	0.971
348	99.5%	0.0%	0.5%	0.0%	0.0%	0.943	0.916
336	99.5%	0.0%	0.5%	0.0%	0.0%	0.907	0.864
324	99.5%	0.0%	0.5%	0.0%	0.0%	0.872	0.816
312	99.5%	0.0%	0.5%	0.0%	0.0%	0.838	0.769
300	99.5%	0.5%	0.5%	0.2%	0.1%	0.806	0.726
288	99.0%	0.7%	1.0%	0.3%	0.2%	0.875	0.824
276	98.3%	0.8%	1.7%	0.3%	0.2%	0.898	0.856
264	97.5%	0.9%	2.5%	0.4%	0.3%	0.900	0.859
252	96.6%	1.0%	3.4%	0.4%	0.3%	0.897	0.855
240	95.6%	0.9%	4.4%	0.4%	0.3%	0.888	0.842
228	94.7%	0.6%	5.3%	0.3%	0.2%	0.877	0.826
216	94.1%	0.3%	5.9%	0.1%	0.1%	0.857	0.799
204	93.8%	0.3%	6.2%	0.2%	0.1%	0.831	0.763
192	93.5%	0.5%	6.5%	0.3%	0.2%	0.807	0.732
180	93.0%	0.7%	7.0%	0.4%	0.3%	0.790	0.709
168	92.3%	0.0%	7.7%	0.0%	0.0%	0.781	0.698
156	92.3%	0.2%	7.7%	0.1%	0.1%	0.751	0.659
144	92.1%	0.6%	7.9%	0.4%	0.3%	0.728	0.629
132	91.5%	0.7%	8.5%	0.4%	0.4%	0.720	0.621
120	90.8%	1.9%	9.2%	1.3%	1.1%	0.713	0.614
108	88.9%	3.0%	11.1%	2.2%	1.8%	0.736	0.646
96	85.9%	1.1%	14.1%	0.8%	0.7%	0.766	0.687
84	84.8%	2.4%	15.2%	1.8%	1.6%	0.754	0.671
72	82.4%	3.3%	17.6%	2.6%	2.4%	0.760	0.679
60	79.2%	8.8%	20.8%	7.4%	6.8%	0.770	0.692
48	70.3%	8.6%	29.7%	7.5%	7.0%	0.812	0.748
36	61.7%	15.4%	38.3%	14.0%	13.3%	0.825	0.765
24	46.3%	22.5%	53.7%	21.2%	20.6%	0.847	0.793
12	23.8%	23.8%	76.2%	23.4%	23.2%	0.864	0.814
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)



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University of Massachusetts (Medical Center) - Cluster 4

Indemnity

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident Year	Undiscounted Outstanding Losses (Low)	Undiscounted Outstanding Losses (High)	Discount Factor at 4.0%	Discounted Outstanding Losses (Low)	Discounted Outstanding Losses (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	13,059	15,059	0.872	11,384	13,128
6/30/86-87	15,540	316,245	0.838	13,026	265,078
6/30/87-88	13,637	145,184	0.806	10,991	117,013
6/30/88-89	52,473	131,182	0.875	45,914	114,784
6/30/89-90	64,872	162,179	0.898	58,224	145,559
6/30/90-91	22,036	55,091	0.900	19,831	49,577
6/30/91-92	30,366	75,915	0.897	27,240	68,100
6/30/92-93	12,763	31,908	0.888	11,337	28,343
6/30/93-94	74,910	77,910	0.877	65,663	68,293
6/30/94-95	16,873	16,873	0.857	14,461	14,461
6/30/95-96	9,834	19,669	0.831	8,170	16,340
6/30/96-97	8,448	16,896	0.807	6,820	13,639
6/30/97-98	10,915	21,829	0.790	8,625	17,250
6/30/98-99	23,999	24,999	0.781	18,742	19,523
6/30/99-00	40,417	42,417	0.751	30,350	31,851
6/30/00-01	40,027	41,027	0.728	29,133	29,861
6/30/01-02	24,291	25,291	0.720	17,494	18,214
6/30/02-03	72,641	76,641	0.713	51,820	54,673
6/30/03-04	87,029	90,029	0.736	64,050	66,258
6/30/04-05	24,255	67,255	0.766	18,586	51,535
6/30/05-06	109,177	112,177	0.754	82,371	84,634
6/30/06-07	66,302	120,302	0.760	50,379	91,411
6/30/07-08	233,998	306,998	0.770	180,132	236,328
6/30/08-09	198,904	256,904	0.812	161,467	208,550
6/30/09-10	355,014	410,014	0.825	293,049	338,449
6/30/10-11	637,100	644,100	0.847	539,810	545,741
6/30/11-12	839,768	875,768	0.864	725,289	756,381
Total	3,144,580	4,279,385		2,607,045	3,557,863

(7) Total Discount Factor: 0.829 0.831

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)



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University of Massachusetts (Medical Center) - Cluster 4

Indemnity

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(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	13,059	15,059	0.816	10,650	12,281
6/30/86-87	15,540	316,245	0.769	11,956	243,303
6/30/87-88	13,637	145,184	0.726	9,898	105,375
6/30/88-89	52,473	131,182	0.824	43,245	108,111
6/30/89-90	64,872	162,179	0.856	55,509	138,773
6/30/90-91	22,036	55,091	0.859	18,923	47,308
6/30/91-92	30,366	75,915	0.855	25,948	64,870
6/30/92-93	12,763	31,908	0.842	10,749	26,871
6/30/93-94	74,910	77,910	0.826	61,865	64,343
6/30/94-95	16,873	16,873	0.799	13,480	13,480
6/30/95-96	9,834	19,669	0.763	7,504	15,007
6/30/96-97	8,448	16,896	0.732	6,180	12,359
6/30/97-98	10,915	21,829	0.709	7,742	15,485
6/30/98-99	23,999	24,999	0.698	16,754	17,452
6/30/99-00	40,417	42,417	0.659	26,618	27,936
6/30/00-01	40,027	41,027	0.629	25,184	25,813
6/30/01-02	24,291	25,291	0.621	15,082	15,703
6/30/02-03	72,641	76,641	0.614	44,582	47,037
6/30/03-04	87,029	90,029	0.646	56,186	58,123
6/30/04-05	24,255	67,255	0.687	16,659	46,194
6/30/05-06	109,177	112,177	0.671	73,302	75,316
6/30/06-07	66,302	120,302	0.679	45,016	81,680
6/30/07-08	233,998	306,998	0.692	162,014	212,557
6/30/08-09	198,904	256,904	0.748	148,763	192,141
6/30/09-10	355,014	410,014	0.765	271,663	313,750
6/30/10-11	637,100	644,100	0.793	505,483	511,037
6/30/11-12	839,768	875,768	0.814	683,804	713,118
Total	3,144,580	4,279,385		2,415,963	3,295,270

(7) Total Discount Factor: 0.768 0.770

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, 2012**

Section 6
Exhibit 1
Page 16

**University of Massachusetts (Medical Center) - Cluster 4
Total Indemnity (Including Lump Sums) + Medical
Calculation of Fiscal Year 7/1/12 - 13 Payments**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Accident Year	Est Ult Losses (Low)	Est Ult Losses (High)	Paid Losses to Date	Reserves (Low)	Reserves (High)	Cumulative Percent Paid	Incremental Paid as a % of Ultimates	as a % of Reserves	Estimated Payments from 7/1/12 - 6/30/13 (Low) (High)		FY 7/1/12 - 6/30/13 as a % of Reserves (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	2,747,432	2,752,662	2,733,296	14,136	19,367	99.4%	0.5%	82.1%	11,604	15,897	82.1%	82.1%
6/30/86-87	3,712,000	4,012,705	3,694,816	17,184	317,889	95.7%	1.0%	23.1%	3,961	73,286	23.1%	23.1%
6/30/87-88	3,330,000	3,462,547	3,315,292	14,708	147,255	97.6%	1.0%	41.9%	6,168	61,757	41.9%	41.9%
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	2,570,000	2,573,000	2,489,918	80,082	83,082	96.8%	1.0%	31.5%	25,242	26,188	31.5%	31.5%
6/30/94-95	958,000	958,000	937,761	20,239	20,239	97.9%	1.0%	47.3%	9,580	9,580	47.3%	47.3%
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	618,302	10,535	28,883	96.9%	1.0%	32.4%	3,410	9,350	32.4%	32.4%
6/30/97-98	1,019,642	1,054,756	1,004,193	15,448	50,563	96.8%	1.0%	31.4%	4,855	15,889	31.4%	31.4%
6/30/98-99	966,000	967,000	937,877	28,123	29,123	97.0%	1.0%	33.8%	9,496	9,834	33.8%	33.8%
6/30/99-00	916,000	918,000	872,750	43,250	45,250	95.2%	2.0%	41.4%	17,926	18,754	41.4%	41.4%
6/30/00-01	987,000	988,000	940,632	46,368	47,368	95.3%	2.0%	42.1%	19,539	19,961	42.1%	42.1%
6/30/01-02	574,000	575,000	543,177	30,823	31,823	94.5%	2.0%	36.7%	11,307	11,673	36.7%	36.7%
6/30/02-03	1,099,000	1,104,000	1,019,063	79,937	84,937	92.5%	2.0%	26.7%	21,362	22,698	26.7%	26.7%
6/30/03-04	1,367,000	1,385,850	1,259,226	107,774	126,624	91.5%	2.0%	23.5%	25,315	29,742	23.5%	23.5%
6/30/04-05	403,000	466,850	357,969	45,031	108,881	82.3%	2.0%	11.3%	5,090	12,307	11.3%	11.3%
6/30/05-06	1,250,000	1,271,100	1,097,498	152,502	173,602	87.1%	2.0%	15.5%	23,580	26,842	15.5%	15.5%
6/30/06-07	708,000	790,350	605,124	102,876	185,226	80.8%	2.0%	10.4%	10,701	19,266	10.4%	10.4%
6/30/07-08	2,084,000	2,217,850	1,783,468	300,532	434,382	82.9%	2.0%	11.7%	35,184	50,853	11.7%	11.7%
6/30/08-09	1,032,000	1,121,350	769,974	262,026	351,376	71.5%	11.4%	40.0%	104,883	140,648	40.0%	40.0%
6/30/09-10	1,191,000	1,291,300	761,973	429,027	529,327	61.4%	10.1%	26.2%	112,476	138,771	26.2%	26.2%
6/30/10-11	1,514,000	1,551,600	718,633	795,367	832,967	46.9%	14.5%	27.3%	217,256	227,527	27.3%	27.3%
6/30/11-12	1,413,000	1,516,450	308,565	1,104,435	1,207,885	21.1%	25.8%	32.7%	361,234	395,071	32.7%	32.7%
Total	47,425,996	49,047,985	43,472,183	3,953,813	5,575,802				1,112,947	1,548,650	28.1%	27.8%

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, 2012**

Section 6
Exhibit 2
Page 1

**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	21,309		21,332	21,651	106	425		
6/30/83-84		50,961	51,160		51,216	51,980	255	1,019		
6/30/84-85	116,303	162,725	163,360	163,607	163,539	165,980	814	3,255	0.141	0.143
6/30/85-86	123,981	215,355	216,196	216,507	216,432	219,662	1,077	4,307	0.175	0.177
6/30/86-87	139,388	397,356	398,908	399,433	399,000	399,000	1,644	1,644	0.286	0.286
6/30/87-88	159,499	347,929	349,287	349,672	349,000	350,000	1,071	2,071	0.219	0.219
6/30/88-89	180,644	488,786	490,694	491,238	491,230	513,225	2,444	24,439	0.272	0.284
6/30/89-90	142,494	553,962	556,125	557,093	556,732	581,660	2,770	27,698	0.391	0.408
6/30/90-91	143,694	301,697	303,178	303,169	303,205	316,782	1,508	15,085	0.211	0.220
6/30/91-92	155,170	669,188	673,145	673,081	672,534	702,647	3,346	33,459	0.433	0.453
6/30/92-93	163,283	395,196	397,930	397,877	397,172	414,956	1,976	19,760	0.243	0.254
6/30/93-94	177,184	694,829	700,336	700,164	700,000	700,000	5,172	5,172	0.395	0.395
6/30/94-95	188,391	416,634	420,356	420,245	420,000	420,000	3,366	3,366	0.223	0.223
6/30/95-96	201,751	382,952	386,574	386,461	384,867	402,100	1,915	19,148	0.191	0.199
6/30/96-97	231,872	195,912	197,871	197,885	198,000	207,900	2,088	11,988	0.085	0.090
6/30/97-98	232,237	458,466	463,700	463,480	463,000	487,200	4,534	28,734	0.199	0.210
6/30/98-99	232,075	306,876	310,690	310,592	311,000	311,000	4,124	4,124	0.134	0.134
6/30/99-00	211,819	185,166	188,134	188,161	188,000	188,000	2,834	2,834	0.089	0.089
6/30/00-01	215,099	202,659	209,204	209,223	209,000	209,000	6,341	6,341	0.097	0.097
6/30/01-02	227,797	201,469	208,391	208,469	208,000	208,000	6,531	6,531	0.091	0.091
6/30/02-03	242,008	196,704	204,480	204,673	204,000	205,000	7,296	8,296	0.084	0.085
6/30/03-04	276,758	296,255	317,056	316,959	317,000	332,850	20,745	36,595	0.115	0.120
6/30/04-05	260,378	165,224	185,546	197,013	186,000	206,850	20,776	41,626	0.071	0.079
6/30/05-06	317,741	318,675	362,301	361,900	362,000	380,100	43,325	61,425	0.114	0.120
6/30/06-07	325,922	236,426	273,399	286,719	273,000	301,350	36,574	64,924	0.084	0.092
6/30/07-08	354,130	499,466	597,001	566,142	566,000	626,850	66,534	127,384	0.160	0.177
6/30/08-09	362,309	290,878	354,460	366,929	354,000	385,350	63,122	94,472	0.098	0.106
6/30/09-10	383,298	264,987	338,566	366,050	339,000	384,300	74,013	119,313	0.088	0.100
6/30/10-11	394,924	306,733	465,202	471,581	465,000	495,600	158,267	188,867	0.118	0.125
6/30/11-12	381,943	139,332	403,786	448,921	404,000	471,450	264,668	332,118	0.106	0.123
Total	6,542,094	9,490,425	10,208,348	10,223,244	10,299,658	10,786,842	809,233	1,296,417		
Tot 6/30/84-12	6,542,094	9,291,838	10,135,879	10,223,244	10,100,710	10,586,812	808,872	1,294,974	0.154	0.162

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, 2012

Section 6
Exhibit 2
Page 2

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 7/1/10-11	Paid Counts 7/1/11-12	Average Outstanding Claim
All Prior Yrs		126,400							0	0	
6/30/82-83		21,226	1.004	1.000	21,309	N/A	21,309		0	0	
6/30/83-84		50,961	1.004	1.000	51,160	N/A	51,160		0	0	
6/30/84-85	116,303	162,725	1.004	1.000	163,360	N/A	163,360	0.140	0	0	
6/30/85-86	123,981	215,355	1.004	1.000	216,196	N/A	216,196	0.174	0	0	
6/30/86-87	139,388	397,356	1.004	1.000	398,908	N/A	398,908	0.286	0	0	
6/30/87-88	159,499	347,929	1.004	1.000	349,287	N/A	349,287	0.219	1	1	1,358
6/30/88-89	180,644	488,786	1.004	1.000	490,694	N/A	490,694	0.272	0	0	
6/30/89-90	142,494	553,962	1.004	1.000	556,125	N/A	556,125	0.390	0	0	
6/30/90-91	143,694	301,697	1.005	1.000	303,178	N/A	303,178	0.211	0	0	
6/30/91-92	155,170	669,188	1.006	1.000	673,145	N/A	673,145	0.434	0	0	
6/30/92-93	163,283	395,196	1.007	1.000	397,930	N/A	397,930	0.244	0	0	
6/30/93-94	177,184	694,829	1.008	1.000	700,336	N/A	700,336	0.395	1	0	
6/30/94-95	188,391	416,634	1.009	1.000	420,356	N/A	420,356	0.223	1	1	3,722
6/30/95-96	201,751	382,952	1.009	1.000	386,574	N/A	386,574	0.192	0	0	
6/30/96-97	231,872	195,912	1.010	1.000	197,871	N/A	197,871	0.085	1	1	1,959
6/30/97-98	232,237	458,466	1.011	1.000	463,700	N/A	463,700	0.200	1	1	5,233
6/30/98-99	232,075	306,876	1.012	1.000	310,690	N/A	310,690	0.134	1	1	3,813
6/30/99-00	211,819	185,166	1.016	1.000	188,134	N/A	188,134	0.089	1	1	2,968
6/30/00-01	215,099	202,659	1.032	1.000	209,204	N/A	209,204	0.097	1	1	6,545
6/30/01-02	227,797	201,469	1.034	1.000	208,391	N/A	208,391	0.091	1	1	6,923
6/30/02-03	242,008	196,704	1.040	1.000	204,480	N/A	204,480	0.084	1	1	7,776
6/30/03-04	276,758	296,255	1.070	1.000	317,056	N/A	317,056	0.115	1	1	20,801
6/30/04-05	260,378	165,224	1.123	1.000	185,546	N/A	185,546	0.071	1	2	10,161
6/30/05-06	317,741	318,675	1.137	1.000	362,301	N/A	362,301	0.114	3	3	14,542
6/30/06-07	325,922	236,426	1.156	1.000	273,399	N/A	273,399	0.084	1	0	
6/30/07-08	354,130	499,466	1.195	1.000	597,001	N/A	597,001	0.169	13	6	16,256
6/30/08-09	362,309	290,878	1.219	1.000	354,460	N/A	354,460	0.098	19	6	10,597
6/30/09-10	383,298	264,987	1.278	1.000	338,566	N/A	338,566	0.088	140	20	3,679
6/30/10-11	394,924	306,733	1.517	1.000	465,202	N/A	465,202	0.118	222	90	1,761
6/30/11-12	381,943	139,332	2.898	1.000	403,786	N/A	403,786	0.106		221	1,197
Total	6,542,094	9,490,425			10,208,348		10,208,348		410	358	

NOTES:

(2) Provided by Commonwealth of Massachusetts

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

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

(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, 2012

Section 6

Exhibit 2

Page 3

University of Massachusetts (Medical Center) - Cluster 4

Medical

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident	Payroll	A Priori		Paid	Ultimate Loss	Est Ult	Ultimate Loss	Ultimate	Ultimate Loss
Year	(000's)	Loss		LDF	Excluding	Lump Sum	Including	Loss	Cost Excluding
		Rate	Paid Loss		Lump Sum	Payments	Lump Sum	Cost	Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	116,303	0.195	162,725	1.004	163,607	N/A	163,607	0.141	0.141
6/30/85-86	123,981	0.239	215,355	1.004	216,507	N/A	216,507	0.175	0.175
6/30/86-87	139,388	0.383	397,356	1.004	399,433	N/A	399,433	0.287	0.287
6/30/87-88	159,499	0.281	347,929	1.004	349,672	N/A	349,672	0.219	0.219
6/30/88-89	180,644	0.349	488,786	1.004	491,238	N/A	491,238	0.272	0.272
6/30/89-90	142,494	0.565	553,962	1.004	557,093	N/A	557,093	0.391	0.391
6/30/90-91	143,694	0.210	301,697	1.005	303,169	N/A	303,169	0.211	0.211
6/30/91-92	155,170	0.427	669,188	1.006	673,081	N/A	673,081	0.434	0.434
6/30/92-93	163,283	0.239	395,196	1.007	397,877	N/A	397,877	0.244	0.244
6/30/93-94	177,184	0.383	694,829	1.008	700,164	N/A	700,164	0.395	0.395
6/30/94-95	188,391	0.216	416,634	1.009	420,245	N/A	420,245	0.223	0.223
6/30/95-96	201,751	0.186	382,952	1.009	386,461	N/A	386,461	0.192	0.192
6/30/96-97	231,872	0.086	195,912	1.010	197,885	N/A	197,885	0.085	0.085
6/30/97-98	232,237	0.191	458,466	1.011	463,480	N/A	463,480	0.200	0.200
6/30/98-99	232,075	0.130	306,876	1.012	310,592	N/A	310,592	0.134	0.134
6/30/99-00	211,819	0.090	185,166	1.016	188,161	N/A	188,161	0.089	0.089
6/30/00-01	215,099	0.098	202,659	1.032	209,223	N/A	209,223	0.097	0.097
6/30/01-02	227,797	0.093	201,469	1.034	208,469	N/A	208,469	0.092	0.092
6/30/02-03	242,008	0.087	196,704	1.040	204,673	N/A	204,673	0.085	0.085
6/30/03-04	276,758	0.114	296,255	1.070	316,959	N/A	316,959	0.115	0.115
6/30/04-05	260,378	0.111	165,224	1.123	197,013	N/A	197,013	0.076	0.076
6/30/05-06	317,741	0.113	318,675	1.137	361,900	N/A	361,900	0.114	0.114
6/30/06-07	325,922	0.114	236,426	1.156	286,719	N/A	286,719	0.088	0.088
6/30/07-08	354,130	0.115	499,466	1.195	566,142	N/A	566,142	0.160	0.160
6/30/08-09	362,309	0.117	290,878	1.219	366,929	N/A	366,929	0.101	0.101
6/30/09-10	383,298	0.121	264,987	1.278	366,050	N/A	366,050	0.096	0.096
6/30/10-11	394,924	0.123	306,733	1.517	471,581	N/A	471,581	0.119	0.119
6/30/11-12	381,943	0.124	139,332	2.898	448,921	N/A	448,921	0.118	0.118
Total	6,542,094		9,291,838		10,223,244		10,223,244		

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, 2012**

Section 6
Exhibit 2
Page 4

**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	303,178	0.211	1.194	0.252	1.245	0.314	0.084	0.210	0.210
6/30/91-92	155,170	673,145	0.434	1.189	0.516	1.232	0.635	0.085	0.428	0.427
6/30/92-93	163,283	397,930	0.244	1.189	0.290	1.220	0.354	0.086	0.240	0.239
6/30/93-94	177,184	700,336	0.395	1.178	0.466	1.208	0.563	0.088	0.384	0.383
6/30/94-95	188,391	420,356	0.223	1.170	0.261	1.196	0.312	0.089	0.217	0.216
6/30/95-96	201,751	386,574	0.192	1.155	0.221	1.184	0.262	0.091	0.187	0.186
6/30/96-97	231,872	197,871	0.085	1.137	0.097	1.173	0.114	0.094	0.087	0.086
6/30/97-98	232,237	463,700	0.200	1.135	0.227	1.161	0.263	0.095	0.191	0.191
6/30/98-99	232,075	310,690	0.134	1.135	0.152	1.149	0.175	0.096	0.132	0.130
6/30/99-00	211,819	188,134	0.089	1.135	0.101	1.138	0.115	0.097	0.088	0.090
6/30/00-01	215,099	209,204	0.097	1.109	0.108	1.127	0.122	0.100	0.098	0.098
6/30/01-02	227,797	208,391	0.091	1.101	0.101	1.116	0.112	0.102	0.088	0.093
6/30/02-03	242,008	204,480	0.084	1.073	0.091	1.105	0.100	0.105	0.087	0.087
6/30/03-04	276,758	317,056	0.115	1.046	0.120	1.094	0.131	0.109	0.121	0.114
6/30/04-05	260,378	185,546	0.071	1.036	0.074	1.083	0.080	0.111	0.126	0.111
6/30/05-06	317,741	362,301	0.114	1.032	0.118	1.072	0.126	0.113	0.128	0.113
6/30/06-07	325,922	273,399	0.084	1.032	0.087	1.062	0.092	0.114	0.129	0.114
6/30/07-08	354,130	597,001	0.169	1.032	0.174	1.051	0.183	0.115	0.130	0.115
6/30/08-09	362,309	354,460	0.098	1.027	0.100	1.041	0.105	0.117	0.132	0.117
6/30/09-10	383,298	338,566	0.088	1.000	0.088	1.030	0.091	0.121	0.137	0.121
6/30/10-11	394,924	465,202	0.118	1.000	0.118	1.020	0.120	0.123	0.139	0.123
6/30/11-12	381,943	403,786	0.106	1.000	0.106	1.010	0.107	0.124		0.124
Total	5,679,784	7,961,308								
			Trend Last 4 (ex 11-12):		-12.2%	Avg 3 (x11-12):	0.105			
			Trend Last 8 (ex 11-12):		1.2%	Avg 5 (x11-12):	0.118			
			Trend Last 12 (ex 11-12):		0.9%	Avg 10 (x11-12):	0.114			
			Prior Selected Trend:		1.0%	Prior Sel Avg:	0.140			
			Selected Trend:		1.0%	Sel. Loss Cost:	0.125			

NOTES:

- (2) Provided by Commonwealth of Massachusetts
- (3) From Section 6, Exhibit 2, Page 2, Column 6
- (4) = (3) / (2) / 10
- (5) Based on information from the MA WCIRB
- (6) = (4) x (5)
- (7) Based on Selected Trend from (6)
- (8) = (6) x (7)
- (9) = Sel. Loss Cost / [(5) * (7)]
- (10) From Aon analysis as of June 30, 2011
- (11) Selected based on (9) and (4)



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**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	0.919	
		(Low)	(High)
(5)	Selected Range	0.910	0.928
(6)	Incremental Paid for 2012	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 @ 6/11	126,400	126,400

NOTES:

- | | |
|--|---|
| <p>(1) From Section 6, Exhibit 2, Page 6</p> <p>(2) = (Average of Section 6, Exhibit 2, Page 6, Column 3 / 175,000) ^ 0.5</p> <p>(3) Average Statewide Trend</p> <p>(4) = (1) x (2) + (4) x { 1 - (2) }</p> <p>(5) Selected judgmentally based on (4)</p> <p>(6), (14a) Provided by Commonwealth of Massachusetts</p> <p>(7) = (6) x (5) / { 1 - (5) }</p> <p>(8), (16) From Section 6, Exhibit 2, Page 2, Column 3</p> <p>(9) = (7) + (8)</p> | <p>(10) Avg of 3 latest years from Section 6, Exhibit 2, Page 6, Column 3</p> <p>(11) Selected judgmentally</p> <p>(12) = (10 x (11))</p> <p>(14) = (12) + (13)</p> <p>(15) = Average of (9) and (14)</p> <p>(16) Lump Sums are considered in Indemnity analysis (Section 1)</p> <p>(17) = (15) + (16)</p> <p>(18) = (15) / (8)</p> <p>(19) From Prior Aon Analysis as of June 30, 2011</p> |
|--|---|



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**University of Massachusetts (Medical Center) - Cluster 4
Medical**

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paid	LN	Average Observed Trend	Trend Calculations	
1992	1	1,277	7.152			
1993	2	1,933	7.567	1.514		
1994	3	2,959	7.993	1.531		
1995	4	30,696	10.332	10.374		
1996	5	1,619	7.390	0.053		
1997	6	7,074	8.864	4.369		
1998	7	5,136	8.544	0.726		
1999	8	26,679	10.192	5.195		
2000	9	8,683	9.069	0.325	n =	12
2001	10	453	6.116	0.052	S(x) =	23,970
2002	11	573	6.351	1.265	S(x-sq) =	47,880,218
2003	12	16	2.773	0.028	S(xy) =	184,417
2004	13	0	0.000	0.000	S(y) =	92
2005	14	0	0.000	0.000	D =	1,716
2006	15	0	0.000	0.000	slope =	-0.246
2007	16	0	0.000	0.000	Avg Trend =	0.754
2008	17	0	0.000	0.000		
2009	18	0	0.000	0.000		
2010	19	0	0.000	0.000		
2011	20	0	0.000	0.000		
2012	21	0	0.000	0.000		
				Selected Trend:	0.750	

NOTES:

(3) 2012 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2011

(4) LN [(3)]

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

[illegible]



**Commonwealth of Massachusetts
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University of Massachusetts (Medical Center) - Cluster 4

Medical

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Accident Year	Ultimate Loss As of 6/11		Ultimate Loss As of 6/12		Change in Ultimate Loss		Change in Ultimate Loss	
					(Dollar)	(Percent)	(Dollar)	(Percent)
	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	400,000	400,000	399,000	399,000	(1,000)	-0.2%	(1,000)	-0.2%
6/30/87-88	349,000	349,000	349,000	350,000	0	0.0%	1,000	0.3%
6/30/88-89	491,230	513,225	491,230	513,225	0	0.0%	0	0.0%
6/30/89-90	556,732	581,660	556,732	581,660	0	0.0%	0	0.0%
6/30/90-91	303,205	316,782	303,205	316,782	0	0.0%	0	0.0%
6/30/91-92	672,534	702,647	672,534	702,647	0	0.0%	0	0.0%
6/30/92-93	397,172	414,956	397,172	414,956	0	0.0%	0	0.0%
6/30/93-94	702,000	702,000	700,000	700,000	(2,000)	-0.3%	(2,000)	-0.3%
6/30/94-95	421,000	421,000	420,000	420,000	(1,000)	-0.2%	(1,000)	-0.2%
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	461,000	485,100	463,000	487,200	2,000	0.4%	2,100	0.4%
6/30/98-99	312,000	312,000	311,000	311,000	(1,000)	-0.3%	(1,000)	-0.3%
6/30/99-00	182,000	182,000	188,000	188,000	6,000	3.3%	6,000	3.3%
6/30/00-01	207,000	207,000	209,000	209,000	2,000	1.0%	2,000	1.0%
6/30/01-02	195,000	195,000	208,000	208,000	13,000	6.7%	13,000	6.7%
6/30/02-03	202,000	202,000	204,000	205,000	2,000	1.0%	3,000	1.5%
6/30/03-04	333,000	349,650	317,000	332,850	(16,000)	-4.8%	(16,800)	-4.8%
6/30/04-05	187,000	215,250	186,000	206,850	(1,000)	-0.5%	(8,400)	-3.9%
6/30/05-06	351,000	376,950	362,000	380,100	11,000	3.1%	3,150	0.8%
6/30/06-07	283,000	320,250	273,000	301,350	(10,000)	-3.5%	(18,900)	-5.9%
6/30/07-08	565,000	617,400	566,000	626,850	1,000	0.2%	9,450	1.5%
6/30/08-09	371,000	415,800	354,000	385,350	(17,000)	-4.6%	(30,450)	-7.3%
6/30/09-10	391,000	460,950	339,000	384,300	(52,000)	-13.3%	(76,650)	-16.6%
6/30/10-11	581,000	686,700	465,000	495,600	(116,000)	-20.0%	(191,100)	-27.8%
6/30/11-12								
Total	10,075,658	10,622,992	9,895,658	10,315,392	(180,000)	-1.8%	(307,600)	-2.9%

NOTES:

(2), (3) From Aon analysis as of June 30, 2011

(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



**Commonwealth of Massachusetts
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**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%
372	100.0%	0.4%	0.0%	0.1%	0.1%	1.000	1.000
360	99.6%	0.0%	0.4%	0.0%	0.0%	1.000	1.000
348	99.6%	0.0%	0.4%	0.0%	0.0%	1.000	1.000
336	99.6%	0.0%	0.4%	0.0%	0.0%	1.000	1.000
324	99.6%	0.0%	0.4%	0.0%	0.0%	1.000	1.000
312	99.6%	0.0%	0.4%	0.0%	0.0%	1.000	1.000
300	99.6%	0.0%	0.4%	0.0%	0.0%	0.806	0.726
288	99.6%	0.0%	0.4%	0.0%	0.0%	0.775	0.685
276	99.6%	0.1%	0.4%	0.0%	0.0%	0.745	0.646
264	99.5%	0.1%	0.5%	0.0%	0.0%	0.770	0.683
252	99.4%	0.1%	0.6%	0.0%	0.0%	0.781	0.700
240	99.3%	0.1%	0.7%	0.0%	0.0%	0.784	0.705
228	99.2%	0.1%	0.8%	0.0%	0.0%	0.783	0.704
216	99.1%	0.1%	0.9%	0.0%	0.0%	0.778	0.698
204	99.1%	0.1%	0.9%	0.0%	0.0%	0.761	0.676
192	99.0%	0.1%	1.0%	0.1%	0.1%	0.745	0.656
180	98.9%	0.1%	1.1%	0.1%	0.0%	0.749	0.662
168	98.8%	0.4%	1.2%	0.2%	0.2%	0.741	0.652
156	98.4%	1.6%	1.6%	0.9%	0.7%	0.772	0.694
144	96.9%	0.2%	3.1%	0.1%	0.1%	0.860	0.812
132	96.7%	0.5%	3.3%	0.3%	0.3%	0.836	0.778
120	96.2%	2.8%	3.8%	1.9%	1.6%	0.826	0.764
108	93.4%	4.4%	6.6%	3.1%	2.7%	0.873	0.826
96	89.0%	1.1%	11.0%	0.8%	0.7%	0.896	0.856
84	88.0%	1.5%	12.0%	1.1%	1.0%	0.872	0.823
72	86.5%	2.8%	13.5%	2.3%	2.0%	0.854	0.797
60	83.7%	1.6%	16.3%	1.3%	1.2%	0.849	0.790
48	82.1%	3.8%	17.9%	3.3%	3.1%	0.831	0.765
36	78.3%	12.3%	21.7%	11.2%	10.7%	0.831	0.766
24	65.9%	31.4%	34.1%	29.6%	28.8%	0.865	0.812
12	34.5%	34.5%	65.5%	33.8%	33.5%	0.903	0.865
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)



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University of Massachusetts (Medical Center) - Cluster 4

Medical

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	0	0		0	0
6/30/82-83	106	425	1.000	106	425
6/30/83-84	255	1,019	1.000	255	1,019
6/30/84-85	814	3,255	1.000	814	3,255
6/30/85-86	1,077	4,307	1.000	1,077	4,307
6/30/86-87	1,644	1,644	1.000	1,644	1,644
6/30/87-88	1,071	2,071	0.806	863	1,669
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	0.770	1,162	11,620
6/30/91-92	3,346	33,459	0.781	2,614	26,140
6/30/92-93	1,976	19,760	0.784	1,550	15,499
6/30/93-94	5,172	5,172	0.783	4,048	4,048
6/30/94-95	3,366	3,366	0.778	2,619	2,619
6/30/95-96	1,915	19,148	0.761	1,457	14,572
6/30/96-97	2,088	11,988	0.745	1,555	8,931
6/30/97-98	4,534	28,734	0.749	3,395	21,517
6/30/98-99	4,124	4,124	0.741	3,056	3,056
6/30/99-00	2,834	2,834	0.772	2,188	2,188
6/30/00-01	6,341	6,341	0.860	5,456	5,456
6/30/01-02	6,531	6,531	0.836	5,462	5,462
6/30/02-03	7,296	8,296	0.826	6,030	6,856
6/30/03-04	20,745	36,595	0.873	18,106	31,940
6/30/04-05	20,776	41,626	0.896	18,614	37,294
6/30/05-06	43,325	61,425	0.872	37,789	53,576
6/30/06-07	36,574	64,924	0.854	31,242	55,459
6/30/07-08	66,534	127,384	0.849	56,474	108,123
6/30/08-09	63,122	94,472	0.831	52,443	78,489
6/30/09-10	74,013	119,313	0.831	61,475	99,100
6/30/10-11	158,267	188,867	0.865	136,824	163,278
6/30/11-12	264,668	332,118	0.903	238,973	299,875
Total	809,233	1,296,417		701,247	1,106,995

(7) Total Discount Factor: 0.867 0.854

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)



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University of Massachusetts (Medical Center) - Cluster 4

Medical

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident Year	Undiscounted Outstanding Losses (Low)	Undiscounted Outstanding Losses (High)	Discount Factor at 6.0%	Discounted Outstanding Losses (Low)	Discounted Outstanding Losses (High)
All Prior Yrs	0	0		0	0
6/30/82-83	106	425	1.000	106	425
6/30/83-84	255	1,019	1.000	255	1,019
6/30/84-85	814	3,255	1.000	814	3,255
6/30/85-86	1,077	4,307	1.000	1,077	4,307
6/30/86-87	1,644	1,644	1.000	1,644	1,644
6/30/87-88	1,071	2,071	0.726	777	1,503
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	0.683	1,030	10,305
6/30/91-92	3,346	33,459	0.700	2,341	23,413
6/30/92-93	1,976	19,760	0.705	1,393	13,933
6/30/93-94	5,172	5,172	0.704	3,640	3,640
6/30/94-95	3,366	3,366	0.698	2,351	2,351
6/30/95-96	1,915	19,148	0.676	1,294	12,944
6/30/96-97	2,088	11,988	0.656	1,369	7,859
6/30/97-98	4,534	28,734	0.662	3,000	19,016
6/30/98-99	4,124	4,124	0.652	2,690	2,690
6/30/99-00	2,834	2,834	0.694	1,968	1,968
6/30/00-01	6,341	6,341	0.812	5,148	5,148
6/30/01-02	6,531	6,531	0.778	5,080	5,080
6/30/02-03	7,296	8,296	0.764	5,573	6,337
6/30/03-04	20,745	36,595	0.826	17,135	30,227
6/30/04-05	20,776	41,626	0.856	17,790	35,642
6/30/05-06	43,325	61,425	0.823	35,637	50,525
6/30/06-07	36,574	64,924	0.797	29,164	51,770
6/30/07-08	66,534	127,384	0.790	52,562	100,633
6/30/08-09	63,122	94,472	0.765	48,316	72,313
6/30/09-10	74,013	119,313	0.766	56,666	91,348
6/30/10-11	158,267	188,867	0.812	128,580	153,441
6/30/11-12	264,668	332,118	0.865	228,869	287,196
Total	809,233	1,296,417		659,730	1,034,554

(7) Total Discount Factor: 0.815 0.798

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, 2012**

Massachusetts Colleges & Universities - Cluster 4

Indemnity

Section 7
Exhibit 1
Page 1

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		2,967,806			3,542,262	3,834,860	574,456	867,054		
6/30/82-83		743,272	745,243		758,137	773,003	14,865	29,731		
6/30/83-84		917,731	920,036		936,086	954,440	18,355	36,709		
6/30/84-85	357,749	1,492,038	1,495,871	1,497,790	1,521,879	1,551,720	29,841	59,682	0.425	0.434
6/30/85-86	380,112	1,868,907	1,873,953	1,875,676	1,874,000	1,876,000	5,093	7,093	0.493	0.494
6/30/86-87	423,770	2,558,251	2,809,301	2,565,727	2,566,000	2,809,000	7,749	250,749	0.606	0.663
6/30/87-88	480,405	4,089,678	4,861,175	4,100,791	4,171,472	4,294,162	81,794	204,484	0.868	0.894
6/30/88-89	495,261	1,515,210	1,520,101	1,522,934	1,545,514	1,590,971	30,304	75,761	0.312	0.321
6/30/89-90	502,691	3,466,866	3,481,697	3,481,577	3,536,203	3,640,209	69,337	173,343	0.703	0.724
6/30/90-91	482,143	1,393,607	1,400,293	1,400,273	1,400,000	1,400,000	6,393	6,393	0.290	0.290
6/30/91-92	492,539	1,391,536	1,858,034	1,403,764	1,467,809	1,630,899	76,274	239,363	0.298	0.331
6/30/92-93	524,541	1,147,496	1,162,117	1,161,990	1,170,446	1,204,871	22,950	57,375	0.223	0.230
6/30/93-94	584,853	1,066,933	1,460,616	1,096,982	1,097,000	1,461,000	30,067	394,067	0.188	0.250
6/30/94-95	587,701	1,502,678	1,540,254	1,539,710	1,540,000	1,540,000	37,322	37,322	0.262	0.262
6/30/95-96	614,868	1,269,047	1,316,725	1,316,461	1,294,428	1,332,499	25,381	63,452	0.211	0.217
6/30/96-97	700,686	1,098,628	1,159,331	1,159,753	1,159,000	1,160,000	60,372	61,372	0.165	0.166
6/30/97-98	684,415	1,905,371	2,057,750	2,052,648	2,053,000	2,058,000	147,629	152,629	0.300	0.301
6/30/98-99	707,796	1,282,862	1,422,218	1,420,921	1,421,000	1,493,000	138,138	210,138	0.201	0.211
6/30/99-00	760,477	1,182,336	1,320,052	1,323,083	1,320,000	1,323,000	137,664	140,664	0.174	0.174
6/30/00-01	811,600	1,518,858	1,757,687	1,755,233	1,755,000	1,758,000	236,142	239,142	0.216	0.217
6/30/01-02	835,038	2,185,889	2,571,207	2,558,423	2,558,000	2,571,000	372,111	385,111	0.306	0.308
6/30/02-03	825,340	1,176,505	1,439,770	1,442,768	1,440,000	1,443,000	263,495	266,495	0.174	0.175
6/30/03-04	849,216	1,486,953	1,855,095	1,853,866	1,854,000	1,948,000	367,047	461,047	0.218	0.229
6/30/04-05	992,508	1,023,493	1,332,030	1,494,234	1,332,000	1,494,000	308,507	470,507	0.134	0.151
6/30/05-06	962,878	1,259,806	1,738,716	1,805,672	1,739,000	1,896,000	479,194	636,194	0.181	0.197
6/30/06-07	1,032,930	891,612	1,311,446	1,567,168	1,311,000	1,567,000	419,388	675,388	0.127	0.152
6/30/07-08	1,063,597	1,646,106	2,517,154	2,501,936	2,502,000	2,517,000	855,895	870,895	0.235	0.237
6/30/08-09	1,073,805	1,131,874	2,016,868	2,159,267	2,017,000	2,159,000	885,126	1,027,126	0.188	0.201
6/30/09-10	1,084,749	1,560,776	3,500,163	3,250,187	3,250,000	3,500,000	1,689,224	1,939,224	0.300	0.323
6/30/10-11	1,134,164	979,293	2,967,953	2,743,592	2,744,000	2,968,000	1,764,707	1,988,707	0.242	0.262
6/30/11-12	1,202,674	412,473	2,898,096	2,801,490	2,801,000	2,898,000	2,388,527	2,485,527	0.233	0.241
Total	20,648,505	48,133,892	58,310,951	54,853,916	59,677,236	62,646,634	11,543,345	14,512,742		
Tot 6/30/84-12	20,648,505	43,505,083	56,645,673	54,853,916	54,440,751	57,084,330	10,935,668	13,579,248	0.264	0.276

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, 2012
Massachusetts Colleges & Universities - Cluster 4
Indemnity**

Section 7
Exhibit 1
Page 2

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 7/1/10-11	Paid Counts 7/1/11-12	Average Outstanding Claim	Average Age
All Prior Yrs		2,952,056							2	2		82
6/30/82-83		716,272	1.003	1.000	718,243	27,000	745,243		0	0		
6/30/83-84		837,731	1.003	1.000	840,036	80,000	920,036		0	0		
6/30/84-85	357,749	1,393,062	1.003	1.000	1,396,895	98,976	1,495,871	0.418	0	0		
6/30/85-86	380,112	1,833,907	1.003	1.000	1,838,953	35,000	1,873,953	0.493	0	0		
6/30/86-87	423,770	2,436,751	1.003	1.100	2,687,801	121,500	2,809,301	0.663	1	1	251,050	86
6/30/87-88	480,405	3,794,835	1.003	1.200	4,566,332	294,843	4,861,175	1.012	2	2	385,748	72
6/30/88-89	495,261	1,302,910	1.004	1.000	1,307,801	212,300	1,520,101	0.307	0	0		
6/30/89-90	502,691	3,117,154	1.005	1.000	3,131,985	349,712	3,481,697	0.693	1	2	7,416	69
6/30/90-91	482,143	1,160,107	1.006	1.000	1,166,793	233,500	1,400,293	0.290	0	0		
6/30/91-92	492,539	1,135,353	1.008	1.400	1,601,851	256,183	1,858,034	0.377	0	0		
6/30/92-93	524,541	986,496	1.015	1.000	1,001,117	161,000	1,162,117	0.222	0	0		
6/30/93-94	584,853	907,933	1.024	1.400	1,301,616	159,000	1,460,616	0.250	1	1	393,683	53
6/30/94-95	587,701	1,133,473	1.033	1.000	1,170,864	369,390	1,540,254	0.262	1	1	37,391	75
6/30/95-96	614,868	927,586	1.051	1.000	974,923	341,803	1,316,725	0.214	0	0		
6/30/96-97	700,686	873,746	1.068	1.000	932,999	226,332	1,159,331	0.165	2	2	29,627	63
6/30/97-98	684,415	1,640,371	1.091	1.000	1,790,036	267,714	2,057,750	0.301	3	3	49,888	75
6/30/98-99	707,796	1,077,612	1.127	1.000	1,214,843	207,375	1,422,218	0.201	1	1	137,231	66
6/30/99-00	760,477	844,236	1.160	1.000	979,036	341,017	1,320,052	0.174	0	0		
6/30/00-01	811,600	1,245,356	1.189	1.000	1,480,673	277,014	1,757,687	0.217	1	1	235,317	62
6/30/01-02	835,038	1,742,639	1.217	1.000	2,121,483	449,724	2,571,207	0.308	1	1	378,843	68
6/30/02-03	825,340	1,004,005	1.256	1.000	1,261,260	178,511	1,439,770	0.174	1	1	257,254	62
6/30/03-04	849,216	1,163,453	1.303	1.000	1,516,256	338,838	1,855,095	0.218	2	0		
6/30/04-05	992,508	825,393	1.353	1.000	1,116,773	215,258	1,332,030	0.134	4	1	291,380	78
6/30/05-06	962,878	1,059,134	1.406	1.000	1,489,160	249,556	1,738,716	0.181	3	3	143,342	61
6/30/06-07	1,032,930	741,612	1.482	1.000	1,099,336	212,110	1,311,446	0.127	4	2	178,862	59
6/30/07-08	1,063,597	1,327,356	1.527	1.000	2,026,278	490,876	2,517,154	0.237	14	11	63,538	59
6/30/08-09	1,073,805	1,006,874	1.682	1.000	1,693,592	323,276	2,016,868	0.188	21	10	68,672	59
6/30/09-10	1,084,749	1,315,276	1.977	1.000	2,600,375	899,788	3,500,163	0.323	53	23	55,874	59
6/30/10-11	1,134,164	954,293	2.689	1.000	2,566,115	401,839	2,967,953	0.262	107	53	30,412	54
6/30/11-12	1,202,674	412,473	6.054	1.000	2,497,253	400,843	2,898,096	0.241		79	26,390	52
Total	20,648,505	41,869,455			50,090,675	8,220,276	58,310,951		225	200		

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, 2012**

Section 7
Exhibit 1
Page 3

**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	1.003	1,398,814	98,976	1,497,790	0.419	0.391
6/30/85-86	380,112	0.649	1,833,907	1.003	1,840,676	35,000	1,875,676	0.493	0.484
6/30/86-87	423,770	0.643	2,436,751	1.003	2,444,227	121,500	2,565,727	0.605	0.577
6/30/87-88	480,405	0.843	3,794,835	1.003	3,805,948	294,843	4,100,791	0.854	0.792
6/30/88-89	495,261	0.417	1,302,910	1.004	1,310,634	212,300	1,522,934	0.308	0.265
6/30/89-90	502,691	0.618	3,117,154	1.005	3,131,865	349,712	3,481,577	0.693	0.623
6/30/90-91	482,143	0.241	1,160,107	1.006	1,166,773	233,500	1,400,273	0.290	0.242
6/30/91-92	492,539	0.322	1,135,353	1.008	1,147,581	256,183	1,403,764	0.285	0.233
6/30/92-93	524,541	0.189	986,496	1.015	1,000,990	161,000	1,161,990	0.222	0.191
6/30/93-94	584,853	0.219	907,933	1.024	937,982	159,000	1,096,982	0.188	0.160
6/30/94-95	587,701	0.196	1,133,473	1.033	1,170,320	369,390	1,539,710	0.262	0.199
6/30/95-96	614,868	0.158	927,586	1.051	974,658	341,803	1,316,461	0.214	0.159
6/30/96-97	700,686	0.134	873,746	1.068	933,421	226,332	1,159,753	0.166	0.133
6/30/97-98	684,415	0.253	1,640,371	1.091	1,784,934	267,714	2,052,648	0.300	0.261
6/30/98-99	707,796	0.170	1,077,612	1.127	1,213,546	207,375	1,420,921	0.201	0.171
6/30/99-00	760,477	0.132	844,236	1.160	982,066	341,017	1,323,083	0.174	0.129
6/30/00-01	811,600	0.181	1,245,356	1.189	1,478,219	277,014	1,755,233	0.216	0.182
6/30/01-02	835,038	0.245	1,742,639	1.217	2,108,699	449,724	2,558,423	0.306	0.253
6/30/02-03	825,340	0.155	1,004,005	1.256	1,264,257	178,511	1,442,768	0.175	0.153
6/30/03-04	849,216	0.178	1,163,453	1.303	1,515,028	338,838	1,853,866	0.218	0.178
6/30/04-05	992,508	0.175	825,393	1.353	1,278,976	215,258	1,494,234	0.151	0.129
6/30/05-06	962,878	0.179	1,059,134	1.406	1,556,116	249,556	1,805,672	0.188	0.162
6/30/06-07	1,032,930	0.183	741,612	1.482	1,355,059	212,110	1,567,168	0.152	0.131
6/30/07-08	1,063,597	0.186	1,327,356	1.527	2,011,060	490,876	2,501,936	0.235	0.189
6/30/08-09	1,073,805	0.190	1,006,874	1.682	1,835,991	323,276	2,159,267	0.201	0.171
6/30/09-10	1,084,749	0.193	1,315,276	1.977	2,350,399	899,788	3,250,187	0.300	0.217
6/30/10-11	1,134,164	0.195	954,293	2.689	2,341,754	401,839	2,743,592	0.242	0.206
6/30/11-12	1,202,674	0.198	412,473	6.054	2,400,647	400,843	2,801,490	0.233	0.200
Total	20,648,505		37,363,396		46,740,639	8,113,276	54,853,916		

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, 2012**

**Massachusetts Colleges & Universities - Cluster 4
Indemnity**

Section 7
Exhibit 1
Page 4

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	1,166,793	0.242	0.946	0.229	1.245	0.285	0.170	0.242	0.241
6/30/91-92	492,539	1,601,851	0.325	1.038	0.338	1.232	0.416	0.156	0.325	0.322
6/30/92-93	524,541	1,001,117	0.191	1.210	0.231	1.220	0.282	0.135	0.192	0.189
6/30/93-94	584,853	1,301,616	0.223	1.195	0.266	1.208	0.321	0.139	0.215	0.219
6/30/94-95	587,701	1,170,864	0.199	1.184	0.236	1.196	0.282	0.141	0.191	0.196
6/30/95-96	614,868	974,923	0.159	1.174	0.186	1.184	0.221	0.144	0.159	0.158
6/30/96-97	700,686	932,999	0.133	1.163	0.155	1.173	0.182	0.147	0.133	0.134
6/30/97-98	684,415	1,790,036	0.262	1.148	0.300	1.161	0.349	0.150	0.244	0.253
6/30/98-99	707,796	1,214,843	0.172	1.133	0.194	1.149	0.223	0.154	0.166	0.170
6/30/99-00	760,477	979,036	0.129	1.114	0.143	1.138	0.163	0.158	0.133	0.132
6/30/00-01	811,600	1,480,673	0.182	1.086	0.198	1.127	0.223	0.163	0.178	0.181
6/30/01-02	835,038	2,121,483	0.254	1.065	0.271	1.116	0.302	0.168	0.241	0.245
6/30/02-03	825,340	1,261,260	0.153	1.061	0.162	1.105	0.179	0.171	0.154	0.155
6/30/03-04	849,216	1,516,256	0.179	1.061	0.189	1.094	0.207	0.172	0.182	0.178
6/30/04-05	992,508	1,116,773	0.113	1.054	0.119	1.083	0.128	0.175	0.177	0.175
6/30/05-06	962,878	1,489,160	0.155	1.044	0.161	1.072	0.173	0.179	0.180	0.179
6/30/06-07	1,032,930	1,099,336	0.106	1.032	0.110	1.062	0.117	0.183	0.184	0.183
6/30/07-08	1,063,597	2,026,278	0.191	1.021	0.195	1.051	0.204	0.186	0.188	0.186
6/30/08-09	1,073,805	1,693,592	0.158	1.009	0.159	1.041	0.166	0.190	0.192	0.190
6/30/09-10	1,084,749	2,600,375	0.240	1.005	0.241	1.030	0.248	0.193	0.195	0.193
6/30/10-11	1,134,164	2,566,115	0.226	1.007	0.228	1.020	0.232	0.195	0.198	0.195
6/30/11-12	1,202,674	2,497,253	0.208	1.000	0.208	1.010	0.210	0.198		0.198
Total	18,008,517	33,602,629								
Trend Last 4 (ex 11-12):					9.3%	Avg 3 (x11-12):	0.215			
Trend Last 8 (ex 11-12):					6.6%	Avg 5 (x11-12):	0.193			
Trend Last 12 (ex 11-12):					1.0%	Avg 10 (x11-12):	0.196			
Prior Selected Trend:					1.0%	Prior Sel Avg:	0.200			
Selected Trend:					1.0%	Sel. Loss Cost:	0.200			

NOTES:

- (2) Provided by Commonwealth of Massachusetts
- (3) From Section 7, Exhibit 1, Page 2, Column 6
- (4) = (3) / (2) / 10
- (5) Based on information from the MA WCRIB
- (6) = (4) x (5)
- (7) Based on Selected Trend from (6)
- (8) = (6) x (7)
- (9) = Sel. Loss Cost / [(5) * (7)]
- (10) From Aon analysis as of June 30, 2011
- (11) Selected based on (9) and (4)



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

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Exhibit 1
Page 5

**Massachusetts Colleges & Universities - Cluster 4
Indemnity**

Calculation of 1982 & Prior Reserves (Page 1)

Method 1			
(1)	Average Payment Trend	1.015	
(2)	Credibility	18%	
(3)	Average Pmt Trend Statewide	0.960	
(4)	Credibility Weighted Trend	0.970	
		(Low)	(High)
(5)	Selected Range	0.960	0.979
(6)	Incremental Paid for 2012	42,013	42,013
(7)	Estimated Reserve	1,009,382	2,000,980
(8)	Paid to Date (82 & Prior)	2,952,056	2,952,056
(9)	Est Ult Paid for 1982 & Prior	3,961,438	4,953,036
Method 2			
		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	61,354	75,870
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	429,481	531,092
(13)	Paid to Date (82 & Prior)	2,952,056	2,910,043
(14)	Est Ult Paid for 1982 & Prior	3,381,537	3,441,135
(14a)	Paid Counts During Fiscal Year	2	2
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	3,526,512	3,819,110
(16)	Lump Sum Ultimates	15,750	15,750
(17)	Ult Loss Including Lump Sums	3,542,262	3,834,860
(18)	Implied Tail	1.195	1.294
(19)	Ult Loss Inc Lump Sums @ 6/11	3,751,294	4,207,953

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, 2011



**Commonwealth of Massachusetts
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Reserve Analysis at June 30, 2012**

Section 7
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Page 6

**Massachusetts Colleges & Universities - Cluster 4
Indemnity**

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paid	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 =	21
2001	10	95,087	11.463	1.039	S(x) =	42,042
2002	11	101,860	11.531	1.071	S(x-sq) =	84,168,854
2003	12	103,466	11.547	1.016	S(xy) =	480,563
2004	13	103,217	11.545	0.998	S(y) =	240
2005	14	106,270	11.574	1.030	D =	16,170
2006	15	111,087	11.618	1.045	slope =	-0.012
2007	16	115,666	11.658	1.041	Avg Trend =	0.988
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		
				Selected Trend:	1.015	

NOTES:

(3) 2012 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2011

(4) LN [(3)]

(5) Eg. 2012: 0.593 = 42013 / 70876

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**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

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Massachusetts Colleges & Universities - Cluster 4

Indemnity

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Accident Year	Ultimate Loss As of 6/11		Ultimate Loss As of 6/12		Change in Ultimate Loss		Change in Ultimate Loss	
					(Dollar)	(Percent)	(Dollar)	(Percent)
	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	3,751,294	4,207,953	3,542,262	3,834,860	(209,031)	-5.6%	(373,093)	-8.9%
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	1,877,000	1,879,000	1,874,000	1,876,000	(3,000)	-0.2%	(3,000)	-0.2%
6/30/86-87	2,522,000	2,761,000	2,566,000	2,809,000	44,000	1.7%	48,000	1.7%
6/30/87-88	4,082,856	4,202,940	4,171,472	4,294,162	88,616	2.2%	91,222	2.2%
6/30/88-89	1,545,514	1,590,971	1,545,514	1,590,971	0	0.0%	0	0.0%
6/30/89-90	3,396,000	3,397,000	3,536,203	3,640,209	140,203	4.1%	243,209	7.2%
6/30/90-91	1,404,000	1,404,000	1,400,000	1,400,000	(4,000)	-0.3%	(4,000)	-0.3%
6/30/91-92	1,481,153	1,645,725	1,467,809	1,630,899	(13,344)	-0.9%	(14,826)	-0.9%
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	1,079,000	1,434,000	1,097,000	1,461,000	18,000	1.7%	27,000	1.9%
6/30/94-95	1,508,000	1,508,000	1,540,000	1,540,000	32,000	2.1%	32,000	2.1%
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	1,149,000	1,150,000	1,159,000	1,160,000	10,000	0.9%	10,000	0.9%
6/30/97-98	1,987,000	1,992,000	2,053,000	2,058,000	66,000	3.3%	66,000	3.3%
6/30/98-99	1,393,000	1,464,000	1,421,000	1,493,000	28,000	2.0%	29,000	2.0%
6/30/99-00	1,328,000	1,331,000	1,320,000	1,323,000	(8,000)	-0.6%	(8,000)	-0.6%
6/30/00-01	1,728,000	1,730,000	1,755,000	1,758,000	27,000	1.6%	28,000	1.6%
6/30/01-02	2,527,000	2,539,000	2,558,000	2,571,000	31,000	1.2%	32,000	1.3%
6/30/02-03	1,435,000	1,438,000	1,440,000	1,443,000	5,000	0.3%	5,000	0.3%
6/30/03-04	1,900,000	1,997,000	1,854,000	1,948,000	(46,000)	-2.4%	(49,000)	-2.5%
6/30/04-05	1,381,000	1,551,000	1,332,000	1,494,000	(49,000)	-3.5%	(57,000)	-3.7%
6/30/05-06	1,796,000	1,961,000	1,739,000	1,896,000	(57,000)	-3.2%	(65,000)	-3.3%
6/30/06-07	1,353,000	1,632,000	1,311,000	1,567,000	(42,000)	-3.1%	(65,000)	-4.0%
6/30/07-08	2,528,000	2,545,000	2,502,000	2,517,000	(26,000)	-1.0%	(28,000)	-1.1%
6/30/08-09	1,919,000	2,148,000	2,017,000	2,159,000	98,000	5.1%	11,000	0.5%
6/30/09-10	2,909,000	3,293,000	3,250,000	3,500,000	341,000	11.7%	207,000	6.3%
6/30/10-11	2,604,000	2,995,000	2,744,000	2,968,000	140,000	5.4%	(27,000)	-0.9%
6/30/11-12								
Total	56,264,792	59,613,121	56,876,236	59,748,634	611,444	1.1%	135,512	0.2%

NOTES:

(2), (3) From Aon analysis as of June 30, 2011

(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, 2012
Massachusetts Colleges & Universities - Cluster 4
Indemnity
Calculation of Ultimate Lump Sum Payments

Section 7
Exhibit 1
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(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	2,952,056	1.244	3,672,811	0.0%	0.0%	0	15,750	15,750	0.4%	1.000	15,750	15,750	15,750
6/30/82-83	716,272	1.003	718,243	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	1.003	840,036	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	1.003	1,396,895	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	1.003	1,838,953	0.0%	0.0%	0	35,000	35,000	1.9%	1.000	35,000	35,000	35,000
6/30/86-87	2,436,751	1.103	2,687,801	0.0%	0.0%	0	121,500	121,500	4.5%	1.000	121,500	121,500	121,500
6/30/87-88	3,794,835	1.203	4,566,332	0.0%	0.0%	0	294,843	294,843	6.5%	1.000	294,843	294,843	294,843
6/30/88-89	1,302,910	1.004	1,307,801	0.0%	0.0%	0	212,300	212,300	16.2%	1.000	212,300	212,300	212,300
6/30/89-90	3,117,154	1.005	3,131,985	0.0%	0.0%	0	349,712	349,712	11.2%	1.000	349,712	349,712	316,379
6/30/90-91	1,160,107	1.006	1,166,793	0.0%	0.0%	0	233,500	233,500	20.0%	1.000	233,500	233,500	233,500
6/30/91-92	1,135,353	1.411	1,601,851	0.0%	0.0%	0	256,183	256,183	16.0%	1.000	256,183	256,183	256,183
6/30/92-93	986,496	1.015	1,001,117	0.0%	0.0%	0	161,000	161,000	16.1%	1.000	161,000	161,000	161,000
6/30/93-94	907,933	1.434	1,301,616	0.0%	0.0%	0	159,000	159,000	12.2%	1.000	159,000	159,000	159,080
6/30/94-95	1,133,473	1.033	1,170,864	0.0%	0.0%	0	369,205	369,205	31.5%	1.001	369,574	369,390	369,574
6/30/95-96	927,586	1.051	974,923	0.0%	0.0%	0	341,461	341,461	35.0%	1.002	342,144	341,803	343,290
6/30/96-97	873,746	1.068	932,999	0.2%	0.2%	1,999	224,882	226,881	24.3%	1.004	225,783	226,332	226,633
6/30/97-98	1,640,371	1.091	1,790,036	0.0%	0.2%	3,835	265,000	268,835	15.0%	1.006	266,593	267,714	268,071
6/30/98-99	1,077,612	1.127	1,214,843	0.0%	0.2%	2,603	205,250	207,853	17.1%	1.008	206,897	207,375	207,765
6/30/99-00	844,236	1.160	979,036	0.0%	0.2%	2,098	338,100	340,198	34.7%	1.011	341,836	341,017	341,629
6/30/00-01	1,245,356	1.189	1,480,673	0.0%	0.2%	3,173	273,502	276,675	18.7%	1.014	277,354	277,014	277,840
6/30/01-02	1,742,639	1.217	2,121,483	0.0%	0.2%	4,546	443,250	447,796	21.1%	1.019	451,652	449,724	457,675
6/30/02-03	1,004,005	1.256	1,261,260	0.2%	0.4%	4,972	172,500	177,472	14.1%	1.041	179,550	178,511	183,227
6/30/03-04	1,163,453	1.303	1,516,256	0.4%	0.8%	12,016	323,500	335,516	22.1%	1.058	342,161	338,838	351,471
6/30/04-05	825,393	1.353	1,116,773	0.7%	1.5%	16,746	198,100	214,846	19.2%	1.089	215,670	215,258	237,953
6/30/05-06	1,059,134	1.406	1,489,160	1.8%	3.3%	49,480	200,673	250,153	16.8%	1.241	248,959	249,556	283,541
6/30/06-07	741,612	1.482	1,099,336	2.0%	5.4%	59,007	150,000	209,007	19.0%	1.435	215,212	212,110	246,344
6/30/07-08	1,327,356	1.527	2,026,278	1.3%	6.7%	135,818	318,750	454,568	22.4%	1.654	527,185	490,876	568,347
6/30/08-09	1,006,874	1.682	1,693,592	3.8%	10.5%	177,786	125,000	302,786	17.9%	2.750	343,765	323,276	316,694
6/30/09-10	1,315,276	1.977	2,600,375	3.4%	13.9%	362,167	245,500	607,667	23.4%	4.855	1,191,909	899,788	572,153
6/30/10-11	954,293	2.689	2,566,115	5.1%	19.1%	489,212	25,000	514,212	20.0%	11.579	289,465	401,839	282,094
6/30/11-12	412,473	6.054	2,497,253	2.3%	21.4%	534,457	0	534,457	21.4%	25.421	0	400,843	
Total	41,869,455		53,763,486			1,859,914	6,264,437	8,124,351	15.1%		8,080,473	8,236,026	7,545,811

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, 2011

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**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

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**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%
372	100.0%	0.3%	0.0%	0.1%	0.0%	1.000	1.000
360	99.7%	0.0%	0.3%	0.0%	0.0%	0.981	0.971
348	99.7%	0.0%	0.3%	0.0%	0.0%	0.943	0.916
336	99.7%	0.0%	0.3%	0.0%	0.0%	0.907	0.864
324	99.7%	0.0%	0.3%	0.0%	0.0%	0.872	0.816
312	99.7%	0.0%	0.3%	0.0%	0.0%	0.838	0.769
300	99.7%	0.1%	0.3%	0.0%	0.0%	0.806	0.726
288	99.6%	0.1%	0.4%	0.0%	0.0%	0.830	0.761
276	99.5%	0.1%	0.5%	0.0%	0.0%	0.836	0.771
264	99.4%	0.2%	0.6%	0.1%	0.1%	0.835	0.770
252	99.2%	0.7%	0.8%	0.3%	0.2%	0.848	0.789
240	98.5%	0.9%	1.5%	0.4%	0.3%	0.894	0.852
228	97.7%	0.8%	2.3%	0.4%	0.3%	0.905	0.867
216	96.8%	1.7%	3.2%	0.8%	0.6%	0.900	0.858
204	95.1%	1.5%	4.9%	0.8%	0.6%	0.904	0.865
192	93.6%	2.0%	6.4%	1.1%	0.8%	0.896	0.853
180	91.6%	2.9%	8.4%	1.7%	1.3%	0.890	0.845
168	88.7%	2.5%	11.3%	1.5%	1.1%	0.888	0.842
156	86.2%	2.1%	13.8%	1.3%	1.0%	0.877	0.826
144	84.1%	2.0%	15.9%	1.3%	1.0%	0.861	0.805
132	82.1%	2.5%	17.9%	1.7%	1.4%	0.845	0.783
120	79.6%	2.9%	20.4%	2.0%	1.7%	0.833	0.767
108	76.7%	2.8%	23.3%	2.0%	1.7%	0.824	0.755
96	73.9%	2.8%	26.1%	2.1%	1.8%	0.812	0.740
84	71.1%	3.7%	28.9%	2.8%	2.5%	0.800	0.724
72	67.5%	2.0%	32.5%	1.6%	1.4%	0.793	0.716
60	65.5%	6.1%	34.5%	5.1%	4.7%	0.775	0.692
48	59.5%	8.9%	40.5%	7.7%	7.2%	0.780	0.700
36	50.6%	13.4%	49.4%	12.1%	11.6%	0.792	0.717
24	37.2%	20.7%	62.8%	19.5%	18.9%	0.808	0.739
12	16.5%	16.5%	83.5%	16.2%	16.0%	0.827	0.765
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)



Commonwealth of Massachusetts
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Reserve Analysis at June 30, 2012

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Massachusetts Colleges & Universities - Cluster 4

Indemnity

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	574,456	867,054		502,411	758,313
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	5,093	7,093	0.872	4,440	6,183
6/30/86-87	7,749	250,749	0.838	6,496	210,179
6/30/87-88	81,794	204,484	0.806	65,923	164,807
6/30/88-89	30,304	75,761	0.830	25,144	62,861
6/30/89-90	69,337	173,343	0.836	57,982	144,956
6/30/90-91	6,393	6,393	0.835	5,336	5,336
6/30/91-92	76,274	239,363	0.848	64,709	203,072
6/30/92-93	22,950	57,375	0.894	20,506	51,265
6/30/93-94	30,067	394,067	0.905	27,208	356,599
6/30/94-95	37,322	37,322	0.900	33,571	33,571
6/30/95-96	25,381	63,452	0.904	22,957	57,393
6/30/96-97	60,372	61,372	0.896	54,082	54,978
6/30/97-98	147,629	152,629	0.890	131,393	135,844
6/30/98-99	138,138	210,138	0.888	122,697	186,649
6/30/99-00	137,664	140,664	0.877	120,700	123,331
6/30/00-01	236,142	239,142	0.861	203,421	206,005
6/30/01-02	372,111	385,111	0.845	314,455	325,441
6/30/02-03	263,495	266,495	0.833	219,616	222,116
6/30/03-04	367,047	461,047	0.824	302,273	379,684
6/30/04-05	308,507	470,507	0.812	250,592	382,180
6/30/05-06	479,194	636,194	0.800	383,490	509,135
6/30/06-07	419,388	675,388	0.793	332,685	535,760
6/30/07-08	855,895	870,895	0.775	663,392	675,018
6/30/08-09	885,126	1,027,126	0.780	690,764	801,583
6/30/09-10	1,689,224	1,939,224	0.792	1,337,391	1,535,321
6/30/10-11	1,764,707	1,988,707	0.808	1,425,932	1,606,931
6/30/11-12	2,388,527	2,485,527	0.827	1,976,198	2,056,453
Total	11,543,345	14,512,742		9,424,701	11,908,836

(7) Total Discount Factor: 0.816 0.821

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve: 574,456 867,054
(9) Projected Number of Years: 7 7
(10) Projected Paid Loss per Year: 82,065 123,865
(11) Discounted Value at 4%: 502,411 758,313

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, 2012

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Massachusetts Colleges & Universities - Cluster 4

Indemnity

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	574,456	867,054		471,863	712,205
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	5,093	7,093	0.816	4,153	5,784
6/30/86-87	7,749	250,749	0.769	5,962	192,914
6/30/87-88	81,794	204,484	0.726	59,366	148,415
6/30/88-89	30,304	75,761	0.761	23,063	57,658
6/30/89-90	69,337	173,343	0.771	53,474	133,684
6/30/90-91	6,393	6,393	0.770	4,921	4,921
6/30/91-92	76,274	239,363	0.789	60,203	188,931
6/30/92-93	22,950	57,375	0.852	19,543	48,858
6/30/93-94	30,067	394,067	0.867	26,057	341,520
6/30/94-95	37,322	37,322	0.858	32,040	32,040
6/30/95-96	25,381	63,452	0.865	21,958	54,895
6/30/96-97	60,372	61,372	0.853	51,479	52,331
6/30/97-98	147,629	152,629	0.845	124,679	128,901
6/30/98-99	138,138	210,138	0.842	116,325	176,956
6/30/99-00	137,664	140,664	0.826	113,736	116,214
6/30/00-01	236,142	239,142	0.805	190,109	192,524
6/30/01-02	372,111	385,111	0.783	291,287	301,463
6/30/02-03	263,495	266,495	0.767	202,224	204,526
6/30/03-04	367,047	461,047	0.755	276,952	347,879
6/30/04-05	308,507	470,507	0.740	228,266	348,130
6/30/05-06	479,194	636,194	0.724	347,121	460,849
6/30/06-07	419,388	675,388	0.716	300,194	483,436
6/30/07-08	855,895	870,895	0.692	592,308	602,688
6/30/08-09	885,126	1,027,126	0.700	619,953	719,412
6/30/09-10	1,689,224	1,939,224	0.717	1,210,346	1,389,474
6/30/10-11	1,764,707	1,988,707	0.739	1,303,978	1,469,497
6/30/11-12	2,388,527	2,485,527	0.765	1,827,193	1,901,397
Total	11,543,345	14,512,742		8,635,806	10,931,610

(7) Total Discount Factor: 0.748 0.753

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve: 574,456 867,054
(9) Projected Number of Years: 7 7
(10) Projected Paid Loss per Year: 82,065 123,865
(11) Discounted Value at 6%: 471,863 712,205

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

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

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Accident Year	Est Ult Losses (Low)	Est Ult Losses (High)	Paid Losses to Date	Reserves (Low)	Reserves (High)	Cumulative Percent Paid	Incremental Paid as a % of Ultimates	as a % of Reserves	Estimated Payments from 7/1/12 - 6/30/13		FY 7/1/12 - 6/30/13 as a % of Reserves	
									(Low)	(High)	(Low)	(High)
All Prior yrs	3,934,062	4,271,741	3,304,559	629,503	967,182				42,643	46,907	6.8%	4.8%
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	2,260,269	2,264,190	2,253,254	7,015	10,936	99.6%	0.2%	50.4%	3,536	5,513	50.4%	50.4%
6/30/86-87	2,805,246	3,049,437	2,796,307	8,940	253,130	95.5%	0.5%	11.2%	999	28,275	11.2%	11.2%
6/30/87-88	4,810,472	4,934,162	4,726,075	84,397	208,088	97.0%	0.5%	16.7%	14,059	34,664	16.7%	16.7%
6/30/88-89	1,973,514	2,018,971	1,941,183	32,331	77,788	97.2%	0.5%	18.1%	5,861	14,101	18.1%	18.1%
6/30/89-90	4,079,203	4,184,209	4,008,247	70,956	175,962	97.0%	0.5%	16.7%	11,873	29,444	16.7%	16.7%
6/30/90-91	1,875,000	1,875,000	1,866,079	8,921	8,921	99.5%	0.2%	42.0%	3,750	3,750	42.0%	42.0%
6/30/91-92	2,230,809	2,394,899	2,150,562	80,247	244,337	93.0%	0.5%	7.1%	5,718	17,410	7.1%	7.1%
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	1,671,000	2,035,000	1,634,641	36,359	400,359	88.2%	1.0%	8.5%	3,085	33,975	8.5%	8.5%
6/30/94-95	2,096,000	2,097,000	2,051,520	44,480	45,480	97.9%	1.0%	46.6%	20,732	21,198	46.6%	46.6%
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	1,849,000	1,850,000	1,771,425	77,575	78,575	95.8%	2.0%	47.4%	36,753	37,227	47.4%	47.4%
6/30/97-98	2,497,000	2,502,000	2,334,210	162,790	167,790	93.4%	2.0%	30.2%	49,234	50,746	30.2%	30.2%
6/30/98-99	1,773,000	1,846,000	1,619,506	153,494	226,494	89.5%	3.0%	28.6%	43,856	64,714	28.6%	28.6%
6/30/99-00	1,832,000	1,836,000	1,665,822	166,178	170,178	90.8%	3.0%	32.7%	54,366	55,674	32.7%	32.7%
6/30/00-01	2,363,000	2,367,000	2,082,026	280,974	284,974	88.0%	4.0%	33.4%	93,931	95,269	33.4%	33.4%
6/30/01-02	3,135,000	3,148,000	2,719,111	415,889	428,889	86.6%	4.0%	29.7%	123,726	127,594	29.7%	29.7%
6/30/02-03	2,046,000	2,050,000	1,735,208	310,792	314,792	84.7%	1.8%	12.0%	37,190	37,669	12.0%	12.0%
6/30/03-04	2,617,000	2,712,000	2,177,378	439,622	534,622	81.7%	3.0%	16.5%	72,353	87,989	16.5%	16.5%
6/30/04-05	2,063,000	2,228,000	1,677,822	385,178	550,178	78.2%	3.5%	16.1%	62,131	88,747	16.1%	16.1%
6/30/05-06	2,552,000	2,716,000	1,985,327	566,673	730,673	75.4%	2.8%	11.5%	65,092	83,930	11.5%	11.5%
6/30/06-07	2,035,000	2,305,000	1,524,823	510,177	780,177	70.3%	5.1%	17.2%	87,595	133,952	17.2%	17.2%
6/30/07-08	3,475,000	3,503,000	2,496,649	978,351	1,006,351	71.6%	5.0%	17.6%	171,989	176,911	17.6%	17.6%
6/30/08-09	2,986,000	3,135,000	1,948,636	1,037,364	1,186,364	63.7%	7.9%	21.7%	225,215	257,563	21.7%	21.7%
6/30/09-10	4,378,000	4,677,000	2,426,627	1,951,373	2,250,373	53.6%	10.1%	21.7%	423,601	488,508	21.7%	21.7%
6/30/10-11	3,981,000	4,303,000	1,822,430	2,158,570	2,480,570	44.0%	9.6%	17.1%	369,983	425,174	17.1%	17.1%
6/30/11-12	3,975,000	4,087,000	742,790	3,232,210	3,344,210	18.4%	25.6%	31.3%	1,013,247	1,048,357	31.3%	31.3%
Total	78,261,860	81,500,860	64,313,701	13,948,159	17,187,159				3,069,933	3,557,246	22.0%	20.7%

NOTES:

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



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Massachusetts Colleges & Universities - Cluster 4

Medical

Section 7
Exhibit 2
Page 1

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		336,753			391,800	436,881	55,047	100,128		
6/30/82-83		53,045	53,252		53,310	53,575	265	530		
6/30/83-84		27,773	27,881		27,912	28,051	139	278		
6/30/84-85	357,749	112,891	113,332	113,573	113,455	114,020	564	1,129	0.032	0.032
6/30/85-86	380,112	384,347	385,848	386,343	386,269	388,190	1,922	3,843	0.102	0.102
6/30/86-87	423,770	238,056	238,985	239,407	239,246	240,437	1,190	2,381	0.056	0.057
6/30/87-88	480,405	636,396	638,881	639,610	639,000	640,000	2,604	3,604	0.133	0.133
6/30/88-89	495,261	425,973	427,636	428,303	428,000	428,000	2,027	2,027	0.086	0.086
6/30/89-90	502,691	541,381	543,495	544,334	543,000	544,000	1,619	2,619	0.108	0.108
6/30/90-91	482,143	472,472	474,791	474,778	475,000	475,000	2,528	2,528	0.099	0.099
6/30/91-92	492,539	759,027	763,515	763,452	763,000	764,000	3,973	4,973	0.155	0.155
6/30/92-93	524,541	506,348	510,361	510,298	508,880	511,411	2,532	5,063	0.097	0.097
6/30/93-94	584,853	567,707	573,923	573,797	574,000	574,000	6,293	6,293	0.098	0.098
6/30/94-95	587,701	548,842	556,516	556,335	556,000	557,000	7,158	8,158	0.095	0.095
6/30/95-96	614,868	581,842	591,747	591,477	584,752	587,661	2,909	5,818	0.095	0.096
6/30/96-97	700,686	672,797	690,449	689,901	690,000	690,000	17,203	17,203	0.098	0.098
6/30/97-98	684,415	428,839	444,150	443,993	444,000	444,000	15,161	15,161	0.065	0.065
6/30/98-99	707,796	336,644	352,356	352,596	352,000	353,000	15,356	16,356	0.050	0.050
6/30/99-00	760,477	483,486	512,762	512,439	512,000	513,000	28,514	29,514	0.067	0.067
6/30/00-01	811,600	563,168	608,669	607,955	608,000	609,000	44,832	45,832	0.075	0.075
6/30/01-02	835,038	533,222	576,744	576,527	577,000	577,000	43,778	43,778	0.069	0.069
6/30/02-03	825,340	558,702	606,755	606,482	606,000	607,000	47,298	48,298	0.073	0.074
6/30/03-04	849,216	690,426	764,022	762,654	763,000	764,000	72,574	73,574	0.090	0.090
6/30/04-05	992,508	654,330	731,162	733,833	731,000	734,000	76,670	79,670	0.074	0.074
6/30/05-06	962,878	725,521	820,018	812,944	813,000	820,000	87,479	94,479	0.084	0.085
6/30/06-07	1,032,930	633,211	723,837	738,161	724,000	738,000	90,789	104,789	0.070	0.071
6/30/07-08	1,063,597	850,544	986,267	972,885	973,000	986,000	122,456	135,456	0.091	0.093
6/30/08-09	1,073,805	816,761	976,159	968,525	969,000	976,000	152,239	159,239	0.090	0.091
6/30/09-10	1,084,749	865,851	1,176,778	1,128,141	1,128,000	1,177,000	262,149	311,149	0.104	0.109
6/30/10-11	1,134,164	843,137	1,335,489	1,237,265	1,237,000	1,335,000	393,863	491,863	0.109	0.118
6/30/11-12	1,202,674	330,317	1,189,301	1,173,660	1,174,000	1,189,000	843,683	858,683	0.098	0.099
Total	20,648,505	16,179,809	18,395,082	18,139,667	18,584,624	18,854,226	2,404,814	2,674,417		
Tot 6/30/84-12	20,648,505	15,762,238	18,313,949	18,139,667	18,111,602	18,335,719	2,349,363	2,573,481	0.088	0.089

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, 2012**

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**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 7/1/10-11	Paid Counts 7/1/11-12	Average Outstanding Claim
All Prior Yrs		336,753							1	1	
6/30/82-83		53,045	1.004	1.000	53,252	N/A	53,252		0	0	
6/30/83-84		27,773	1.004	1.000	27,881	N/A	27,881		0	0	
6/30/84-85	357,749	112,891	1.004	1.000	113,332	N/A	113,332	0.032	0	0	
6/30/85-86	380,112	384,347	1.004	1.000	385,848	N/A	385,848	0.102	0	0	
6/30/86-87	423,770	238,056	1.004	1.000	238,985	N/A	238,985	0.056	0	0	
6/30/87-88	480,405	636,396	1.004	1.000	638,881	N/A	638,881	0.133	2	2	1,242
6/30/88-89	495,261	425,973	1.004	1.000	427,636	N/A	427,636	0.086	1	1	1,663
6/30/89-90	502,691	541,381	1.004	1.000	543,495	N/A	543,495	0.108	0	1	2,114
6/30/90-91	482,143	472,472	1.005	1.000	474,791	N/A	474,791	0.098	0	0	
6/30/91-92	492,539	759,027	1.006	1.000	763,515	N/A	763,515	0.155	1	1	4,488
6/30/92-93	524,541	506,348	1.008	1.000	510,361	N/A	510,361	0.097	0	0	
6/30/93-94	584,853	567,707	1.011	1.000	573,923	N/A	573,923	0.098	2	2	3,108
6/30/94-95	587,701	548,842	1.014	1.000	556,516	N/A	556,516	0.095	1	1	7,674
6/30/95-96	614,868	581,842	1.017	1.000	591,747	N/A	591,747	0.096	0	0	
6/30/96-97	700,686	672,797	1.026	1.000	690,449	N/A	690,449	0.099	3	3	5,884
6/30/97-98	684,415	428,839	1.036	1.000	444,150	N/A	444,150	0.065	3	1	15,311
6/30/98-99	707,796	336,644	1.047	1.000	352,356	N/A	352,356	0.050	1	0	
6/30/99-00	760,477	483,486	1.061	1.000	512,762	N/A	512,762	0.067	0	0	
6/30/00-01	811,600	563,168	1.081	1.000	608,669	N/A	608,669	0.075	1	2	22,750
6/30/01-02	835,038	533,222	1.082	1.000	576,744	N/A	576,744	0.069	2	1	43,522
6/30/02-03	825,340	558,702	1.086	1.000	606,755	N/A	606,755	0.074	3	3	16,017
6/30/03-04	849,216	690,426	1.107	1.000	764,022	N/A	764,022	0.090	4	1	73,597
6/30/04-05	992,508	654,330	1.117	1.000	731,162	N/A	731,162	0.074	7	5	15,366
6/30/05-06	962,878	725,521	1.130	1.000	820,018	N/A	820,018	0.085	8	6	15,750
6/30/06-07	1,032,930	633,211	1.143	1.000	723,837	N/A	723,837	0.070	10	4	22,657
6/30/07-08	1,063,597	850,544	1.160	1.000	986,267	N/A	986,267	0.093	20	14	9,695
6/30/08-09	1,073,805	816,761	1.195	1.000	976,159	N/A	976,159	0.091	50	23	6,930
6/30/09-10	1,084,749	865,851	1.359	1.000	1,176,778	N/A	1,176,778	0.108	180	54	5,758
6/30/10-11	1,134,164	843,137	1.584	1.000	1,335,489	N/A	1,335,489	0.118	239	163	3,021
6/30/11-12	1,202,674	330,317	3.600	1.000	1,189,301	N/A	1,189,301	0.099		253	3,395
Total	20,648,505	16,179,809			18,395,082		18,395,082		539	542	

NOTES:

(2) Provided by Commonwealth of Massachusetts

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

(5) Based on information from the MA WCRI 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



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**Massachusetts Colleges & Universities - Cluster 4
Medical**

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident	Payroll	A Priori		Paid	Ultimate Loss	Est Ult	Ultimate Loss	Ultimate	Ultimate Loss
Year	(000's)	Loss		LDF	Excluding	Lump Sum	Including	Loss	Cost Excluding
		Rate	Paid Loss		Lump Sum	Payments	Lump Sum	Cost	Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	357,749	0.049	112,891	1.004	113,573	N/A	113,573	0.032	0.032
6/30/85-86	380,112	0.135	384,347	1.004	386,343	N/A	386,343	0.102	0.102
6/30/86-87	423,770	0.082	238,056	1.004	239,407	N/A	239,407	0.056	0.056
6/30/87-88	480,405	0.172	636,396	1.004	639,610	N/A	639,610	0.133	0.133
6/30/88-89	495,261	0.121	425,973	1.004	428,303	N/A	428,303	0.086	0.086
6/30/89-90	502,691	0.151	541,381	1.004	544,334	N/A	544,334	0.108	0.108
6/30/90-91	482,143	0.098	472,472	1.005	474,778	N/A	474,778	0.098	0.098
6/30/91-92	492,539	0.153	759,027	1.006	763,452	N/A	763,452	0.155	0.155
6/30/92-93	524,541	0.096	506,348	1.008	510,298	N/A	510,298	0.097	0.097
6/30/93-94	584,853	0.096	567,707	1.011	573,797	N/A	573,797	0.098	0.098
6/30/94-95	587,701	0.092	548,842	1.014	556,335	N/A	556,335	0.095	0.095
6/30/95-96	614,868	0.094	581,842	1.017	591,477	N/A	591,477	0.096	0.096
6/30/96-97	700,686	0.095	672,797	1.026	689,901	N/A	689,901	0.098	0.098
6/30/97-98	684,415	0.064	428,839	1.036	443,993	N/A	443,993	0.065	0.065
6/30/98-99	707,796	0.051	336,644	1.047	352,596	N/A	352,596	0.050	0.050
6/30/99-00	760,477	0.067	483,486	1.061	512,439	N/A	512,439	0.067	0.067
6/30/00-01	811,600	0.074	563,168	1.081	607,955	N/A	607,955	0.075	0.075
6/30/01-02	835,038	0.069	533,222	1.082	576,527	N/A	576,527	0.069	0.069
6/30/02-03	825,340	0.073	558,702	1.086	606,482	N/A	606,482	0.073	0.073
6/30/03-04	849,216	0.088	690,426	1.107	762,654	N/A	762,654	0.090	0.090
6/30/04-05	992,508	0.076	654,330	1.117	733,833	N/A	733,833	0.074	0.074
6/30/05-06	962,878	0.079	725,521	1.130	812,944	N/A	812,944	0.084	0.084
6/30/06-07	1,032,930	0.081	633,211	1.143	738,161	N/A	738,161	0.071	0.071
6/30/07-08	1,063,597	0.084	850,544	1.160	972,885	N/A	972,885	0.091	0.091
6/30/08-09	1,073,805	0.087	816,761	1.195	968,525	N/A	968,525	0.090	0.090
6/30/09-10	1,084,749	0.092	865,851	1.359	1,128,141	N/A	1,128,141	0.104	0.104
6/30/10-11	1,134,164	0.094	843,137	1.584	1,237,265	N/A	1,237,265	0.109	0.109
6/30/11-12	1,202,674	0.097	330,317	3.600	1,173,660	N/A	1,173,660	0.098	0.098
Total	20,648,505		15,762,238		18,139,667		18,139,667		

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
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**Massachusetts Colleges & Universities - Cluster 4
Medical**

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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	474,791	0.098	1.194	0.118	1.916	0.225	0.044	0.098	0.098
6/30/91-92	492,539	763,515	0.155	1.189	0.184	1.860	0.343	0.045	0.151	0.153
6/30/92-93	524,541	510,361	0.097	1.189	0.116	1.806	0.209	0.047	0.097	0.096
6/30/93-94	584,853	573,923	0.098	1.178	0.116	1.754	0.203	0.048	0.094	0.096
6/30/94-95	587,701	556,516	0.095	1.170	0.111	1.702	0.189	0.050	0.092	0.092
6/30/95-96	614,868	591,747	0.096	1.155	0.111	1.653	0.184	0.052	0.095	0.094
6/30/96-97	700,686	690,449	0.099	1.137	0.112	1.605	0.180	0.055	0.091	0.095
6/30/97-98	684,415	444,150	0.065	1.135	0.074	1.558	0.115	0.057	0.066	0.064
6/30/98-99	707,796	352,356	0.050	1.135	0.057	1.513	0.085	0.058	0.052	0.051
6/30/99-00	760,477	512,762	0.067	1.135	0.077	1.469	0.112	0.060	0.069	0.067
6/30/00-01	811,600	608,669	0.075	1.109	0.083	1.426	0.119	0.063	0.075	0.074
6/30/01-02	835,038	576,744	0.069	1.101	0.076	1.384	0.105	0.066	0.070	0.069
6/30/02-03	825,340	606,755	0.074	1.073	0.079	1.344	0.106	0.069	0.075	0.073
6/30/03-04	849,216	764,022	0.090	1.046	0.094	1.305	0.123	0.073	0.091	0.088
6/30/04-05	992,508	731,162	0.074	1.036	0.076	1.267	0.097	0.076	0.084	0.076
6/30/05-06	962,878	820,018	0.085	1.032	0.088	1.230	0.108	0.079	0.086	0.079
6/30/06-07	1,032,930	723,837	0.070	1.032	0.072	1.194	0.086	0.081	0.088	0.081
6/30/07-08	1,063,597	986,267	0.093	1.032	0.096	1.159	0.111	0.084	0.090	0.084
6/30/08-09	1,073,805	976,159	0.091	1.027	0.093	1.126	0.105	0.087	0.092	0.087
6/30/09-10	1,084,749	1,176,778	0.108	1.000	0.108	1.093	0.119	0.092	0.096	0.092
6/30/10-11	1,134,164	1,335,489	0.118	1.000	0.118	1.061	0.125	0.094	0.098	0.094
6/30/11-12	1,202,674	1,189,301	0.099	1.000	0.099	1.030	0.102	0.097		0.097

Total 18,008,517 15,965,772

Trend Last 4 (ex 11-12): 8.0% Avg 3 (x11-12): 0.116
Trend Last 8 (ex 11-12): 4.6% Avg 5 (x11-12): 0.109
Trend Last 12 (ex 11-12): 3.2% Avg 10 (x11-12): 0.108
Prior Selected Trend: 2.0% Prior Sel Avg: 0.100

Selected Trend: 3.0% 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, 2011
- (11) Selected based on (9) and (4)



**Commonwealth of Massachusetts
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**Massachusetts Colleges & Universities - Cluster 4
Medical**

Calculation of 1982 & Prior Reserves (Page 1)

Method 1			
(1)	Average Payment Trend	0.985	
(2)	Credibility	24%	
(3)	Average Pmt Trend Statewide	0.950	
(4)	Credibility Weighted Trend	0.958	
		(Low)	(High)
(5)	Selected Range	0.949	0.968
(6)	Incremental Paid for 2012	3,318	3,318
(7)	Estimated Reserve	61,436	100,128
(8)	Paid to Date (82 & Prior)	336,753	336,753
(9)	Est Ult Paid for 1982 & Prior	398,188	436,881
Method 2			
		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	6,951	8,989
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	48,658	62,924
(13)	Paid to Date (82 & Prior)	336,753	333,435
(14)	Est Ult Paid for 1982 & Prior	385,411	396,359
(14a)	Paid Counts During Fiscal Year	1	1
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	391,800	436,881
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	391,800	436,881
(18)	Implied Tail	1.163	1.297
(19)	Ult Loss Inc Lump Sums @ 6/11	415,895	463,204

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, 2011



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

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Page 6

**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 =	21
2001	10	7,279	8.893	0.603	S(x) =	42,042
2002	11	8,308	9.025	1.141	S(x-sq) =	84,168,854
2003	12	8,142	9.005	0.980	S(xy) =	380,163
2004	13	19,519	9.879	2.397	S(y) =	190
2005	14	7,873	8.971	0.403	D =	16,170
2006	15	11,471	9.348	1.457	slope =	-0.015
2007	16	10,042	9.215	0.875	Avg Trend =	0.985
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		
				Selected Trend:	0.985	

NOTES:

(3) 2012 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2011

(4) LN [(3)]

(5) Eg. 2012: 0.319 = 3318 / 10399



**Commonwealth of Massachusetts
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Section 7
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Massachusetts Colleges & Universities - Cluster 4

Medical

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Accident Year	Ultimate Loss As of 6/11		Ultimate Loss As of 6/12		Change in Ultimate Loss		Change in Ultimate Loss	
					(Dollar)	(Percent)	(Dollar)	(Percent)
	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	415,895	463,204	391,800	436,881	(24,095)	-5.8%	(26,324)	-5.7%
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	635,000	636,000	639,000	640,000	4,000	0.6%	4,000	0.6%
6/30/88-89	428,000	429,000	428,000	428,000	0	0.0%	(1,000)	-0.2%
6/30/89-90	544,000	545,000	543,000	544,000	(1,000)	-0.2%	(1,000)	-0.2%
6/30/90-91	476,000	476,000	475,000	475,000	(1,000)	-0.2%	(1,000)	-0.2%
6/30/91-92	755,000	755,000	763,000	764,000	8,000	1.1%	9,000	1.2%
6/30/92-93	508,880	511,411	508,880	511,411	0	0.0%	0	0.0%
6/30/93-94	561,000	561,000	574,000	574,000	13,000	2.3%	13,000	2.3%
6/30/94-95	548,000	548,000	556,000	557,000	8,000	1.5%	9,000	1.6%
6/30/95-96	584,752	587,661	584,752	587,661	0	0.0%	0	0.0%
6/30/96-97	653,000	654,000	690,000	690,000	37,000	5.7%	36,000	5.5%
6/30/97-98	448,000	448,000	444,000	444,000	(4,000)	-0.9%	(4,000)	-0.9%
6/30/98-99	357,000	358,000	352,000	353,000	(5,000)	-1.4%	(5,000)	-1.4%
6/30/99-00	523,000	523,000	512,000	513,000	(11,000)	-2.1%	(10,000)	-1.9%
6/30/00-01	612,000	612,000	608,000	609,000	(4,000)	-0.7%	(3,000)	-0.5%
6/30/01-02	585,000	585,000	577,000	577,000	(8,000)	-1.4%	(8,000)	-1.4%
6/30/02-03	614,000	615,000	606,000	607,000	(8,000)	-1.3%	(8,000)	-1.3%
6/30/03-04	780,000	781,000	763,000	764,000	(17,000)	-2.2%	(17,000)	-2.2%
6/30/04-05	746,000	757,000	731,000	734,000	(15,000)	-2.0%	(23,000)	-3.0%
6/30/05-06	834,000	835,000	813,000	820,000	(21,000)	-2.5%	(15,000)	-1.8%
6/30/06-07	745,000	771,000	724,000	738,000	(21,000)	-2.8%	(33,000)	-4.3%
6/30/07-08	1,008,000	1,020,000	973,000	986,000	(35,000)	-3.5%	(34,000)	-3.3%
6/30/08-09	1,039,000	1,060,000	969,000	976,000	(70,000)	-6.7%	(84,000)	-7.9%
6/30/09-10	1,182,000	1,271,000	1,128,000	1,177,000	(54,000)	-4.6%	(94,000)	-7.4%
6/30/10-11	1,274,000	1,728,000	1,237,000	1,335,000	(37,000)	-2.9%	(393,000)	-22.7%
6/30/11-12								
Total	17,676,718	18,354,550	17,410,624	17,665,226	(266,095)	-1.5%	(689,324)	-3.8%

NOTES:

(2), (3) From Aon analysis as of June 30, 2011

(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



**Commonwealth of Massachusetts
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**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%
372	100.0%	0.4%	0.0%	0.1%	0.1%	1.000	1.000
360	99.6%	0.0%	0.4%	0.0%	0.0%	1.000	1.000
348	99.6%	0.0%	0.4%	0.0%	0.0%	1.000	1.000
336	99.6%	0.0%	0.4%	0.0%	0.0%	1.000	1.000
324	99.6%	0.0%	0.4%	0.0%	0.0%	1.000	1.000
312	99.6%	0.0%	0.4%	0.0%	0.0%	1.000	1.000
300	99.6%	0.0%	0.4%	0.0%	0.0%	0.806	0.726
288	99.6%	0.0%	0.4%	0.0%	0.0%	0.775	0.685
276	99.6%	0.1%	0.4%	0.0%	0.0%	0.745	0.646
264	99.5%	0.1%	0.5%	0.0%	0.0%	0.770	0.683
252	99.4%	0.2%	0.6%	0.1%	0.1%	0.781	0.700
240	99.2%	0.3%	0.8%	0.1%	0.1%	0.809	0.739
228	98.9%	0.3%	1.1%	0.1%	0.1%	0.833	0.772
216	98.6%	0.3%	1.4%	0.1%	0.1%	0.840	0.780
204	98.3%	0.9%	1.7%	0.5%	0.3%	0.838	0.778
192	97.4%	0.9%	2.6%	0.5%	0.4%	0.866	0.816
180	96.6%	1.0%	3.4%	0.6%	0.4%	0.871	0.822
168	95.5%	1.3%	4.5%	0.7%	0.6%	0.870	0.820
156	94.3%	1.8%	5.7%	1.1%	0.9%	0.868	0.817
144	92.5%	0.1%	7.5%	0.0%	0.0%	0.869	0.818
132	92.5%	0.4%	7.5%	0.2%	0.2%	0.837	0.773
120	92.1%	1.7%	7.9%	1.2%	1.0%	0.813	0.741
108	90.4%	0.9%	9.6%	0.6%	0.5%	0.817	0.748
96	89.5%	1.0%	10.5%	0.8%	0.7%	0.802	0.727
84	88.5%	1.0%	11.5%	0.8%	0.7%	0.790	0.711
72	87.5%	1.2%	12.5%	1.0%	0.9%	0.777	0.695
60	86.2%	2.6%	13.8%	2.2%	2.0%	0.768	0.684
48	83.7%	10.1%	16.3%	8.8%	8.2%	0.777	0.697
36	73.6%	10.4%	26.4%	9.5%	9.0%	0.836	0.777
24	63.1%	35.4%	36.9%	33.3%	32.4%	0.854	0.801
12	27.8%	27.8%	72.2%	27.2%	27.0%	0.899	0.861
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)



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Exhibit 2
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Massachusetts Colleges & Universities - Cluster 4

Medical

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	55,047	100,128		48,143	87,571
6/30/82-83	265	530	1.000	265	530
6/30/83-84	139	278	1.000	139	278
6/30/84-85	564	1,129	1.000	564	1,129
6/30/85-86	1,922	3,843	1.000	1,922	3,843
6/30/86-87	1,190	2,381	1.000	1,190	2,381
6/30/87-88	2,604	3,604	0.806	2,098	2,904
6/30/88-89	2,027	2,027	0.775	1,571	1,571
6/30/89-90	1,619	2,619	0.745	1,206	1,951
6/30/90-91	2,528	2,528	0.770	1,947	1,947
6/30/91-92	3,973	4,973	0.781	3,104	3,885
6/30/92-93	2,532	5,063	0.809	2,048	4,097
6/30/93-94	6,293	6,293	0.833	5,245	5,245
6/30/94-95	7,158	8,158	0.840	6,012	6,852
6/30/95-96	2,909	5,818	0.838	2,438	4,876
6/30/96-97	17,203	17,203	0.866	14,900	14,900
6/30/97-98	15,161	15,161	0.871	13,205	13,205
6/30/98-99	15,356	16,356	0.870	13,359	14,229
6/30/99-00	28,514	29,514	0.868	24,752	25,620
6/30/00-01	44,832	45,832	0.869	38,966	39,835
6/30/01-02	43,778	43,778	0.837	36,646	36,646
6/30/02-03	47,298	48,298	0.813	38,461	39,274
6/30/03-04	72,574	73,574	0.817	59,310	60,127
6/30/04-05	76,670	79,670	0.802	61,491	63,898
6/30/05-06	87,479	94,479	0.790	69,076	74,604
6/30/06-07	90,789	104,789	0.777	70,532	81,408
6/30/07-08	122,456	135,456	0.768	94,054	104,039
6/30/08-09	152,239	159,239	0.777	118,226	123,662
6/30/09-10	262,149	311,149	0.836	219,169	260,136
6/30/10-11	393,863	491,863	0.854	336,339	420,027
6/30/11-12	843,683	858,683	0.899	758,623	772,110
Total	2,404,814	2,674,417		2,045,004	2,272,780

(7) Total Discount Factor: 0.850 0.850

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve: 55,047 100,128
(9) Projected Number of Years: 7 7
(10) Projected Paid Loss per Year: 7,864 14,304
(11) Discounted Value at 4%: 48,143 87,571

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)



Commonwealth of Massachusetts
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Exhibit 2
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Massachusetts Colleges & Universities - Cluster 4

Medical

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	55,047	100,128		45,216	82,246
6/30/82-83	265	530	1.000	265	530
6/30/83-84	139	278	1.000	139	278
6/30/84-85	564	1,129	1.000	564	1,129
6/30/85-86	1,922	3,843	1.000	1,922	3,843
6/30/86-87	1,190	2,381	1.000	1,190	2,381
6/30/87-88	2,604	3,604	0.726	1,890	2,616
6/30/88-89	2,027	2,027	0.685	1,388	1,388
6/30/89-90	1,619	2,619	0.646	1,045	1,691
6/30/90-91	2,528	2,528	0.683	1,727	1,727
6/30/91-92	3,973	4,973	0.700	2,780	3,480
6/30/92-93	2,532	5,063	0.739	1,870	3,740
6/30/93-94	6,293	6,293	0.772	4,858	4,858
6/30/94-95	7,158	8,158	0.780	5,587	6,367
6/30/95-96	2,909	5,818	0.778	2,262	4,525
6/30/96-97	17,203	17,203	0.816	14,033	14,033
6/30/97-98	15,161	15,161	0.822	12,457	12,457
6/30/98-99	15,356	16,356	0.820	12,587	13,406
6/30/99-00	28,514	29,514	0.817	23,286	24,102
6/30/00-01	44,832	45,832	0.818	36,667	37,485
6/30/01-02	43,778	43,778	0.773	33,860	33,860
6/30/02-03	47,298	48,298	0.741	35,050	35,791
6/30/03-04	72,574	73,574	0.748	54,250	54,998
6/30/04-05	76,670	79,670	0.727	55,768	57,950
6/30/05-06	87,479	94,479	0.711	62,226	67,205
6/30/06-07	90,789	104,789	0.695	63,095	72,824
6/30/07-08	122,456	135,456	0.684	83,770	92,663
6/30/08-09	152,239	159,239	0.697	106,052	110,928
6/30/09-10	262,149	311,149	0.777	203,734	241,815
6/30/10-11	393,863	491,863	0.801	315,341	393,803
6/30/11-12	843,683	858,683	0.861	726,451	739,367
Total	2,404,814	2,674,417		1,911,329	2,123,486

(7) Total Discount Factor: 0.795 0.794

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve: 55,047 100,128
(9) Projected Number of Years: 7 7
(10) Projected Paid Loss per Year: 7,864 14,304
(11) Discounted Value at 6%: 45,216 82,246

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
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Section 8
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Page 1

**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		42,562,317			49,394,764	54,287,417	6,832,447	11,725,100		
6/30/82-83		5,482,086	5,913,127		5,765,299	6,208,783	283,213	726,697		
6/30/83-84		7,892,322	8,595,169		8,380,290	9,024,928	487,969	1,132,606		
6/30/84-85	732,729	16,396,522	18,099,214	17,123,253	17,123,000	18,099,000	726,478	1,702,478	2.337	2.470
6/30/85-86	787,208	19,299,192	21,167,008	20,378,106	20,378,000	21,167,000	1,078,808	1,867,808	2.589	2.689
6/30/86-87	902,483	19,547,905	21,679,100	20,902,041	20,902,000	21,679,000	1,354,095	2,131,095	2.316	2.402
6/30/87-88	1,366,586	26,792,704	29,342,050	29,300,606	29,301,000	30,076,000	2,508,296	3,283,296	2.144	2.201
6/30/88-89	1,486,478	24,503,255	27,130,460	26,775,783	26,776,000	27,809,000	2,272,745	3,305,745	1.801	1.871
6/30/89-90	1,494,463	23,121,467	26,045,422	25,993,826	25,994,000	26,697,000	2,872,533	3,575,533	1.739	1.786
6/30/90-91	1,405,560	20,360,200	23,311,895	23,290,727	23,291,000	23,895,000	2,930,800	3,534,800	1.657	1.700
6/30/91-92	1,364,510	12,207,364	14,234,746	14,210,498	14,210,000	14,946,000	2,002,636	2,738,636	1.041	1.095
6/30/92-93	1,347,359	9,171,606	11,817,012	10,989,614	10,990,000	12,408,000	1,818,394	3,236,394	0.816	0.921
6/30/93-94	1,424,410	10,042,039	12,133,020	12,088,337	12,088,000	12,740,000	2,045,961	2,697,961	0.849	0.894
6/30/94-95	1,497,829	9,056,940	11,119,577	11,075,434	11,075,000	11,676,000	2,018,060	2,619,060	0.739	0.780
6/30/95-96	1,582,635	9,310,729	11,791,470	11,727,578	11,728,000	12,381,000	2,417,271	3,070,271	0.741	0.782
6/30/96-97	1,979,748	9,782,874	12,539,206	12,487,658	12,488,000	13,166,000	2,705,126	3,383,126	0.631	0.665
6/30/97-98	1,917,994	8,625,521	11,111,434	11,091,303	11,091,000	11,667,000	2,465,479	3,041,479	0.578	0.608
6/30/98-99	2,081,524	8,640,902	11,489,759	11,472,088	11,472,000	12,064,000	2,831,098	3,423,098	0.551	0.580
6/30/99-00	2,207,243	9,935,745	13,676,673	13,613,676	13,614,000	14,361,000	3,678,255	4,425,255	0.617	0.651
6/30/00-01	2,201,008	9,193,961	13,075,565	13,032,474	13,032,000	13,729,000	3,838,039	4,535,039	0.592	0.624
6/30/01-02	2,292,592	9,994,625	14,554,552	14,510,176	14,510,000	15,282,000	4,515,375	5,287,375	0.633	0.667
6/30/02-03	2,260,534	9,572,220	14,388,743	14,345,968	14,346,000	15,108,000	4,773,780	5,535,780	0.635	0.668
6/30/03-04	2,255,942	8,555,058	13,228,308	13,237,874	13,228,000	13,900,000	4,672,942	5,344,942	0.586	0.616
6/30/04-05	2,309,083	9,621,847	15,232,461	15,087,900	15,088,000	15,232,000	5,466,153	5,610,153	0.653	0.660
6/30/05-06	2,480,693	9,212,575	15,287,826	15,805,697	15,288,000	15,806,000	6,075,425	6,593,425	0.616	0.637
6/30/06-07	2,612,577	7,797,213	13,871,811	15,405,200	13,872,000	15,405,000	6,074,787	7,607,787	0.531	0.590
6/30/07-08	2,783,717	10,279,740	20,126,974	19,963,548	18,965,000	20,127,000	8,685,260	9,847,260	0.681	0.723
6/30/08-09	2,750,907	9,391,181	21,216,610	20,695,372	20,695,000	21,217,000	11,303,819	11,825,819	0.752	0.771
6/30/09-10	2,806,048	8,360,727	23,909,029	22,298,610	22,299,000	23,909,000	13,938,273	15,548,273	0.795	0.852
6/30/10-11	2,942,638	6,862,614	26,794,633	24,262,900	24,263,000	26,795,000	17,400,386	19,932,386	0.825	0.911
6/30/11-12	3,006,849	3,091,255	28,674,353	24,995,322	24,995,000	28,674,000	21,903,745	25,582,745	0.831	0.954
Total	54,281,345	394,664,707	511,557,206	486,161,568	546,642,353	579,536,128	151,977,647	184,871,422		
Tot 6/30/84-12	54,281,345	338,727,982	497,048,910	486,161,568	483,102,000	510,015,000	144,374,018	171,287,018	0.890	0.940

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, 2012**

Section 8
Exhibit 1
Page 2

**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 7/1/10-11	Paid Counts 7/1/11-12	Average Outstanding Claim	Average Age
All Prior Yrs		40,902,103							18	16		81
6/30/82-83		5,438,336	1.028	1.050	5,868,721	44,406	5,913,127		3	2	215,192	73
6/30/83-84		7,408,772	1.042	1.050	8,104,366	490,803	8,595,169		1	1	695,595	66
6/30/84-85	732,729	15,650,018	1.055	1.050	17,341,512	757,702	18,099,214	2,470	3	3	563,831	80
6/30/85-86	787,208	18,192,658	1.070	1.030	20,043,876	1,123,132	21,167,008	2,689	6	5	370,244	78
6/30/86-87	902,483	18,028,041	1.084	1.030	20,136,438	1,542,662	21,679,100	2,402	7	7	301,200	74
6/30/87-88	1,366,586	24,721,300	1.102	1.000	27,234,241	2,107,809	29,342,050	2,147	10	9	279,216	71
6/30/88-89	1,486,478	21,577,022	1.119	1.000	24,145,226	2,985,234	27,130,460	1,825	10	10	256,820	72
6/30/89-90	1,494,463	20,405,842	1.140	1.000	23,256,351	2,789,071	26,045,422	1,743	9	8	356,314	64
6/30/90-91	1,405,560	17,862,598	1.161	1.000	20,730,180	2,581,715	23,311,895	1,659	6	6	477,930	76
6/30/91-92	1,364,510	10,865,629	1.182	1.000	12,838,049	1,396,698	14,234,746	1,043	9	7	281,774	69
6/30/92-93	1,347,359	7,957,233	1.204	1.100	10,540,461	1,276,550	11,817,012	0,877	8	7	369,033	64
6/30/93-94	1,424,410	8,735,517	1.230	1.000	10,741,322	1,391,697	12,133,020	0,852	7	6	334,301	70
6/30/94-95	1,497,829	7,524,723	1.260	1.000	9,481,206	1,638,371	11,119,577	0,742	5	6	326,081	68
6/30/95-96	1,582,635	8,065,046	1.292	1.000	10,419,727	1,371,743	11,791,470	0,745	8	5	470,936	74
6/30/96-97	1,979,748	7,874,055	1.325	1.000	10,431,315	2,107,891	12,539,206	0,633	4	8	319,658	63
6/30/97-98	1,917,994	6,223,326	1.359	1.000	8,459,898	2,651,536	11,111,434	0,579	3	6	372,762	64
6/30/98-99	2,081,524	6,587,838	1.396	1.000	9,196,699	2,293,060	11,489,759	0,552	6	5	521,772	53
6/30/99-00	2,207,243	8,042,197	1.433	1.000	11,525,175	2,151,498	13,676,673	0,620	5	7	497,568	55
6/30/00-01	2,201,008	7,654,033	1.475	1.000	11,287,561	1,788,004	13,075,565	0,594	6	8	454,191	58
6/30/01-02	2,292,592	8,009,207	1.521	1.000	12,181,779	2,372,773	14,554,552	0,635	9	6	695,429	51
6/30/02-03	2,260,534	7,842,222	1.566	1.000	12,279,652	2,109,091	14,388,743	0,637	12	9	493,048	51
6/30/03-04	2,255,942	6,893,294	1.618	1.000	11,155,209	2,073,099	13,228,308	0,586	13	9	473,546	51
6/30/04-05	2,309,083	7,449,646	1.673	1.000	12,460,149	2,772,312	15,232,461	0,660	20	15	334,033	51
6/30/05-06	2,480,693	7,041,075	1.750	1.000	12,319,743	2,968,083	15,287,826	0,616	36	24	219,945	51
6/30/06-07	2,612,577	6,226,124	1.845	1.000	11,489,053	2,382,758	13,871,811	0,531	43	27	194,923	51
6/30/07-08	2,783,717	8,430,592	1.992	1.000	16,789,949	3,337,025	20,126,974	0,723	70	54	154,803	52
6/30/08-09	2,750,907	7,998,181	2.237	1.000	17,893,768	3,322,842	21,216,610	0,771	104	96	103,079	50
6/30/09-10	2,806,048	7,589,725	2.693	1.000	20,441,861	3,467,169	23,909,029	0,852	238	114	112,738	49
6/30/10-11	2,942,638	6,236,233	3.652	1.000	22,773,981	4,020,652	26,794,633	0,911	557	252	65,626	47
6/30/11-12	3,006,849	3,091,255	7.971	1.000	24,641,658	4,032,695	28,674,353	0,954		561	38,414	44
Total	54,281,345	346,523,841			446,209,125	65,348,082	511,557,206		1,236	1,299		

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, 2012**

Section 8
Exhibit 1
Page 3

All Other - Clusters 5-17 & 95

Indemnity

Paid Bornhuetter-Ferguson Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Accident	Payroll	A Priori	Paid Loss		Ultimate Loss	Est Ult	Ultimate Loss	Ultimate	Ultimate Loss
Year	(000's)	Loss	Excluding	Paid	Excluding	Lump Sum	Including	Loss	Cost Excluding
		Rate	Lump Sum	LDF	Lump Sum	Payments	Lump Sum	Cost	Lump Sum
All Prior Yrs									
6/30/82-83									
6/30/83-84									
6/30/84-85	732,729	1.863	15,650,018	1.055	16,365,552	757,702	17,123,253	2.337	2.234
6/30/85-86	787,208	2.072	18,192,658	1.070	19,254,974	1,123,132	20,378,106	2.589	2.446
6/30/86-87	902,483	1.895	18,028,041	1.084	19,359,379	1,542,662	20,902,041	2.316	2.145
6/30/87-88	1,366,586	1.960	24,721,300	1.102	27,192,797	2,107,809	29,300,606	2.144	1.990
6/30/88-89	1,486,478	1.400	21,577,022	1.119	23,790,549	2,985,234	26,775,783	1.801	1.600
6/30/89-90	1,494,463	1.528	20,405,842	1.140	23,204,755	2,789,071	25,993,826	1.739	1.553
6/30/90-91	1,405,560	1.464	17,862,598	1.161	20,709,012	2,581,715	23,290,727	1.657	1.473
6/30/91-92	1,364,510	0.929	10,865,629	1.182	12,813,801	1,396,698	14,210,498	1.041	0.939
6/30/92-93	1,347,359	0.768	7,957,233	1.204	9,713,064	1,276,550	10,989,614	0.816	0.721
6/30/93-94	1,424,410	0.737	8,735,517	1.230	10,696,640	1,391,697	12,088,337	0.849	0.751
6/30/94-95	1,497,829	0.619	7,524,723	1.260	9,437,063	1,638,371	11,075,434	0.739	0.630
6/30/95-96	1,582,635	0.641	8,065,046	1.292	10,355,835	1,371,743	11,727,578	0.741	0.654
6/30/96-97	1,979,748	0.516	7,874,055	1.325	10,379,767	2,107,891	12,487,658	0.631	0.524
6/30/97-98	1,917,994	0.437	6,223,326	1.359	8,439,767	2,651,536	11,091,303	0.578	0.440
6/30/98-99	2,081,524	0.439	6,587,838	1.396	9,179,028	2,293,060	11,472,088	0.551	0.441
6/30/99-00	2,207,243	0.513	8,042,197	1.433	11,462,178	2,151,498	13,613,676	0.617	0.519
6/30/00-01	2,201,008	0.507	7,654,033	1.475	11,244,470	1,788,004	13,032,474	0.592	0.511
6/30/01-02	2,292,592	0.526	8,009,207	1.521	12,137,403	2,372,773	14,510,176	0.633	0.529
6/30/02-03	2,260,534	0.538	7,842,222	1.566	12,236,876	2,109,091	14,345,968	0.635	0.541
6/30/03-04	2,255,942	0.496	6,893,294	1.618	11,164,774	2,073,099	13,237,874	0.587	0.495
6/30/04-05	2,309,083	0.524	7,449,646	1.673	12,315,588	2,772,312	15,087,900	0.653	0.533
6/30/05-06	2,480,693	0.545	7,041,075	1.750	12,837,614	2,968,083	15,805,697	0.637	0.518
6/30/06-07	2,612,577	0.568	6,226,124	1.845	13,022,442	2,382,758	15,405,200	0.590	0.498
6/30/07-08	2,783,717	0.591	8,430,592	1.992	16,626,522	3,337,025	19,963,548	0.717	0.597
6/30/08-09	2,750,907	0.616	7,998,181	2.237	17,372,529	3,322,842	20,695,372	0.752	0.632
6/30/09-10	2,806,048	0.637	7,589,725	2.693	18,831,441	3,467,169	22,298,610	0.795	0.671
6/30/10-11	2,942,638	0.655	6,236,233	3.652	20,242,248	4,020,652	24,262,900	0.825	0.688
6/30/11-12	3,006,849	0.680	3,091,255	7.971	20,962,627	4,032,695	24,995,322	0.831	0.697
Total	54,281,345		292,774,630		421,348,696	64,812,872	486,161,568		

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, 2012

Section 8
Exhibit 1
Page 4

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	20,730,180	1.475	0.946	1.395	1.916	2.674	0.386	1.503	1.464
6/30/91-92	1,364,510	12,838,049	0.941	1.038	0.977	1.860	1.817	0.363	0.945	0.929
6/30/92-93	1,347,359	10,540,461	0.782	1.210	0.947	1.806	1.710	0.320	0.781	0.768
6/30/93-94	1,424,410	10,741,322	0.754	1.195	0.901	1.754	1.580	0.334	0.759	0.737
6/30/94-95	1,497,829	9,481,206	0.633	1.184	0.749	1.702	1.276	0.347	0.635	0.619
6/30/95-96	1,582,635	10,419,727	0.658	1.174	0.773	1.653	1.278	0.361	0.659	0.641
6/30/96-97	1,979,748	10,431,315	0.527	1.163	0.613	1.605	0.983	0.375	0.534	0.516
6/30/97-98	1,917,994	8,459,898	0.441	1.148	0.506	1.558	0.789	0.391	0.454	0.437
6/30/98-99	2,081,524	9,196,699	0.442	1.133	0.500	1.513	0.757	0.409	0.458	0.439
6/30/99-00	2,207,243	11,525,175	0.522	1.114	0.582	1.469	0.855	0.428	0.535	0.513
6/30/00-01	2,201,008	11,287,561	0.513	1.086	0.557	1.426	0.794	0.452	0.524	0.507
6/30/01-02	2,292,592	12,181,779	0.531	1.065	0.566	1.384	0.783	0.475	0.550	0.526
6/30/02-03	2,260,534	12,279,652	0.543	1.061	0.576	1.344	0.775	0.491	0.564	0.538
6/30/03-04	2,255,942	11,155,209	0.494	1.061	0.525	1.305	0.685	0.506	0.514	0.496
6/30/04-05	2,309,083	12,460,149	0.540	1.054	0.569	1.267	0.721	0.524	0.521	0.524
6/30/05-06	2,480,693	12,319,743	0.497	1.044	0.518	1.230	0.637	0.545	0.534	0.545
6/30/06-07	2,612,577	11,489,053	0.440	1.032	0.454	1.194	0.542	0.568	0.548	0.568
6/30/07-08	2,783,717	16,789,949	0.603	1.021	0.616	1.159	0.714	0.591	0.562	0.591
6/30/08-09	2,750,907	17,893,768	0.650	1.009	0.657	1.126	0.739	0.616	0.578	0.616
6/30/09-10	2,806,048	20,441,861	0.728	1.005	0.732	1.093	0.800	0.637	0.589	0.637
6/30/10-11	2,942,638	22,773,981	0.774	1.007	0.779	1.061	0.827	0.655	0.601	0.655
6/30/11-12	3,006,849	24,641,658	0.820	1.000	0.820	1.030	0.844	0.680		0.680
Total	47,511,399	300,078,393								
					Trend Last 4 (ex 11-12):	8.5%	Avg 3 (x11-12):	0.789		
					Trend Last 8 (ex 11-12):	6.2%	Avg 5 (x11-12):	0.724		
					Trend Last 12 (ex 11-12):	2.3%	Avg 10 (x11-12):	0.722		
					Prior Selected Trend:	1.5%	Prior Sel Avg:	0.610		
					Selected Trend:	3.0%	Sel. Loss Cost:	0.700		

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, 2011
(11) Selected based on (9) and (4)



Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012

Section 8

Exhibit 1

Page 5

All Other - Clusters 5-17 & 95

Indemnity

Calculation of 1982 & Prior Reserves (Page 1)

Method 1			
(1)	Average Payment Trend	0.950	
(2)	Credibility	62%	
(3)	Average Pmt Trend Statewide	0.960	
(4)	Credibility Weighted Trend	0.954	
		(Low)	(High)
(5)	Selected Range	0.949	0.973
(6)	Incremental Paid for 2012	659,520	659,520
(7)	Estimated Reserve	12,273,189	23,767,151
(8)	Paid to Date (82 & Prior)	40,902,103	40,902,103
(9)	Est Ult Paid for 1982 & Prior	53,175,292	64,669,254
Method 2			
		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	712,238	731,364
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	4,985,663	5,119,545
(13)	Paid to Date (82 & Prior)	40,902,103	40,242,583
(14)	Est Ult Paid for 1982 & Prior	45,887,765	45,362,127
(14a)	Paid Counts During Fiscal Year	16	18
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	47,709,647	52,602,300
(16)	Lump Sum Ultimates	1,685,117	1,685,117
(17)	Ult Loss Including Lump Sums	49,394,764	54,287,417
(18)	Implied Tail	1.166	1.286
(19)	Ult Loss Inc Lump Sums @ 6/11	48,924,937	54,023,336

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, 2011



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 8
Exhibit 1
Page 6

**All Other - Clusters 5-17 & 95
Indemnity**

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paid	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 =	21
2001	10	1,385,608	14.142	1.014	S(x) =	42,042
2002	11	1,127,515	13.936	0.814	S(x-sq) =	84,168,854
2003	12	1,046,115	13.861	0.928	S(xy) =	584,994
2004	13	1,007,259	13.823	0.963	S(y) =	292
2005	14	889,985	13.699	0.884	D =	16,170
2006	15	854,725	13.659	0.960	slope =	-0.052
2007	16	901,012	13.711	1.054	Avg Trend =	0.948
2008	17	757,677	13.538	0.841		
2009	18	716,898	13.483	0.946		
2010	19	794,268	13.585	1.108		
2011	20	682,924	13.434	0.860		
2012	21	659,520	13.399	0.966		
				Selected Trend:	0.950	

NOTES:

(3) 2012 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2011

(4) LN [(3)]

(5) Eg. 2012: $0.966 = 659520 / 682924$

Commonwealth of Massachusetts Workers Compensation
All Other - Clusters 5-17 & 95
INDEMNITY
Paid Loss Development
Paid Loss (Excluding Lump Sum)

Age	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
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	
June-84	474,232	1,177,837	1,738,838	2,206,285	2,688,699	3,194,369	3,593,923	3,979,171	4,253,324	4,483,497	4,692,265	4,887,962	5,105,946	5,268,212	5,510,171	5,713,715	5,953,029	6,131,586	6,304,589	6,551,091	6,749,135	6,911,821	7,056,179	7,158,846	7,234,716	7,305,169	7,379,875	7,450,258	7,508,334	7,408,772	
June-85	977,090	2,372,578	3,484,586	4,747,628	5,275,499	6,134,761	6,920,369	7,655,499	8,088,427	8,983,519	9,697,477	10,475,930	10,640,204	11,178,862	11,641,661	12,100,326	12,599,733	13,016,766	13,426,358	13,781,092	14,131,892	14,477,029	14,710,082	14,949,032	15,141,225	15,309,397	15,476,883	15,650,018			
June-86	1,346,055	3,007,588	4,392,092	5,740,375	6,583,083	7,830,452	9,153,471	9,830,455	10,584,823	11,054,823	11,623,402	12,106,294	12,632,595	13,327,657	13,820,597	14,335,672	14,795,690	15,267,959	15,661,703	15,953,861	16,321,920	16,607,046	16,861,857	17,127,747	17,450,228	17,739,616	18,028,041				
June-87	2,101,233	5,080,071	7,503,885	10,862,566	8,405,602	9,270,533	9,956,299	10,556,456	11,085,675	11,623,402	12,106,294	12,632,595	13,327,657	13,820,597	14,335,672	14,795,690	15,267,959	15,661,703	15,953,861	16,321,920	16,607,046	16,861,857	17,127,747	17,450,228	17,739,616	18,028,041					
June-88	1,371,513	5,000,717	7,745,041	10,041,912	12,075,717	13,478,064	14,314,633	15,205,521	15,980,697	16,687,795	17,346,735	17,991,163	18,710,472	19,340,226	19,962,128	20,594,429	21,207,790	21,738,131	22,267,656	22,766,365	23,248,699	23,645,571	23,973,193	24,351,090	24,721,390						
June-89	1,567,027	5,080,033	7,663,780	9,679,037	12,173,515	13,105,492	13,612,962	14,133,962	14,535,025	15,005,495	15,465,797	15,906,892	16,325,699	16,731,807	17,131,807	17,564,824	18,333,675	18,761,144	19,180,530	19,588,446	20,011,654	20,402,670	20,798,018	21,197,603	21,577,022						
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	16,435,508	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	20,083,290	20,405,842								
June-91	1,065,238	4,739,981	6,742,583	8,047,589	9,308,882	10,318,373	10,934,263	11,411,152	12,046,662	12,546,665	13,141,453	13,738,283	14,329,913	14,888,135	15,534,127	15,837,750	16,311,154	16,869,475	17,129,945	17,445,379	17,760,541	18,062,998	18,362,598								
June-92	1,567,027	4,739,981	6,742,583	8,047,589	9,308,882	10,318,373	10,934,263	11,411,152	12,046,662	12,546,665	13,141,453	13,738,283	14,329,913	14,888,135	15,534,127	15,837,750	16,311,154	16,869,475	17,129,945	17,445,379	17,760,541	18,062,998	18,362,598								
June-93	1,093,248	2,645,187	3,492,766	4,119,432	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	7,177,733	7,331,914	7,500,747	7,674,152	7,848,157	7,957,233										
June-94	1,198,341	2,242,329	3,499,107	4,149,172	4,786,813	5,343,025	5,784,388	6,320,299	6,956,878	6,855,808	7,108,040	7,412,769	7,629,538	7,816,862	7,981,446	8,208,781	8,346,334	8,500,454	8,658,268	8,835,717											
June-95	1,320,780	2,082,119	3,227,705	4,128,177	4,669,728	5,149,474	5,477,145	5,799,965	6,145,599	6,282,230	6,428,230	6,582,230	6,742,230	6,902,230	7,062,230	7,222,230	7,382,230	7,542,230	7,702,230	7,862,230	8,022,230										
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	6,635,555	6,919,769	7,184,823	7,415,770	7,649,372	7,874,542	8,065,046														
June-97	1,085,126	2,350,834	3,458,990	4,404,774	5,289,243	5,991,102	6,443,225	6,730,818	6,867,491	7,036,466	7,147,793	7,264,504	7,473,884	7,593,308	7,713,847	7,847,055															
June-98	760,353	2,208,225	3,319,672	3,933,584	4,535,498	4,915,588	5,187,180	5,438,498	5,683,498	5,803,894	5,909,062	6,018,894	6,123,236																		
June-99	1,160,394	2,519,810	3,441,432	4,263,196	4,763,871	5,080,496	5,423,858	5,694,351	5,858,839	6,093,043	6,235,873	6,377,332	6,494,424	6,598,838																	
June-00	1,478,087	3,369,760	4,601,283	5,433,894	6,170,822	6,679,071	7,051,320	7,313,676	7,476,289	7,629,742	7,769,586	7,893,815	8,042,197																		
June-01	2,189,875	4,665,278	4,700,879	5,525,999	6,126,399	6,527,511	6,708,096	7,002,422	7,073,145	7,226,294	7,426,582	7,654,033																			
June-02	1,821,131	4,134,238	4,441,689	5,231,796	5,681,029	6,015,438	6,251,766	6,405,629	6,580,000	6,777,000	6,984,000	7,200,000																			
June-03	1,605,619	3,464,586	4,505,662	5,651,661	6,071,396	6,321,292	6,479,850	7,624,463	7,743,263	7,842,222																					
June-04	1,755,076	3,756,461	4,930,176	5,714,500	6,081,077	6,338,306	6,512,915	6,733,332	6,893,294																						
June-05	1,819,770	3,933,297	5,000,168	5,739,179	6,002,168	6,266,265	6,530,766	6,708,766	6,949,646																						
June-06	1,788,326	3,829,026	4,910,437	5,443,647	5,995,523	6,675,753	7,041,075																								
June-07	1,734,963	3,632,388	4,091,197	4,999,633	5,805,615	6,226,124																									
June-08	1,605,130	3,455,431	4,126,330	4,779,871	5,430,592																										
June-09	1,952,179	4,646,609	6,562,837	7,998,181																											
June-10	2,633,117	5,635,921	7,589,725																												
June-11	3,051,306	6,236,333																													
June-12	3,091,255																														

Age-to-Age Factors

[illegible]

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	To Ult
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Simple A/B	All Yrs	2.301	1.389	1.210	1.139	1.095	1.070	1.059	1.047	1.043	1.038	1.039	1.037	1.032	1.031	1.030	1.030	1.027	1.026	1.024	1.023	1.020	1.020	1.019	1.017	1.017	1.014	1.014	1.013	1.014		
	Latest 5	2.178	1.306	1.181	1.101	1.062	1.044	1.033	1.020	1.024	1.021	1.024	1.021	1.021	1.022	1.024	1.025	1.025	1.025	1.021	1.019	1.016	1.017	1.018	1.014	1.017						
	Latest 3	2.188	1.373	1.221	1.130	1.080	1.051	1.035	1.023	1.020	1.019	1.024	1.017	1.017	1.021	1.022	1.024	1.023	1.024	1.027	1.022	1.018	1.016	1.016	1.017	1.016	1.014	1.009	1.014			
	Volume Wtd																															
	All Yrs	2.273	1.384	1.209	1.135	1.091	1.066	1.056	1.045	1.042	1.038	1.039	1.037	1.032	1.031	1.030	1.029	1.025	1.024	1.022	1.021	1.018	1.018	1.018	1.016	1.015	1.012	1.012	1.014			
Simple B/C	All Yrs	2.164	1.316	1.101	1.034	1.033	1.020	1.023	1.024	1.023	1.024	1.021	1.021	1.024	1.026	1.026	1.025	1.024	1.019	1.020	1.019	1.017	1.018	1.017	1.018	1.015	1.015					
	Latest 5	2.273	1.371	1.220	1.129	1.080	1.051	1.034	1.023	1.019	1.019	1.024	1.017	1.016	1.021	1.023	1.024	1.023	1.024	1.027	1.021	1.017	1.017	1.016	1.017	1.016	1.014	1.010	1.012	1.012	1.014	
	Latest 3																															
	Volume Wtd																															
	All Yrs																															
Dev Factor Selection	Industry 1	2.181	1.499	1.187	1.084	1.039	1.019	1.012																								
	Industry 2		1.746	1.300	1.126	1.062	1.029	1.020	1.009	1.008	1.005	1.006	1.010	1.003	1.002	1.004	1.003	1.001	1.001	1.001	1.001	1.001										
	Prior	2.224	1.332	1.176	1.110	1.074	1.051	1.045	1.035	1.031	1.030	1.033	1.031	1.028	1.028	1.028	1.026	1.026	1.027	1.020	1.018	1.019	1.020	1.020	1.020	1.020	1.020	1.015	1.015	1.042	1.015	
	Selected	1.283	1.356	1.204	1.123	1.075	1.055	1.046	1.034	1.033	1.029	1.031	1.029	1.027	1.025	1.025	1.025	1.025	1.021	1.019	1.018	1.018	1.018	1.016	1.016	1.015	1.015	1.014	1.014	1.013	1.014	1.028
	Fac/Fail	1.971	3.452	2.337	1.845	1.752	1.693	1.645	1.604	1.593	1.587	1.586	1.586	1.586	1.586	1.586	1.586	1.586	1.586	1.586	1.586	1.586	1.586	1.586	1.586	1.586	1.586	1.586	1.586	1.586	1.586	1.586
Percent of Uth	12.5%	27.4%	37.1%	44.7%	50.2%	54.2%	57.2%	59.8%	61.8%	63.9%	65.7%	67.8%	69.8%	71.6%	73.6%	75.5%	77.4%	79.4%	81.3%	83.0%	84.6%	86.2%	87.9%	89.4%	90.8%	92.2%	93.5%	94.8%	96.0%	97.3%		



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 8

Exhibit 1

Page 8

All Other - Clusters 5-17 & 95

Indemnity

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Accident Year	Ultimate Loss As of 6/11		Ultimate Loss As of 6/12		Change in Ultimate Loss		Change in Ultimate Loss	
	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	48,924,937	54,023,336	49,394,764	54,287,417	469,827	1.0%	264,081	0.5%
6/30/82-83	5,765,190	6,208,666	5,765,299	6,208,783	109	0.0%	118	0.0%
6/30/83-84	8,461,302	9,112,172	8,380,290	9,024,928	(81,012)	-1.0%	(87,244)	-1.0%
6/30/84-85	17,166,000	18,199,000	17,123,000	18,099,000	(43,000)	-0.3%	(100,000)	-0.5%
6/30/85-86	20,514,000	21,396,000	20,378,000	21,167,000	(136,000)	-0.7%	(229,000)	-1.1%
6/30/86-87	21,068,000	21,944,000	20,902,000	21,679,000	(166,000)	-0.8%	(265,000)	-1.2%
6/30/87-88	29,732,000	31,340,000	29,301,000	30,076,000	(431,000)	-1.4%	(1,264,000)	-4.0%
6/30/88-89	27,104,000	27,637,000	26,776,000	27,809,000	(328,000)	-1.2%	172,000	0.6%
6/30/89-90	26,463,000	26,614,000	25,994,000	26,697,000	(469,000)	-1.8%	83,000	0.3%
6/30/90-91	23,847,000	23,872,000	23,291,000	23,895,000	(556,000)	-2.3%	23,000	0.1%
6/30/91-92	14,427,000	15,176,000	14,210,000	14,946,000	(217,000)	-1.5%	(230,000)	-1.5%
6/30/92-93	11,159,000	11,967,000	10,990,000	12,408,000	(169,000)	-1.5%	441,000	3.7%
6/30/93-94	12,415,000	12,464,000	12,088,000	12,740,000	(327,000)	-2.6%	276,000	2.2%
6/30/94-95	11,377,000	11,422,000	11,075,000	11,676,000	(302,000)	-2.7%	254,000	2.2%
6/30/95-96	12,049,000	12,721,000	11,728,000	12,381,000	(321,000)	-2.7%	(340,000)	-2.7%
6/30/96-97	12,797,000	13,488,000	12,488,000	13,166,000	(309,000)	-2.4%	(322,000)	-2.4%
6/30/97-98	11,312,000	11,890,000	11,091,000	11,667,000	(221,000)	-2.0%	(223,000)	-1.9%
6/30/98-99	11,987,000	12,597,000	11,472,000	12,064,000	(515,000)	-4.3%	(533,000)	-4.2%
6/30/99-00	14,271,000	15,052,000	13,614,000	14,361,000	(657,000)	-4.6%	(691,000)	-4.6%
6/30/00-01	13,514,000	14,234,000	13,032,000	13,729,000	(482,000)	-3.6%	(505,000)	-3.5%
6/30/01-02	15,045,000	15,855,000	14,510,000	15,282,000	(535,000)	-3.6%	(573,000)	-3.6%
6/30/02-03	15,056,000	15,874,000	14,346,000	15,108,000	(710,000)	-4.7%	(766,000)	-4.8%
6/30/03-04	13,620,000	14,306,000	13,228,000	13,900,000	(392,000)	-2.9%	(406,000)	-2.8%
6/30/04-05	15,529,000	15,878,000	15,088,000	15,232,000	(441,000)	-2.8%	(646,000)	-4.1%
6/30/05-06	15,244,000	15,530,000	15,288,000	15,806,000	44,000	0.3%	276,000	1.8%
6/30/06-07	14,690,000	15,966,000	13,872,000	15,405,000	(818,000)	-5.6%	(561,000)	-3.5%
6/30/07-08	18,050,000	20,677,000	18,965,000	20,127,000	915,000	5.1%	(550,000)	-2.7%
6/30/08-09	19,807,000	20,777,000	20,695,000	21,217,000	888,000	4.5%	440,000	2.1%
6/30/09-10	20,148,000	22,613,000	22,299,000	23,909,000	2,151,000	10.7%	1,296,000	5.7%
6/30/10-11	20,774,000	26,302,000	24,263,000	26,795,000	3,489,000	16.8%	493,000	1.9%
6/30/11-12								
Total	522,316,429	555,135,173	521,647,353	550,862,128	(669,076)	-0.1%	(4,273,045)	-0.8%

NOTES:

(2), (3) From Aon analysis as of June 30, 2011

(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, 2012

Section 8
Exhibit 1
Page 9

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	40,902,103	1.226	50,155,973	0.0%	0.0%	0	1,660,214	1,660,214	3.3%	1.030	1,710,020	1,685,117	1,669,892
6/30/82-83	5,438,336	1.079	5,868,721	0.0%	0.0%	0	43,750	43,750	0.7%	1.030	45,063	44,406	44,406
6/30/83-84	7,408,772	1.094	8,104,366	0.0%	0.0%	0	483,550	483,550	6.0%	1.030	498,057	490,803	490,803
6/30/84-85	15,650,018	1.108	17,341,512	0.0%	0.0%	0	746,504	746,504	4.3%	1.030	768,899	757,702	757,702
6/30/85-86	18,192,658	1.102	20,043,876	0.0%	0.0%	0	1,106,534	1,106,534	5.5%	1.030	1,139,730	1,123,132	1,123,132
6/30/86-87	18,028,041	1.117	20,136,438	0.0%	0.0%	0	1,519,864	1,519,864	7.5%	1.030	1,565,460	1,542,662	1,546,576
6/30/87-88	24,721,300	1.102	27,234,241	0.0%	0.0%	0	2,071,404	2,071,404	7.6%	1.035	2,144,214	2,107,809	2,113,169
6/30/88-89	21,577,022	1.119	24,145,226	0.0%	0.0%	0	2,926,233	2,926,233	12.1%	1.040	3,044,236	2,985,234	3,005,161
6/30/89-90	20,405,842	1.140	23,256,351	0.1%	0.1%	23,256	2,715,625	2,738,881	11.8%	1.046	2,839,260	2,789,071	2,808,347
6/30/90-91	17,862,598	1.161	20,730,180	0.1%	0.2%	41,460	2,497,602	2,539,062	12.2%	1.051	2,624,368	2,581,715	2,596,361
6/30/91-92	10,865,629	1.182	12,838,049	0.1%	0.3%	34,775	1,341,736	1,376,511	10.7%	1.056	1,416,885	1,396,698	1,413,021
6/30/92-93	7,957,233	1.325	10,540,461	0.1%	0.4%	39,092	1,214,373	1,253,465	11.9%	1.070	1,299,636	1,276,550	1,279,317
6/30/93-94	8,735,517	1.230	10,741,322	0.1%	0.5%	51,726	1,306,522	1,358,248	12.6%	1.091	1,425,147	1,391,697	1,431,830
6/30/94-95	7,524,723	1.260	9,481,206	0.1%	0.6%	56,152	1,532,217	1,588,369	16.8%	1.102	1,688,372	1,638,371	1,723,554
6/30/95-96	8,065,046	1.292	10,419,727	0.1%	0.7%	74,891	1,245,683	1,320,574	12.7%	1.142	1,422,913	1,371,743	1,439,672
6/30/96-97	7,874,055	1.325	10,431,315	0.0%	0.7%	74,974	1,908,819	1,983,793	19.0%	1.169	2,231,989	2,107,891	2,092,781
6/30/97-98	6,223,326	1.359	8,459,898	0.2%	0.9%	75,336	2,402,195	2,477,531	29.3%	1.176	2,825,541	2,651,536	2,569,374
6/30/98-99	6,587,838	1.396	9,196,699	0.1%	0.9%	86,804	2,053,064	2,139,868	23.3%	1.192	2,446,251	2,293,060	2,425,028
6/30/99-00	8,042,197	1.433	11,525,175	0.2%	1.1%	130,343	1,893,548	2,023,891	17.6%	1.204	2,279,105	2,151,498	2,345,404
6/30/00-01	7,654,033	1.475	11,287,561	0.2%	1.3%	149,049	1,539,928	1,688,977	15.0%	1.225	1,887,031	1,788,004	1,905,531
6/30/01-02	8,009,207	1.521	12,181,779	0.4%	1.7%	211,896	1,985,418	2,197,314	18.0%	1.283	2,548,231	2,372,773	2,343,628
6/30/02-03	7,842,222	1.566	12,279,652	0.2%	1.9%	237,037	1,729,998	1,967,035	16.0%	1.301	2,251,148	2,109,091	2,215,957
6/30/03-04	6,893,294	1.618	11,155,209	0.3%	2.2%	249,888	1,661,764	1,911,652	17.1%	1.345	2,234,547	2,073,099	2,015,282
6/30/04-05	7,449,646	1.673	12,460,149	0.5%	2.7%	336,765	2,172,201	2,508,966	20.1%	1.398	3,035,659	2,772,312	3,066,597
6/30/05-06	7,041,075	1.750	12,319,743	1.1%	3.8%	471,845	2,171,500	2,643,345	21.5%	1.516	3,292,822	2,968,083	2,598,256
6/30/06-07	6,226,124	1.845	11,489,053	1.1%	5.0%	569,460	1,571,089	2,140,549	18.6%	1.671	2,624,967	2,382,758	2,877,986
6/30/07-08	8,430,592	1.992	16,789,949	1.8%	6.8%	1,139,691	1,849,148	2,988,839	17.8%	1.993	3,685,212	3,337,025	2,793,197
6/30/08-09	7,998,181	2.237	17,893,768	2.1%	8.9%	1,595,532	1,393,000	2,988,532	16.7%	2.625	3,657,152	3,322,842	3,332,677
6/30/09-10	7,589,725	2.693	20,441,861	3.5%	12.4%	2,536,881	771,002	3,307,883	16.2%	4.704	3,626,455	3,467,169	2,662,269
6/30/10-11	6,236,233	3.652	22,773,981	2.5%	14.9%	3,394,271	626,381	4,020,652	17.7%	13.916	8,716,916	4,020,652	2,285,039
6/30/11-12	3,091,255	7.971	24,641,658	1.5%	16.4%	4,032,695	0	4,032,695	16.4%	59.631	0	4,032,695	
Total	346,523,841		496,365,098			15,613,816	48,140,866	63,754,682	12.8%		70,975,285	67,033,199	60,971,947

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, 2011

Commonwealth of Massachusetts Workers Compensation
All Other - Clusters 5-17 & 95
INDEMNITY
Lump Sum Development
Incremental Lump Sum Payments

Section 8
Exhibit 1
Page 10

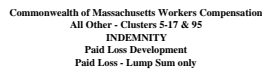
		0-12	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	
All Prior Yrs	0	0	0	0	0	0	0	0	22.500	22.500	22.500	160.000	200.000	280.500	530.734	897.734	1,037.338	1,122.338	1,122.338	1,179.838	1,234.839	1,264.839	252	264	276	288	300	312	324	336	348	360	372
Jun-83	0	0	0	0	0	0	0	0	0	0	0	35.000	42.750	43.750	43.750	43.750	43.750	43.750	43.750	43.750	43.750	43.750	43.750	43.750	43.750	43.750	43.750	43.750	43.750	43.750	43.750	43.750	
Jun-84	0	0	0	0	0	0	0	91.600	53.250	15.000	55.000	59.700	57.000	57.000	57.000	57.000	57.000	57.000	85.000	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jun-85	0	0	0	30.000	3.000	52.500	24.500	91.600	53.250	15.000	215.750	30.200	92.500	50.000	47.000	0	49.000	32.000	0	25.000	185.000	30	0	0	0	0	0	0	0	0	0	0	
Jun-86	0	0	12.000	40.559	73.501	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	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	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	0	0	155.000	20.000	0	100.000	90.000	0	0	0	0	0	0	0	0	0	
Jun-89	0	69.855	143.500	275.776	374.100	341.500	238.500	222.500	170.500	22.500	170.500	30.000	123.000	40.000	25.000	0	63.500	0	0	0	50.000	185.000	50.000	110.000	62.500	0	0	0	0	0	0	0	
Jun-90	0	114.301	281.968	440.240	535.751	231.565	180.000	494.500	46.300	140.000	0	157.000	0	15.000	0	25.000	106.000	60.000	0	15.000	0	15.000	0	0	0	0	0	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	0	10.000	153.000	72.500	255.000	120.000	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0
Jun-93	6.000	137.948	181.424	231.001	158.000	40.500	16.000	77.000	85.000	16.000	0	0	0	0	0	0	50.000	40.000	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-94	9.500	273.155	204.001	189.365	168.500	29.001	28.000</																										



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Incremental Lump Sums as a % of Ultimate Losses Excluding Lump Sums

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Ace 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	
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	0.000	0.002	0.000	0.000	0.000	
Jun-83	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-84	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.007	0.007	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	0.000	
Jun-85	0.000	0.000	0.000	0.002	0.000	0.003	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	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	0.000	0.000	
Jun-87	0.000	0.001	0.006	0.005	0.007	0.003	0.010	0.008	0.005	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	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	0.000	0.000	0.000	0.000	
Jun-89	0.000	0.003	0.006	0.011	0.015	0.014	0.011	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	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	0.006	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	0.000	0.000	0.000	0.000	0.000	
Jun-91	0.004	0.004	0.014	0.011	0.014	0.010	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-92	0.001	0.009	0.014	0.011	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-93	0.001	0.013	0.017	0.022	0.015	0.006	0.005	0.002	0.007	0.008	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.005	0.004	0.003	0.003											
Jun-94	0.001	0.025	0.019	0.018	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun-95	0.024	0.020	0.039	0.030	0.020	0.010	0.007	0.007	0.000	0.012	0.002	0.004	0.006	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-96	0.001	0.024	0.044	0.022	0.010	0.002	0.000	0.004	0.000	0.000	0.003	0.006	0.000	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000											
Jun-97	0.002	0.048	0.031	0.030	0.020	0.010	0.000	0.010	0.010	0.006	0.008	0.000	0.000	0.000	0.000	0.004	0.004															
Jun-98	0.034	0.042	0.034	0.060	0.033	0.010	0.008	0.011	0.002	0.000	0.001	0.024	0.009	0.008	0.008																	
Jun-99	0.014	0.023	0.026	0.020	0.026	0.020	0.018	0.022	0.018	0.017	0.007	0.002	0.007	0.000	0.000																	
Jun-00	0.008	0.042	0.027	0.023	0.008	0.017	0.016	0.010	0.005	0.007	0.002	0.000	0.000	0.000																		
Jun-01	0.001	0.016	0.030	0.006	0.022	0.022	0.013	0.019	0.007	0.000	0.000	0.000																				
Jun-02	0.000	0.009	0.030	0.023	0.036	0.023	0.009	0.022	0.002	0.004	0.004																					
Jun-03	0.006	0.049	0.018	0.035	0.018	0.021	0.006	0.005	0.000	0.000	0.000																					
Jun-04	0.004	0.002	0.026	0.047	0.032	0.017	0.002	0.009	0.009																							
Jun-05	0.000	0.005	0.034	0.076	0.030	0.012	0.008	0.008																								
Jun-06	0.000	0.013	0.030	0.058	0.017	0.029	0.029																									
Jun-07	0.002	0.021	0.050	0.037	0.013	0.013																										
Jun-08	0.000	0.017	0.021	0.036	0.036																											
Jun-09	0.014	0.008	0.028	0.028																												
Jun-10	0.000	0.019	0.019																													
Jun-11	0.013																															
Jun-12	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	
Simple Avg																																
All Yrs (ex P)	0.004	0.013	0.023	0.024	0.016	0.012	0.008	0.009	0.005	0.005	0.003	0.005	0.002	0.002	0.001	0.002	0.002	0.004	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	
Latest 5	0.005	0.030	0.021	0.026	0.021	0.018	0.006	0.006	0.006	0.006	0.003	0.005	0.003	0.003	0.003	0.001	0.002	0.004	0.002	0.001	0.001	0.000	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	
Latest 3	0.004	0.014	0.023	0.034	0.022	0.018	0.013	0.008	0.004	0.002	0.002	0.002	0.003	0.003	0.005	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	0.000	
Olympic Avg																																
All Yrs (ex P)	0.003	0.012	0.023	0.023	0.016	0.011	0.007	0.008	0.005	0.004	0.003	0.004	0.001	0.002	0.001	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	0.011	0.031	0.036	0.031	0.026	0.011	0.011	0.004	0.006	0.001	0.018	0.004	0.001	0.004	0.002	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	
Latest 5	0.004	0.017	0.026	0.044	0.026	0.017	0.008	0.012	0.005	0.004	0.002	0.002	0.000	0.003	0.002	0.000	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	0.000	0.000	
Dev Factor Selection																																
NA	0.012	0.027	0.037	0.022	0.016	0.011	0.011	0.004	0.003	0.003	0.005	0.002	0.002	0.001	0.009	0.009	0.002	0.002	0.004	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	
Selected	NA	0.015	0.025	0.035	0.021	0.018	0.011	0.011	0.005	0.003	0.002	0.004	0.002	0.002	0.001	0.002	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	
FacToUtl	NA	0.164	0.149	0.124	0.089	0.068	0.050	0.038	0.027	0.022	0.019	0.017	0.013	0.011	0.009	0.009	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	



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
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	1,179,838	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	1,645,214	1,660,214	
Jun-83	0	0	0	0	0	0	0	0	0	0	35,000	42,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	43,750	
Jun-84	0	0	0	0	0	0	91,600	144,850	159,850	214,800	274,550	331,550	388,550	388,550	388,550	388,550	388,550	473,550	473,550	473,550	473,550	483,550	483,550	483,550	483,550	483,550	483,550	483,550	483,550	483,550	
Jun-85	0	0	0	30,000	33,000	85,500	120,054	152,054	247,804	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	52,556	126,059	158,559	233,559	408,958	588,458	680,458	704,458	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	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	1,019,865	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	1,519,864	1,519,864	
Jun-88	0	49,000	89,808	129,766	335,518	744,265	987,365	1,210,044	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	1,981,404	2,071,404	2,071,404	2,071,404	2,071,404	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	865,231	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	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	2,715,625	2,715,625	2,715,625	2,715,625	
Jun-91	3,500	72,450	400,750	850,251	1,132,011	1,451,601	1,655,101	1,680,102	1,823,102	1,833,102	1,833,102	1,887,102	1,887,102	1,887,102	1,887,102	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	2,497,602	2,497,602	2,497,602	2,497,602	2,497,602	
Jun-92	12,000	122,012	304,647	536,																											



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

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Exhibit 1

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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%
372	100.0%	2.7%	0.0%	0.8%	0.5%	1.000	1.000
360	97.3%	1.3%	2.7%	0.4%	0.2%	0.981	0.971
348	96.0%	1.2%	4.0%	0.4%	0.2%	0.955	0.934
336	94.8%	1.3%	5.2%	0.4%	0.3%	0.933	0.902
324	93.5%	1.3%	6.5%	0.4%	0.3%	0.913	0.875
312	92.2%	1.4%	7.8%	0.5%	0.3%	0.895	0.849
300	90.8%	1.4%	9.2%	0.5%	0.3%	0.879	0.828
288	89.4%	1.6%	10.6%	0.6%	0.4%	0.863	0.806
276	87.7%	1.6%	12.3%	0.7%	0.4%	0.850	0.788
264	86.2%	1.5%	13.8%	0.7%	0.4%	0.836	0.770
252	84.6%	1.6%	15.4%	0.7%	0.5%	0.821	0.750
240	83.0%	1.7%	17.0%	0.8%	0.6%	0.808	0.733
228	81.3%	2.0%	18.7%	0.9%	0.7%	0.795	0.717
216	79.4%	2.0%	20.6%	1.0%	0.7%	0.785	0.704
204	77.4%	1.9%	22.6%	1.0%	0.7%	0.775	0.691
192	75.5%	1.9%	24.5%	1.0%	0.8%	0.763	0.677
180	73.6%	1.9%	26.4%	1.1%	0.8%	0.752	0.663
168	71.6%	1.9%	28.4%	1.1%	0.8%	0.741	0.649
156	69.8%	2.0%	30.2%	1.2%	1.0%	0.729	0.634
144	67.8%	2.1%	32.2%	1.3%	1.1%	0.718	0.621
132	65.7%	1.9%	34.3%	1.2%	1.0%	0.708	0.609
120	63.9%	2.1%	36.1%	1.4%	1.2%	0.696	0.595
108	61.8%	2.0%	38.2%	1.4%	1.2%	0.686	0.584
96	59.8%	2.6%	40.2%	2.0%	1.7%	0.676	0.572
84	57.2%	3.0%	42.8%	2.3%	2.0%	0.670	0.566
72	54.2%	4.0%	45.8%	3.2%	2.9%	0.666	0.562
60	50.2%	5.5%	49.8%	4.6%	4.2%	0.668	0.566
48	44.7%	7.6%	55.3%	6.6%	6.2%	0.676	0.577
36	37.1%	9.7%	62.9%	8.8%	8.4%	0.690	0.596
24	27.4%	14.8%	72.6%	14.0%	13.6%	0.706	0.617
12	12.5%	12.5%	87.5%	12.3%	12.2%	0.730	0.648
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, 2012**

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All Other - Clusters 5-17 & 95

Indemnity

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	6,832,447	11,725,100		5,975,557	10,254,598
6/30/82-83	283,213	726,697	0.981	277,713	712,585
6/30/83-84	487,969	1,132,606	0.955	466,107	1,081,863
6/30/84-85	726,478	1,702,478	0.933	677,827	1,588,466
6/30/85-86	1,078,808	1,867,808	0.913	985,417	1,706,114
6/30/86-87	1,354,095	2,131,095	0.895	1,211,926	1,907,348
6/30/87-88	2,508,296	3,283,296	0.879	2,205,655	2,887,146
6/30/88-89	2,272,745	3,305,745	0.863	1,962,329	2,854,240
6/30/89-90	2,872,533	3,575,533	0.850	2,441,911	3,039,524
6/30/90-91	2,930,800	3,534,800	0.836	2,450,107	2,955,042
6/30/91-92	2,002,636	2,738,636	0.821	1,645,055	2,249,639
6/30/92-93	1,818,394	3,236,394	0.808	1,468,872	2,614,313
6/30/93-94	2,045,961	2,697,961	0.795	1,627,444	2,146,072
6/30/94-95	2,018,060	2,619,060	0.785	1,584,897	2,056,896
6/30/95-96	2,417,271	3,070,271	0.775	1,872,736	2,378,636
6/30/96-97	2,705,126	3,383,126	0.763	2,064,986	2,582,544
6/30/97-98	2,465,479	3,041,479	0.752	1,853,862	2,286,972
6/30/98-99	2,831,098	3,423,098	0.741	2,096,519	2,534,914
6/30/99-00	3,678,255	4,425,255	0.729	2,679,672	3,223,874
6/30/00-01	3,838,039	4,535,039	0.718	2,754,321	3,254,514
6/30/01-02	4,515,375	5,287,375	0.708	3,194,749	3,740,960
6/30/02-03	4,773,780	5,535,780	0.696	3,322,397	3,852,725
6/30/03-04	4,672,942	5,344,942	0.686	3,205,937	3,666,971
6/30/04-05	5,466,153	5,610,153	0.676	3,693,425	3,790,724
6/30/05-06	6,075,425	6,593,425	0.670	4,070,840	4,417,926
6/30/06-07	6,074,787	7,607,787	0.666	4,045,913	5,066,917
6/30/07-08	8,685,260	9,847,260	0.668	5,798,214	6,573,957
6/30/08-09	11,303,819	11,825,819	0.676	7,637,800	7,990,507
6/30/09-10	13,938,273	15,548,273	0.690	9,610,916	10,721,066
6/30/10-11	17,400,386	19,932,386	0.706	12,278,255	14,064,913
6/30/11-12	21,903,745	25,582,745	0.730	15,984,177	18,668,914
Total	151,977,647	184,871,422		111,145,535	136,870,882

(7) Total Discount Factor: 0.731 0.740

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve:	6,832,447	11,725,100
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	976,064	1,675,014
(11) Discounted Value at 4%:	5,975,557	10,254,598

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, 2012**

Section 8
Exhibit 1
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All Other - Clusters 5-17 & 95

Indemnity

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	6,832,447	11,725,100		5,612,224	9,631,086
6/30/82-83	283,213	726,697	0.971	275,081	705,831
6/30/83-84	487,969	1,132,606	0.934	455,901	1,058,176
6/30/84-85	726,478	1,702,478	0.902	655,636	1,536,462
6/30/85-86	1,078,808	1,867,808	0.875	943,742	1,633,960
6/30/86-87	1,354,095	2,131,095	0.849	1,149,810	1,809,589
6/30/87-88	2,508,296	3,283,296	0.828	2,076,069	2,717,521
6/30/88-89	2,272,745	3,305,745	0.806	1,831,983	2,664,650
6/30/89-90	2,872,533	3,575,533	0.788	2,264,461	2,818,646
6/30/90-91	2,930,800	3,534,800	0.770	2,255,611	2,720,463
6/30/91-92	2,002,636	2,738,636	0.750	1,502,969	2,055,334
6/30/92-93	1,818,394	3,236,394	0.733	1,332,466	2,371,535
6/30/93-94	2,045,961	2,697,961	0.717	1,466,977	1,934,468
6/30/94-95	2,018,060	2,619,060	0.704	1,421,634	1,845,012
6/30/95-96	2,417,271	3,070,271	0.691	1,670,870	2,122,238
6/30/96-97	2,705,126	3,383,126	0.677	1,831,518	2,290,561
6/30/97-98	2,465,479	3,041,479	0.663	1,634,388	2,016,223
6/30/98-99	2,831,098	3,423,098	0.649	1,837,156	2,221,316
6/30/99-00	3,678,255	4,425,255	0.634	2,332,785	2,806,539
6/30/00-01	3,838,039	4,535,039	0.621	2,383,943	2,816,874
6/30/01-02	4,515,375	5,287,375	0.609	2,750,643	3,220,925
6/30/02-03	4,773,780	5,535,780	0.595	2,842,149	3,295,819
6/30/03-04	4,672,942	5,344,942	0.584	2,728,302	3,120,650
6/30/04-05	5,466,153	5,610,153	0.572	3,125,465	3,207,802
6/30/05-06	6,075,425	6,593,425	0.566	3,438,562	3,731,739
6/30/06-07	6,074,787	7,607,787	0.562	3,415,316	4,277,186
6/30/07-08	8,685,260	9,847,260	0.566	4,912,646	5,569,908
6/30/08-09	11,303,819	11,825,819	0.577	6,525,158	6,826,484
6/30/09-10	13,938,273	15,548,273	0.596	8,306,567	9,266,053
6/30/10-11	17,400,386	19,932,386	0.617	10,738,078	12,300,619
6/30/11-12	21,903,745	25,582,745	0.648	14,198,089	16,582,831
Total	151,977,647	184,871,422		97,916,198	121,176,500

(7) Total Discount Factor: 0.644 0.655

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve:	6,832,447	11,725,100
(9) Projected Number of Years:	7	7
(10) Projected Paid Loss per Year:	976,064	1,675,014
(11) Discounted Value at 6%:	5,612,224	9,631,086

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, 2012

Section 8
Exhibit 1
Page 16

All Other - Clusters 5-17 & 95
Total Indemnity (Including Lump Sums) + Medical
Calculation of Fiscal Year 7/1/12 - 13 Payments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Accident Year	Est Ult Losses (Low)	Est Ult Losses (High)	Paid Losses to Date	Reserves (Low)	Reserves (High)	Cumulative Percent Paid	Incremental Paid as a % of Ultimates	as a % of Reserves	Estimated Payments from 7/1/12 - 6/30/13 (Low) (High)		FY 7/1/12 - 6/30/13 as a % of Reserves (Low) (High)	
All Prior Yrs	52,532,169	57,450,234	45,483,234	7,048,935	11,967,000				626,544	689,199	8.9%	5.8%
6/30/82-83	6,269,885	6,730,618	5,986,672	283,213	743,945	92.1%	1.5%	19.0%	53,768	141,239	19.0%	19.0%
6/30/83-84	9,171,103	9,838,804	8,683,135	487,969	1,155,669	91.4%	1.5%	17.3%	84,656	200,493	17.3%	17.3%
6/30/84-85	18,274,000	19,250,000	17,520,104	753,896	1,729,896	93.4%	1.5%	22.7%	170,843	392,017	22.7%	22.7%
6/30/85-86	22,285,730	23,094,000	21,171,883	1,113,847	1,922,117	93.3%	1.0%	14.9%	166,491	287,306	14.9%	14.9%
6/30/86-87	22,587,000	23,365,000	21,176,627	1,410,373	2,188,373	92.2%	1.0%	12.8%	180,089	279,431	12.8%	12.8%
6/30/87-88	32,548,000	33,328,000	29,916,547	2,631,453	3,411,453	90.8%	1.0%	10.9%	286,865	371,895	10.9%	10.9%
6/30/88-89	30,470,000	31,507,000	28,038,885	2,431,115	3,468,115	90.5%	1.0%	10.5%	255,412	364,358	10.5%	10.5%
6/30/89-90	29,976,000	30,686,000	26,914,010	3,061,990	3,771,990	88.7%	1.5%	13.3%	407,697	502,233	13.3%	13.3%
6/30/90-91	26,867,870	27,509,000	23,785,512	3,082,358	3,723,488	87.5%	1.5%	12.0%	369,408	446,245	12.0%	12.0%
6/30/91-92	17,078,000	17,815,000	14,910,428	2,167,572	2,904,572	85.5%	1.5%	10.3%	223,672	299,723	10.3%	10.3%
6/30/92-93	13,587,000	15,007,000	11,600,559	1,986,441	3,406,441	81.1%	1.5%	8.0%	157,987	270,923	8.0%	8.0%
6/30/93-94	15,168,000	15,825,000	12,902,123	2,265,877	2,922,877	83.3%	1.5%	9.0%	203,015	261,880	9.0%	9.0%
6/30/94-95	13,692,000	14,297,000	11,468,381	2,223,619	2,828,619	81.9%	1.5%	8.3%	184,780	235,055	8.3%	8.3%
6/30/95-96	13,994,000	14,649,000	11,365,333	2,628,667	3,283,667	79.4%	1.5%	7.3%	191,023	238,622	7.3%	7.3%
6/30/96-97	15,226,000	15,906,000	12,240,212	2,985,788	3,665,788	78.6%	1.5%	7.0%	209,620	257,360	7.0%	7.0%
6/30/97-98	13,313,000	13,891,000	10,583,746	2,729,254	3,307,254	77.8%	1.5%	6.8%	184,494	223,566	6.8%	6.8%
6/30/98-99	14,307,000	14,900,000	11,100,202	3,206,798	3,799,798	76.0%	1.8%	7.5%	240,570	285,057	7.5%	7.5%
6/30/99-00	16,850,000	17,600,000	12,692,069	4,157,931	4,907,931	73.7%	2.3%	8.8%	367,596	433,903	8.8%	8.8%
6/30/00-01	16,250,000	16,947,000	11,887,335	4,362,665	5,059,665	71.6%	2.1%	7.3%	317,723	368,484	7.3%	7.3%
6/30/01-02	17,542,000	18,323,000	12,486,586	5,055,414	5,836,414	69.6%	2.0%	6.5%	330,584	381,655	6.5%	6.5%
6/30/02-03	17,910,000	18,675,000	12,416,251	5,493,749	6,258,749	67.9%	1.8%	5.5%	300,112	341,902	5.5%	5.5%
6/30/03-04	16,985,000	17,661,000	11,461,024	5,523,976	6,199,976	66.2%	1.7%	5.1%	280,033	314,302	5.1%	5.1%
6/30/04-05	19,688,000	20,699,000	13,723,153	5,964,847	6,975,847	68.0%	2.0%	6.2%	372,317	435,423	6.2%	6.2%
6/30/05-06	19,388,000	20,357,000	12,453,221	6,934,779	7,903,779	62.7%	5.3%	14.2%	983,102	1,120,471	14.2%	14.2%
6/30/06-07	19,472,000	22,027,000	12,409,304	7,062,696	9,617,696	59.8%	2.9%	7.1%	502,586	684,402	7.1%	7.1%
6/30/07-08	23,965,000	25,709,000	13,944,759	10,020,241	11,764,241	56.1%	3.7%	8.3%	836,308	981,866	8.3%	8.3%
6/30/08-09	25,995,000	27,455,000	13,148,407	12,846,593	14,306,593	49.2%	6.9%	13.7%	1,756,557	1,956,187	13.7%	13.7%
6/30/09-10	27,899,000	30,463,000	11,893,306	16,005,694	18,569,694	40.8%	8.4%	14.2%	2,280,746	2,646,105	14.2%	14.2%
6/30/10-11	30,763,000	34,450,000	10,201,933	20,561,067	24,248,067	31.3%	9.5%	13.8%	2,833,458	3,341,552	13.8%	13.8%
6/30/11-12	31,995,000	38,222,000	4,669,718	27,325,282	33,552,282	13.3%	18.0%	20.7%	5,669,092	6,960,989	20.7%	20.7%
Total	652,048,757	693,636,655	478,234,661	173,814,096	215,401,995				21,027,149	25,713,842	12.1%	11.9%

NOTES:

(2) Exhibit 1, Page 1, Column (4) + Exhibit 2, Page 1, Column (4)

(3) Exhibit 1, Page 1, Column (5) + Exhibit 2, Page 1, Column (5)

(4) Exhibit 1, Page 1, Column (2) + Exhibit 2, Page 1, Column (2)

(5) = (2) - (4)

(6) = (3) - (4)

(7) = (4) / Average of Columns (2), (3)

(8) = (7) - Prior Year's (7)

(9) = (8) / (1.00 - (7))

(10) = (5) * (9)

(11) = (6) * (9)

(12) = (10) / (5)

(13) = (11) / (6)



Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2011
All Other - Clusters 5-17 & 95
Indemnity

Section 8
Exhibit 1
Page MDOT - FY2010

Allocation of Outstanding Reserve to MDOT Agencies

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(17)	(18)	(19)	(20)
Accident Year	Paid Loss	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	DOT Allocation - Method 1					DOT Allocation - Method 2					DOT Allocation - Method 3					DOT Outstanding (Low)	DOT Outstanding (High)	All Other Outstanding (Low)	All Other Outstanding (High)
						Paid Counts 7/1/10-11	DOT Counts 7/1/10-11	DOT / Total Paid Counts	DOT OS Loss (Low)	DOT OS Loss (High)	Total Paid 7/1/10-11	DOT Paid 7/1/10-11	DOT / Total Paid	DOT OS Loss (Low)	DOT OS Loss (High)	Total Payroll (\$000)	DOT Payroll (\$000)	DOT / Total Payroll	DOT OS Loss (Low)	DOT OS Loss (High)				
All Prior Yrs	41,887,797	48,924,937	54,023,336	7,037,140	12,135,539	18					682,924	0	0.0%	0	0				453,233	781,599	151,078	260,533	6,886,063	11,875,006
6/30/82-83	5,408,761	5,765,190	6,208,666	356,429	799,905	3					111,749								22,956	51,519	7,652	17,173	348,777	782,732
6/30/83-84	7,857,808	8,461,302	9,112,172	603,494	1,254,363	1					34,472								38,869	80,788	12,956	26,929	590,538	1,227,434
6/30/84-85	16,223,357	17,166,000	18,199,000	942,643	1,975,644	3	1	33.3%	314,214	658,548	167,455	55,076	32.9%	310,035	649,788				60,712	127,243	186,418	390,705	756,225	1,584,938
6/30/85-86	19,085,972	20,514,000	21,396,000	1,428,028	2,310,028	6	1	16.7%	238,005	385,005	256,923	56,395	21.9%	313,452	507,051				91,973	148,779	214,477	346,945	1,213,551	1,963,083
6/30/86-87	19,255,160	21,068,000	21,944,000	1,812,840	2,688,840	7	1	14.3%	258,977	384,120	285,068	56,396	19.8%	358,639	531,941				116,757	173,177	244,791	363,079	1,568,048	2,325,760
6/30/87-88	26,422,494	29,732,000	31,340,000	3,309,506	4,917,506	10	1	10.0%	330,951	491,751	377,897	42,593	11.3%	373,020	554,261				213,151	316,716	305,707	454,242	3,003,798	4,463,263
6/30/88-89	24,123,836	27,104,000	27,637,000	2,980,164	3,513,164	10	2	20.0%	596,033	702,633	398,985	66,163	16.6%	494,191	582,577				191,940	226,268	427,388	503,826	2,552,776	3,009,338
6/30/89-90	22,798,834	26,463,000	26,614,000	3,664,166	3,815,166	9	2	22.2%	814,259	847,815	312,669	49,188	15.7%	576,433	600,188				235,994	245,719	542,229	564,574	3,121,937	3,250,592
6/30/90-91	20,112,775	23,847,000	23,872,000	3,734,225	3,759,225	6	1	16.7%	622,371	626,538	239,904	21,005	8.8%	326,957	329,146				240,506	242,116	396,611	399,266	3,337,614	3,359,959
6/30/91-92	11,949,615	14,427,000	15,176,000	2,477,385	3,226,385	9					269,285								159,558	207,798	53,186	69,266	2,424,199	3,157,119
6/30/92-93	8,952,525	11,159,000	11,967,000	2,206,475	3,014,475	8	1	12.5%	275,809	376,809	287,405	32,299	11.2%	247,963	338,766				142,110	194,150	221,961	303,242	1,984,514	2,711,233
6/30/93-94	9,872,790	12,415,000	12,464,000	2,542,210	2,591,210	7	2	28.6%	726,346	740,346	177,510	37,548	21.2%	537,749	548,114				163,733	166,889	475,943	485,116	2,066,267	2,106,094
6/30/94-95	8,884,767	11,377,000	11,422,000	2,492,233	2,537,233	5	1	20.0%	498,447	507,447	167,156	21,527	12.9%	320,957	326,752				160,514	163,413	326,639	332,537	2,165,594	2,204,696
6/30/95-96	9,120,225	12,049,000	12,721,000	2,928,775	3,600,775	8					225,170								188,630	231,911	62,877	77,304	2,865,898	3,523,471
6/30/96-97	9,542,666	12,797,000	13,488,000	3,254,334	3,945,334	4					120,339								209,598	254,103	69,866	84,701	3,184,468	3,860,634
6/30/97-98	8,372,999	11,312,000	11,890,000	2,939,001	3,517,001	3					116,208					1,917,994	137,500	7.2%	210,695	252,131	210,695	252,131	2,728,306	3,264,869
6/30/98-99	8,609,988	11,987,000	12,597,000	3,377,012	3,987,012	6	1	16.7%	562,835	664,502	179,587	1,096	0.6%	20,602	24,323	2,081,524	136,688	6.6%	221,760	261,817	268,399	316,881	3,108,613	3,670,132
6/30/99-00	9,887,364	14,271,000	15,052,000	4,383,636	5,164,636	5					244,289					2,207,243	137,892	6.2%	273,858	322,649	273,858	322,649	4,109,779	4,841,988
6/30/00-01	8,966,510	13,514,000	14,234,000	4,547,490	5,267,490	6	1	16.7%	757,915	877,915	200,288	20,253	10.1%	459,833	532,638	2,201,008	145,149	6.6%	299,891	347,372	505,879	585,975	4,041,611	4,681,515
6/30/01-02	9,778,478	15,045,000	15,855,000	5,266,522	6,076,522	9					185,992					2,292,592	140,223	6.1%	322,120	371,662	322,120	371,662	4,944,402	5,704,859
6/30/02-03	9,470,362	15,056,000	15,874,000	5,585,638	6,403,638	12					127,902					2,260,534	140,250	6.2%	346,549	397,300	115,516	132,433	5,470,121	6,271,204
6/30/03-04	8,252,696	13,620,000	14,306,000	5,367,304	6,053,304	13					278,017	27,600	9.9%	532,837	600,940	2,255,942	137,408	6.1%	326,918	368,702	326,918	368,702	5,040,386	5,684,602
6/30/04-05	9,300,968	15,529,000	15,878,000	6,228,032	6,577,032	20					672,502					2,309,083	145,033	6.3%	391,181	413,102	130,394	137,701	6,097,638	6,439,331
6/30/05-06	8,353,255	15,244,000	15,530,000	6,890,745	7,176,745	36	4	11.1%	765,638	797,416	905,232	66,212	7.3%	504,012	524,930	2,480,693	156,390	6.3%	434,413	452,444	568,021	591,597	6,322,724	6,585,148
6/30/06-07	7,439,700	14,690,000	15,966,000	7,250,300	8,526,300	43	9	20.9%	1,517,505	1,784,574	1,174,982	261,128	22.2%	1,611,309	1,894,888	2,612,577	157,146	6.0%	436,103	512,854	1,188,306	1,397,439	6,061,994	7,128,861
6/30/07-08	8,589,520	18,050,000	20,677,000	9,460,481	12,087,481	70	7	10.0%	946,048	1,208,748	1,834,042	123,588	6.7%	637,502	814,525	2,783,717	168,663	6.1%	573,201	732,368	718,917	918,547	8,741,563	11,168,934
6/30/08-09	7,312,937	19,807,000	20,777,000	12,494,063	13,464,063	104	10	9.6%	1,201,352	1,294,621	2,276,328	231,175	10.2%	1,268,850	1,367,360	2,750,907	180,456	6.6%	819,593	883,224	1,096,598	1,181,735	11,397,465	12,282,328
6/30/09-10	5,758,421	20,148,000	22,613,000	14,389,579	16,854,579	238	12	5.0%	725,525	849,811	3,125,305	192,336	6.2%	885,559	1,037,259	2,806,048	203,138	7.2%	1,041,701	1,220,149	884,262	1,035,740	13,505,317	15,818,839
6/30/10-11	3,058,305	20,774,000	26,302,000	17,715,695	23,243,695	557	33	5.9%	1,049,583	1,377,095	3,058,305	190,509	6.2%	1,103,550	1,447,901	2,942,638	197,766	6.7%	1,190,623	1,562,144	1,190,623	1,562,144	16,525,072	21,681,551
Total	374,650,885	522,316,429	555,135,173	147,665,545	180,484,288	1,236	90	7.3%	12,201,813	14,575,693	18,493,889	1,552,086	8.4%	10,883,450	13,213,346									
																Sel. FY97 & Prior		6.4%						

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, 2012
All Other - Clusters 5-17 & 95
Indemnity

Section 8
Exhibit 1
Page MDOT - FY2011

Allocation of Outstanding Reserve to MDOT 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)					
Accident Year	Paid Loss	Aon	Aon	Outstanding	Outstanding	Paid Counts 7/1/11-12	DOT Counts 7/1/11-12	DOT / Total Paid Counts	DOT OS Loss (Low)	DOT OS Loss (High)	DOT Allocation - Method 1					DOT Allocation - Method 2					DOT Allocation - Method 3					DOT Outstanding (Low)	DOT Outstanding (High)	All Other Outstanding (Low)	All Other Outstanding (High)
		Selected Ult (Low)	Selected Ult (High)	Losses (Low)	Losses (High)						Total Paid 7/1/11-12	DOT Paid 7/1/11-12	DOT / Total Paid	DOT OS Loss (Low)	DOT OS Loss (High)	Total Payroll (\$000)	DOT Payroll (\$000)	DOT / Total Payroll	DOT OS Loss (Low)	DOT OS Loss (High)	DOT OS Loss (Low)	DOT OS Loss (High)	DOT OS Loss (Low)	DOT OS Loss (High)					
All Prior Yrs	42,562,317	49,394,764	54,287,417	6,832,447	11,725,100	16					659,520								442,138	758,749	147,379	252,916	6,685,068	11,472,184					
6/30/82-83	5,482,086	5,765,299	6,208,783	283,213	726,697	2					73,325								18,327	47,026	6,109	15,675	277,104	711,022					
6/30/83-84	7,892,322	8,380,290	9,024,928	487,969	1,132,606	1					34,513								31,577	73,293	10,526	24,431	477,443	1,108,175					
6/30/84-85	16,396,522	17,123,000	18,099,000	726,478	1,702,478	3	1	33.3%	242,159	567,493	173,166	56,954	32.9%	238,939	559,946				47,011	110,170	110,987	260,095	615,490	1,442,382					
6/30/85-86	19,299,192	20,378,000	21,167,000	1,078,808	1,867,808	5	1	20.0%	215,762	373,562	213,219	58,318	27.4%	295,065	510,865				69,811	120,869	193,546	335,098	885,262	1,532,710					
6/30/86-87	19,547,905	20,902,000	21,679,000	1,354,095	2,131,095	7	1	14.3%	193,442	304,442	292,745	58,414	20.0%	270,194	425,236				87,626	137,906	183,754	289,195	1,170,341	1,841,900					
6/30/87-88	26,792,704	29,301,000	30,076,000	2,508,296	3,283,296	9	1	11.1%	278,700	364,811	370,210	44,046	11.9%	298,424	390,630				162,316	212,467	246,480	322,636	2,261,816	2,960,660					
6/30/88-89	24,503,255	26,776,000	27,809,000	2,272,745	3,305,745	10	2	20.0%	454,549	661,149	379,420	41,007	10.8%	245,634	357,278				147,073	213,920	282,419	410,782	1,990,326	2,894,962					
6/30/89-90	23,121,467	25,994,000	26,697,000	2,872,533	3,575,533	8	2	25.0%	718,133	893,883	322,633	50,857	15.8%	452,798	563,612				185,886	231,378	452,272	562,958	2,420,261	3,012,576					
6/30/90-91	20,360,200	23,291,000	23,895,000	2,930,800	3,534,800	6	1	16.7%	488,467	589,133	247,425	21,063	8.5%	249,493	300,910				189,657	228,742	309,205	372,929	2,621,595	3,161,871					
6/30/91-92	12,207,364	14,210,000	14,946,000	2,002,636	2,738,636	7					257,749								129,594	177,221	43,198	59,074	1,959,438	2,679,562					
6/30/92-93	9,171,606	10,990,000	12,408,000	1,818,394	3,236,394	7	1	14.3%	259,771	462,342	244,081	30,655	12.6%	228,382	406,476				117,671	209,432	201,941	359,417	1,616,453	2,876,977					
6/30/93-94	10,042,039	12,088,000	12,740,000	2,045,961	2,697,961	6	2	33.3%	681,987	899,320	169,249	38,194	22.6%	461,704	608,839				132,397	174,589	297,051	391,714	1,748,910	2,306,247					
6/30/94-95	9,056,940	11,075,000	11,676,000	2,018,060	2,619,060	6	1	16.7%	336,343	436,510	182,173	22,260	12.2%	246,594	320,032				130,592	169,483	237,843	308,675	1,780,217	2,310,385					
6/30/95-96	9,310,729	11,728,000	12,381,000	2,417,271	3,070,271	5					190,504								156,425	198,682	52,142	66,227	2,365,129	3,004,043					
6/30/96-97	9,782,874	12,488,000	13,166,000	2,705,126	3,383,126	8	1	12.5%	338,141	422,891	200,208	4,430	2.2%	59,854	74,855				175,053	218,927	191,016	238,891	2,514,111	3,144,235					
6/30/97-98	8,625,521	11,091,000	11,667,000	2,465,479	3,041,479	6					183,522					1,917,994	137,500	7.2%	176,749	218,042	176,749	218,042	2,288,730	2,823,437					
6/30/98-99	8,640,902	11,472,000	12,064,000	2,831,098	3,423,098	5	1	20.0%	566,220	684,620	93,414	712	0.8%	21,565	26,075				185,911	224,786	257,899	311,827	2,573,200	3,111,272					
6/30/99-00	9,935,745	13,614,000	14,361,000	3,678,255	4,425,255	7	1	14.3%	525,465	632,179	148,381	597	0.4%	14,809	17,816				2,207,243	137,892	6.2%	229,790	276,458	3,448,464	4,148,797				
6/30/00-01	9,193,961	13,032,000	13,729,000	3,838,039	4,535,039	8	1	12.5%	479,755	566,880	227,451	20,943	9.2%	353,391	417,568				2,201,008	145,149	6.6%	253,105	299,070	3,475,956	4,107,200				
6/30/01-02	9,994,625	14,510,000	15,282,000	4,515,375	5,287,375	6	1	16.7%	752,562	881,229	166,147	48	0.0%	1,309	1,532				2,292,592	140,223	6.1%	276,177	323,395	4,239,198	4,963,980				
6/30/02-03	9,572,220	14,346,000	15,108,000	4,773,780	5,535,780	9					105,859	6,000	5.7%	270,574	313,763				2,260,534	140,250	6.2%	296,179	343,456	4,584,862	5,316,707				
6/30/03-04	8,555,058	13,228,000	13,900,000	4,672,942	5,344,942	9					259,962								2,255,942	137,408	6.1%	284,625	325,556	4,388,317	5,019,386				
6/30/04-05	9,621,847	15,088,000	15,232,000	5,466,153	5,610,153	15	1	6.7%	364,410	374,010	445,879	-12,794	-2.9%	-156,843	-160,975				2,309,083	145,033	6.3%	343,328	352,373	1,884,669	5,282,521				
6/30/05-06	9,212,575	15,288,000	15,806,000	6,075,425	6,593,425	24	1	4.2%	253,143	274,726	724,822	12,663	1.7%	106,142	115,192				2,480,693	156,390	6.3%	383,013	415,669	5,827,993	6,324,896				
6/30/06-07	7,797,213	13,872,000	15,405,000	6,074,787	7,607,787	27	6	22.2%	1,349,953	1,690,619	573,511	85,415	14.9%	904,738	1,133,053				2,612,577	157,146	6.0%	365,396	457,606	5,439,720	6,812,458				
6/30/07-08	10,279,740	18,965,000	20,127,000	8,685,260	9,847,260	54	4	7.4%	643,353	729,427	1,560,720	253,768	16.3%	1,412,194	1,601,131				2,783,717	168,663	6.1%	526,231	596,635	7,824,667	8,871,529				
6/30/08-09	9,391,181	20,695,000	21,217,000	11,303,819	11,825,819	96	9	9.4%	1,059,733	1,108,671	1,936,845	132,863	6.9%	775,415	811,223				2,750,907	180,456	6.6%	741,515	775,757	10,444,931	10,927,268				
6/30/09-10	8,360,727	22,299,000	23,909,000	13,938,273	15,548,273	114	6	5.3%	733,593	818,330	2,339,304	174,874	7.5%	1,041,949	1,162,304				2,806,048	203,138	7.2%	1,009,030	1,125,582	13,010,083	14,512,868				
6/30/10-11	6,862,614	24,263,000	26,795,000	17,400,386	19,932,386	252	17	6.7%	1,173,836	1,344,645	3,504,118	222,792	6.4%	1,106,317	1,267,301				2,942,638	197,766	6.7%	1,169,431	1,339,600	16,250,524	18,615,204				
6/30/11-12	3,091,255	24,995,000	28,674,000	21,903,745	25,582,745	561	47	8.4%	1,835,073	2,143,296	3,091,255	249,011	8.1%	1,764,424	2,060,780				3,006,849	207,447	6.9%	1,511,174	1,764,994	20,392,571	23,817,751				
Total	394,664,707	546,642,353	579,536,128	151,977,647	184,871,422	1,299	109	8.4%	13,944,548	17,224,168	19,371,332	1,573,089	8.1%	10,663,063	13,285,442							11,116,946	13,617,093	140,860,701	171,254,328				
																Sel. FY97 & Prior		6.5%											

NOTES:
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(23) Selected judgementally based on (11), (16), (21)
(24) = (5) - (22)
(25) = (6) - (23)



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 8
Exhibit 2
Page 1

**All Other - Clusters 5-17 & 95
Medical**

Summary of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Accident Year	Payroll (000's)	Paid Loss	Ult Loss - Paid Loss Method	Ult Loss - Paid BF Method	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Ult Loss Cost (Low)	Ult Loss Cost (High)
All Prior Yrs		2,920,917			3,137,404	3,162,817	216,487	241,900		
6/30/82-83		504,586	511,602		504,586	521,834	0	17,248		
6/30/83-84		790,813	805,818		790,813	813,876	0	23,063		
6/30/84-85	732,729	1,123,581	1,150,625	1,150,963	1,151,000	1,151,000	27,419	27,419	0.157	0.157
6/30/85-86	787,208	1,872,692	1,927,354	1,927,391	1,907,730	1,927,000	35,038	54,308	0.242	0.245
6/30/86-87	902,483	1,628,722	1,684,645	1,685,643	1,685,000	1,686,000	56,278	57,278	0.187	0.187
6/30/87-88	1,366,586	3,123,843	3,247,256	3,252,128	3,247,000	3,252,000	123,157	128,157	0.238	0.238
6/30/88-89	1,486,478	3,535,629	3,693,687	3,697,831	3,694,000	3,698,000	158,371	162,371	0.249	0.249
6/30/89-90	1,494,463	3,792,543	3,981,897	3,988,688	3,982,000	3,989,000	189,457	196,457	0.266	0.267
6/30/90-91	1,405,560	3,425,312	3,614,312	3,613,098	3,576,870	3,614,000	151,558	188,688	0.254	0.257
6/30/91-92	1,364,510	2,703,064	2,869,325	2,867,518	2,868,000	2,869,000	164,936	165,936	0.210	0.210
6/30/92-93	1,347,359	2,428,953	2,598,981	2,596,519	2,597,000	2,599,000	168,047	170,047	0.193	0.193
6/30/93-94	1,424,410	2,860,084	3,085,037	3,080,390	3,080,000	3,085,000	219,916	224,916	0.216	0.217
6/30/94-95	1,497,829	2,411,441	2,621,215	2,617,301	2,617,000	2,621,000	205,559	209,559	0.175	0.175
6/30/95-96	1,582,635	2,054,604	2,268,413	2,265,924	2,266,000	2,268,000	211,396	213,396	0.143	0.143
6/30/96-97	1,979,748	2,457,338	2,740,027	2,737,700	2,738,000	2,740,000	280,662	282,662	0.138	0.138
6/30/97-98	1,917,994	1,958,225	2,222,398	2,224,464	2,222,000	2,224,000	263,775	265,775	0.116	0.116
6/30/98-99	2,081,524	2,459,300	2,835,983	2,834,998	2,835,000	2,836,000	375,700	376,700	0.136	0.136
6/30/99-00	2,207,243	2,756,324	3,238,996	3,235,981	3,236,000	3,239,000	479,676	482,676	0.147	0.147
6/30/00-01	2,201,008	2,693,375	3,218,207	3,218,276	3,218,000	3,218,000	524,625	524,625	0.146	0.146
6/30/01-02	2,292,592	2,491,961	3,031,960	3,040,603	3,032,000	3,041,000	540,039	549,039	0.132	0.133
6/30/02-03	2,260,534	2,844,031	3,564,073	3,566,830	3,564,000	3,567,000	719,969	722,969	0.158	0.158
6/30/03-04	2,255,942	2,905,967	3,757,018	3,761,119	3,757,000	3,761,000	851,033	855,033	0.167	0.167
6/30/04-05	2,309,083	4,101,306	5,466,949	5,159,480	4,600,000	5,467,000	498,694	1,365,694	0.199	0.237
6/30/05-06	2,480,693	3,240,647	4,475,854	4,551,329	4,100,000	4,551,000	859,353	1,310,353	0.165	0.183
6/30/06-07	2,612,577	4,612,091	6,621,621	6,190,767	5,600,000	6,622,000	987,909	2,009,909	0.214	0.253
6/30/07-08	2,783,717	3,665,019	5,490,469	5,581,535	5,000,000	5,582,000	1,334,981	1,916,981	0.180	0.201
6/30/08-09	2,750,907	3,757,225	5,931,790	5,940,623	5,300,000	6,238,000	1,542,775	2,480,775	0.193	0.227
6/30/09-10	2,806,048	3,532,579	6,066,272	6,241,527	5,600,000	6,554,000	2,067,421	3,021,421	0.200	0.234
6/30/10-11	2,942,638	3,339,318	7,290,794	7,173,105	6,500,000	7,655,000	3,160,682	4,315,682	0.221	0.260
6/30/11-12	3,006,849	1,578,463	9,092,889	7,790,665	7,000,000	9,548,000	5,421,537	7,969,537	0.233	0.318
Total	54,281,345	83,569,954	109,105,466	105,992,393	105,406,403	114,100,527	21,836,450	30,530,573		
Tot 6/30/84-12	54,281,345	79,353,638	107,788,046	105,992,393	100,973,600	109,602,000	21,619,962	30,248,362	0.186	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, 2012**

Section 8
Exhibit 2
Page 2

**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 7/1/10-11	Paid Counts 7/1/11-12	Average Outstanding Claim
All Prior Yrs		2,920,917							6	3	
6/30/82-83		504,586	1.014	1.000	511,602	N/A	511,602		1	1	7,016
6/30/83-84		790,813	1.019	1.000	805,818	N/A	805,818		0	0	
6/30/84-85	732,729	1,123,581	1.024	1.000	1,150,625	N/A	1,150,625	0.157	1	0	
6/30/85-86	787,208	1,872,692	1.029	1.000	1,927,354	N/A	1,927,354	0.245	2	2	27,331
6/30/86-87	902,483	1,628,722	1.034	1.000	1,684,645	N/A	1,684,645	0.187	2	2	27,961
6/30/87-88	1,366,586	3,123,843	1.040	1.000	3,247,256	N/A	3,247,256	0.238	5	5	24,683
6/30/88-89	1,486,478	3,535,629	1.045	1.000	3,693,687	N/A	3,693,687	0.248	11	8	19,757
6/30/89-90	1,494,463	3,792,543	1.050	1.000	3,981,897	N/A	3,981,897	0.266	7	6	31,559
6/30/90-91	1,405,560	3,425,312	1.055	1.000	3,614,312	N/A	3,614,312	0.257	7	7	27,000
6/30/91-92	1,364,510	2,703,064	1.062	1.000	2,869,325	N/A	2,869,325	0.210	6	4	41,565
6/30/92-93	1,347,359	2,428,953	1.070	1.000	2,598,981	N/A	2,598,981	0.193	10	6	28,338
6/30/93-94	1,424,410	2,860,084	1.079	1.000	3,085,037	N/A	3,085,037	0.217	7	7	32,136
6/30/94-95	1,497,829	2,411,441	1.087	1.000	2,621,215	N/A	2,621,215	0.175	11	11	19,070
6/30/95-96	1,582,635	2,054,604	1.104	1.000	2,268,413	N/A	2,268,413	0.143	4	6	35,635
6/30/96-97	1,979,748	2,457,338	1.115	1.000	2,740,027	N/A	2,740,027	0.138	7	9	31,410
6/30/97-98	1,917,994	1,958,225	1.135	1.000	2,222,398	N/A	2,222,398	0.116	7	8	33,022
6/30/98-99	2,081,524	2,459,300	1.153	1.000	2,835,983	N/A	2,835,983	0.136	11	10	37,668
6/30/99-00	2,207,243	2,756,324	1.175	1.000	3,238,996	N/A	3,238,996	0.147	13	13	37,129
6/30/00-01	2,201,008	2,693,375	1.195	1.000	3,218,207	N/A	3,218,207	0.146	15	17	30,873
6/30/01-02	2,292,592	2,491,961	1.217	1.000	3,031,960	N/A	3,031,960	0.132	25	29	18,621
6/30/02-03	2,260,534	2,844,031	1.253	1.000	3,564,073	N/A	3,564,073	0.158	27	28	25,716
6/30/03-04	2,255,942	2,905,967	1.293	1.000	3,757,018	N/A	3,757,018	0.167	35	29	29,347
6/30/04-05	2,309,083	4,101,306	1.333	1.000	5,466,949	N/A	5,466,949	0.237	41	31	44,053
6/30/05-06	2,480,693	3,240,647	1.381	1.000	4,475,854	N/A	4,475,854	0.180	54	36	34,311
6/30/06-07	2,612,577	4,612,091	1.436	1.000	6,621,621	N/A	6,621,621	0.253	78	52	38,645
6/30/07-08	2,783,717	3,665,019	1.498	1.000	5,490,469	N/A	5,490,469	0.197	115	69	26,456
6/30/08-09	2,750,907	3,757,225	1.579	1.000	5,931,790	N/A	5,931,790	0.216	220	117	18,586
6/30/09-10	2,806,048	3,532,579	1.717	1.000	6,066,272	N/A	6,066,272	0.216	713	180	14,076
6/30/10-11	2,942,638	3,339,318	2.183	1.000	7,290,794	N/A	7,290,794	0.248	1,055	700	5,645
6/30/11-12	3,006,849	1,578,463	5.761	1.000	9,092,889	N/A	9,092,889	0.302		990	7,590
Total	54,281,345	83,569,954			109,105,466		109,105,466		2,496	2,386	

NOTES:

(2) Provided by Commonwealth of Massachusetts

(3), (4) From Section 8, Exhibit 2, Page 7

(5) Based on information from the MA WCRI 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, 2012**

Section 8
Exhibit 2
Page 3

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	1,123,581	1.024	1,150,963	N/A	1,150,963	0.157	0.157
6/30/85-86	787,208	0.245	1,872,692	1.029	1,927,391	N/A	1,927,391	0.245	0.245
6/30/86-87	902,483	0.190	1,628,722	1.034	1,685,643	N/A	1,685,643	0.187	0.187
6/30/87-88	1,366,586	0.247	3,123,843	1.040	3,252,128	N/A	3,252,128	0.238	0.238
6/30/88-89	1,486,478	0.255	3,535,629	1.045	3,697,831	N/A	3,697,831	0.249	0.249
6/30/89-90	1,494,463	0.276	3,792,543	1.050	3,988,688	N/A	3,988,688	0.267	0.267
6/30/90-91	1,405,560	0.255	3,425,312	1.055	3,613,098	N/A	3,613,098	0.257	0.257
6/30/91-92	1,364,510	0.208	2,703,064	1.062	2,867,518	N/A	2,867,518	0.210	0.210
6/30/92-93	1,347,359	0.190	2,428,953	1.070	2,596,519	N/A	2,596,519	0.193	0.193
6/30/93-94	1,424,410	0.212	2,860,084	1.079	3,080,390	N/A	3,080,390	0.216	0.216
6/30/94-95	1,497,829	0.172	2,411,441	1.087	2,617,301	N/A	2,617,301	0.175	0.175
6/30/95-96	1,582,635	0.142	2,054,604	1.104	2,265,924	N/A	2,265,924	0.143	0.143
6/30/96-97	1,979,748	0.137	2,457,338	1.115	2,737,700	N/A	2,737,700	0.138	0.138
6/30/97-98	1,917,994	0.117	1,958,225	1.135	2,224,464	N/A	2,224,464	0.116	0.116
6/30/98-99	2,081,524	0.136	2,459,300	1.153	2,834,998	N/A	2,834,998	0.136	0.136
6/30/99-00	2,207,243	0.146	2,756,324	1.175	3,235,981	N/A	3,235,981	0.147	0.147
6/30/00-01	2,201,008	0.146	2,693,375	1.195	3,218,276	N/A	3,218,276	0.146	0.146
6/30/01-02	2,292,592	0.134	2,491,961	1.217	3,040,603	N/A	3,040,603	0.133	0.133
6/30/02-03	2,260,534	0.158	2,844,031	1.253	3,566,830	N/A	3,566,830	0.158	0.158
6/30/03-04	2,255,942	0.167	2,905,967	1.293	3,761,119	N/A	3,761,119	0.167	0.167
6/30/04-05	2,309,083	0.183	4,101,306	1.333	5,159,480	N/A	5,159,480	0.223	0.223
6/30/05-06	2,480,693	0.191	3,240,647	1.381	4,551,329	N/A	4,551,329	0.183	0.183
6/30/06-07	2,612,577	0.199	4,612,091	1.436	6,190,767	N/A	6,190,767	0.237	0.237
6/30/07-08	2,783,717	0.207	3,665,019	1.498	5,581,535	N/A	5,581,535	0.201	0.201
6/30/08-09	2,750,907	0.217	3,757,225	1.579	5,940,623	N/A	5,940,623	0.216	0.216
6/30/09-10	2,806,048	0.231	3,532,579	1.717	6,241,527	N/A	6,241,527	0.222	0.222
6/30/10-11	2,942,638	0.240	3,339,318	2.183	7,173,105	N/A	7,173,105	0.244	0.244
6/30/11-12	3,006,849	0.250	1,578,463	5.761	7,790,665	N/A	7,790,665	0.259	0.259
Total	54,281,345		79,353,638		105,992,393		105,992,393		

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, 2012**

Section 8
Exhibit 2
Page 4

**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	3,614,312	0.257	1.194	0.307	2.370	0.728	0.092	0.265	0.255
6/30/91-92	1,364,510	2,869,325	0.210	1.189	0.250	2.279	0.570	0.096	0.217	0.208
6/30/92-93	1,347,359	2,598,981	0.193	1.189	0.229	2.191	0.503	0.100	0.198	0.190
6/30/93-94	1,424,410	3,085,037	0.217	1.178	0.255	2.107	0.538	0.105	0.221	0.212
6/30/94-95	1,497,829	2,621,215	0.175	1.170	0.205	2.026	0.415	0.110	0.173	0.172
6/30/95-96	1,582,635	2,268,413	0.143	1.155	0.166	1.948	0.323	0.116	0.147	0.142
6/30/96-97	1,979,748	2,740,027	0.138	1.137	0.157	1.873	0.295	0.122	0.139	0.137
6/30/97-98	1,917,994	2,222,398	0.116	1.135	0.132	1.801	0.237	0.127	0.119	0.117
6/30/98-99	2,081,524	2,835,983	0.136	1.135	0.155	1.732	0.268	0.132	0.138	0.136
6/30/99-00	2,207,243	3,238,996	0.147	1.135	0.167	1.665	0.277	0.138	0.148	0.146
6/30/00-01	2,201,008	3,218,207	0.146	1.109	0.162	1.601	0.260	0.146	0.149	0.146
6/30/01-02	2,292,592	3,031,960	0.132	1.101	0.146	1.539	0.224	0.153	0.132	0.134
6/30/02-03	2,260,534	3,564,073	0.158	1.073	0.169	1.480	0.250	0.164	0.160	0.158
6/30/03-04	2,255,942	3,757,018	0.167	1.046	0.174	1.423	0.248	0.175	0.170	0.167
6/30/04-05	2,309,083	5,466,949	0.237	1.036	0.245	1.369	0.336	0.183	0.183	0.183
6/30/05-06	2,480,693	4,475,854	0.180	1.032	0.186	1.316	0.245	0.191	0.191	0.191
6/30/06-07	2,612,577	6,621,621	0.253	1.032	0.262	1.265	0.331	0.199	0.199	0.199
6/30/07-08	2,783,717	5,490,469	0.197	1.032	0.204	1.217	0.248	0.207	0.207	0.207
6/30/08-09	2,750,907	5,931,790	0.216	1.027	0.221	1.170	0.259	0.217	0.217	0.217
6/30/09-10	2,806,048	6,066,272	0.216	1.000	0.216	1.125	0.243	0.231	0.231	0.231
6/30/10-11	2,942,638	7,290,794	0.248	1.000	0.248	1.082	0.268	0.240	0.240	0.240
6/30/11-12	3,006,849	9,092,889	0.302	1.000	0.302	1.040	0.315	0.250		0.250
Total	47,511,399	92,102,583								

Trend Last 4 (ex 11-12):	5.8%	Avg 3 (x11-12):	0.257
Trend Last 8 (ex 11-12):	2.5%	Avg 5 (x11-12):	0.270
Trend Last 12 (ex 11-12):	4.2%	Avg 10 (x11-12):	0.265
Prior Selected Trend:	4.0%	Prior Sel Avg:	0.250
Selected Trend:	4.0%	Sel. Loss Cost:	0.260

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, 2011
- (11) Selected based on (9) and (4)



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 8
Exhibit 2
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All Other - Clusters 5-17 & 95
Medical

Calculation of 1982 & Prior Reserves (Page 1)

Method 1			
(1)	Average Payment Trend	0.900	
(2)	Credibility	59%	
(3)	Average Pmt Trend Statewide	0.950	
(4)	Credibility Weighted Trend	0.920	
		(Low)	(High)
(5)	Selected Range	0.911	0.930
(6)	Incremental Paid for 2012	24,383	24,383
(7)	Estimated Reserve	250,469	322,443
(8)	Paid to Date (82 & Prior)	2,920,917	2,920,917
(9)	Est Ult Paid for 1982 & Prior	3,171,386	3,243,360
Method 2			
		(Current)	(Prior)
(10)	Avg Incremental Paid (3 yrs)	26,072	26,401
(11)	Projected Number of Years	7	7
(12)	Estimated Reserve	182,505	184,809
(13)	Paid to Date (82 & Prior)	2,920,917	2,897,465
(14)	Est Ult Paid for 1982 & Prior	3,103,422	3,082,274
(14a)	Paid Counts During Fiscal Year	3	6
		(Low)	(High)
(15)	Sel Ult Excluding Lump Sums	3,137,404	3,162,817
(16)	Lump Sum Ultimates	N/A	N/A
(17)	Ult Loss Including Lump Sums	3,137,404	3,162,817
(18)	Implied Tail	1.074	1.083
(19)	Ult Loss Inc Lump Sums @ 6/11	3,102,509	3,117,115

NOTES:

- | | |
|--|---|
| <p>(1) From Section 8, Exhibit 2, Page 6</p> <p>(2) = (Average of Section 8, Exhibit 2, Page 6, Column 3 / 175,000) ^ 0.5</p> <p>(3) Average Statewide Trend</p> <p>(4) = (1) x (2) + (4) x { 1 - (2) }</p> <p>(5) Selected judgmentally based on (4)</p> <p>(6), (14a) Provided by Commonwealth of Massachusetts</p> <p>(7) = (6) x (5) / { 1 - (5) }</p> <p>(8), (16) From Section 8, Exhibit 2, Page 2, Column 3</p> <p>(9) = (7) + (8)</p> | <p>(10) Avg of 3 latest years from Section 8, Exhibit 2, Page 6, Column 3</p> <p>(11) Selected judgmentally</p> <p>(12) = (10 x (11))</p> <p>(14) = (12) + (13)</p> <p>(15) = Average of (9) and (14)</p> <p>(16) Lump Sums are considered in Indemnity analysis (Section 1)</p> <p>(17) = (15) + (16)</p> <p>(18) = (15) / (8)</p> <p>(19) From Prior Aon Analysis as of June 30, 2011</p> |
|--|---|



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 8
Exhibit 2
Page 6

**All Other - Clusters 5-17 & 95
Medical**

Calculation of 1982 & Prior Reserves (Page 2)

(1)	(2)	(3)	(4)	(5)		
Year	X	Incremental Paid	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 =	21
2001	10	26,076	10.169	0.858	S(x) =	42,042
2002	11	28,013	10.240	1.074	S(x-sq) =	84,168,854
2003	12	24,232	10.095	0.865	S(xy) =	450,124
2004	13	32,198	10.380	1.329	S(y) =	225
2005	14	42,136	10.649	1.309	D =	16,170
2006	15	33,882	10.431	0.804	slope =	-0.095
2007	16	22,266	10.011	0.657	Avg Trend =	0.905
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		
				Selected Trend:	0.900	

NOTES:

(3) 2012 provided by Commonwealth of Massachusetts. Prior years from Aon analysis as of June 30, 2011

(4) LN [(3)]

(5) Eg. 2012: $0.85 = 24383 / 28691$



Commonwealth of Massachusetts Workers Compensation
All Other - Clusters 5-17 & 95

Section 8
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Page 7

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
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	458,118	472,628	476,174	480,561	485,930	491,063	495,741	498,237	501,473	504,586	
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	
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		
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			
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				
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					
June-89	348,632	1,379,611	1,965,598	2,380,014	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	3,556,629						
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							
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								
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									
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										
June-94	598,740	1,383,736	1,705,173	1,941,862	2,012,247	2,020,199	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											
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	2,311,441												
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													
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														
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															
June-99	484,930	1,204,187	1,456,433	1,645,438	1,757,364	1,866,452	1,932,933	2,005,834	2,135,187	2,187,567	2,264,558	2,353,171	2,390,481	2,459,300																
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																	
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																		
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																			
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																				
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																					
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																						
June-06	971,841	2,207,952	2,611,952	2,837,745	3,016,501	3,153,780	3,240,647																							
June-07	1,118,370	3,111,007	3,990,645	4,226,540	4,465,130	4,612,091																								
June-08	1,399,818	2,842,788	3,291,021	3,540,051	3,665,019																									
June-09	1,326,874	2,783,994	3,440,192	3,757,225																										
June-10	1,396,833	3,068,894	3,532,579																											
June-11	1,591,468	3,339,318																												
June-12	1,578,463																													

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
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
June-84	2,761	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	1,122	1,187	1,063	1,051	1,160	1,021	1,030	1,012	1,013	1,029	1,022	1,019	1,014	1,011	1,010	1,007	1,006	1,007	1,005	1,006	1,001	1,000	1,000	1,000	
June-86	2,440	1,469	1,237	1,202	1,150	1,132	1,071	1,071	1,023	1,014	1,015	1,010	1,016	1,010	1,004	1,004	1,007	1,007	1,005	1,009	1,009	1,003	1,004	1,013	1,019	1,003			
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	1,006	1,007	1,016	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					
June-89	3,957	1,425	1,099	1,009	1,021	1,030	1,021	1,014	1,007	1,007	1,006	1,006	1,007	1,008	1,006	1,008	1,006	1,008	1,022	1,005	1,003	1,005	1,007	1,002					
June-90	2,992	1,325	1,152	1,070	1,046	1,039	1,039	1,028	1,022	1,011	1,008	1,010	1,010	1,006	1,016	1,007	1,006	1,006	1,006	1,003	1,004	1,003	1,002						
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								
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									
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										
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											
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												
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													
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														
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															
June-99	2,463	1,209	1,130	1,068	1,130	1,062	1,069	1,036	1,035	1,036	1,039	1,016	1,029																
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																	
June-01	2,439	1,230	1,178	1,087	1,060	1,030	1,024	1,037	1,042	1,023	1,020																		
June-02	2,757	1,337	1,133	1,064	1,035	1,019	1,034	1,030	1,025	1,066																			
June-03	4,526	1,410	1,142	1,049	1,046	1,038	1,027	1,028	1,033																				
June-04	2,908	1,279	1,098	1,047	1,048	1,047	1,040	1,023																					
June-05	3,109	1,309	1,125	1,068	1,045	1,049	1,027																						
June-06	2,272	1,183	1,086	1,063	1,046	1,028																							
June-07	2,782	1,283	1,059	1,056	1,033																								
June-08	2,031	1,158	1,076	1,035																									
June-09		1,236	1,092																										
June-10	2,197	1,151																											
June-11	2,098																												



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 8
Exhibit 2
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All Other - Clusters 5-17 & 95

Medical

Comparison of Ultimate Losses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Accident Year	Ultimate Loss As of 6/11		Ultimate Loss As of 6/12		Change in Ultimate Loss		Change in Ultimate Loss	
					(Dollar)	(Percent)	(Dollar)	(Percent)
	Low	High	Low	High	Low	Low	High	High
All Prior Yrs	3,102,509	3,117,115	3,137,404	3,162,817	34,895	1.1%	45,702	1.5%
6/30/82-83	501,473	522,068	504,586	521,834	3,113	0.6%	(234)	0.0%
6/30/83-84	790,813	833,596	790,813	813,876	0	0.0%	(19,720)	-2.4%
6/30/84-85	1,199,000	1,201,000	1,151,000	1,151,000	(48,000)	-4.0%	(50,000)	-4.2%
6/30/85-86	1,980,000	2,006,000	1,907,730	1,927,000	(72,270)	-3.7%	(79,000)	-3.9%
6/30/86-87	1,735,000	1,737,000	1,685,000	1,686,000	(50,000)	-2.9%	(51,000)	-2.9%
6/30/87-88	3,376,000	3,376,000	3,247,000	3,252,000	(129,000)	-3.8%	(124,000)	-3.7%
6/30/88-89	3,841,000	3,846,000	3,694,000	3,698,000	(147,000)	-3.8%	(148,000)	-3.8%
6/30/89-90	4,145,000	4,147,000	3,982,000	3,989,000	(163,000)	-3.9%	(158,000)	-3.8%
6/30/90-91	3,714,480	3,754,000	3,576,870	3,614,000	(137,610)	-3.7%	(140,000)	-3.7%
6/30/91-92	2,990,000	2,993,000	2,868,000	2,869,000	(122,000)	-4.1%	(124,000)	-4.1%
6/30/92-93	2,701,000	2,706,000	2,597,000	2,599,000	(104,000)	-3.9%	(107,000)	-4.0%
6/30/93-94	3,210,000	3,218,000	3,080,000	3,085,000	(130,000)	-4.0%	(133,000)	-4.1%
6/30/94-95	2,636,000	2,642,000	2,617,000	2,621,000	(19,000)	-0.7%	(21,000)	-0.8%
6/30/95-96	2,357,000	2,361,000	2,266,000	2,268,000	(91,000)	-3.9%	(93,000)	-3.9%
6/30/96-97	2,766,000	2,769,000	2,738,000	2,740,000	(28,000)	-1.0%	(29,000)	-1.0%
6/30/97-98	2,278,000	2,280,000	2,222,000	2,224,000	(56,000)	-2.5%	(56,000)	-2.5%
6/30/98-99	2,888,000	2,890,000	2,835,000	2,836,000	(53,000)	-1.8%	(54,000)	-1.9%
6/30/99-00	3,280,000	3,284,000	3,236,000	3,239,000	(44,000)	-1.3%	(45,000)	-1.4%
6/30/00-01	3,294,000	3,295,000	3,218,000	3,218,000	(76,000)	-2.3%	(77,000)	-2.3%
6/30/01-02	2,979,000	2,991,000	3,032,000	3,041,000	53,000	1.8%	50,000	1.7%
6/30/02-03	3,596,000	3,598,000	3,564,000	3,567,000	(32,000)	-0.9%	(31,000)	-0.9%
6/30/03-04	3,823,000	3,826,000	3,757,000	3,761,000	(66,000)	-1.7%	(65,000)	-1.7%
6/30/04-05	4,700,000	5,557,000	4,600,000	5,467,000	(100,000)	-2.1%	(90,000)	-1.6%
6/30/05-06	4,200,000	4,623,000	4,100,000	4,551,000	(100,000)	-2.4%	(72,000)	-1.6%
6/30/06-07	5,600,000	6,763,000	5,600,000	6,622,000	0	0.0%	(141,000)	-2.1%
6/30/07-08	5,100,000	5,722,000	5,000,000	5,582,000	(100,000)	-2.0%	(140,000)	-2.4%
6/30/08-09	5,400,000	6,330,000	5,300,000	6,238,000	(100,000)	-1.9%	(92,000)	-1.5%
6/30/09-10	6,000,000	7,234,000	5,600,000	6,554,000	(400,000)	-6.7%	(680,000)	-9.4%
6/30/10-11	6,700,000	9,970,000	6,500,000	7,655,000	(200,000)	-3.0%	(2,315,000)	-23.2%
6/30/11-12								
Total	100,883,276	109,591,780	98,406,403	104,552,527	(2,476,872)	-2.5%	(5,039,252)	-4.6%

NOTES:

(2), (3) From Aon analysis as of June 30, 2011

(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



**Commonwealth of Massachusetts
Workers Compensation
Reserve Analysis at June 30, 2012**

Section 8

Exhibit 2

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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%
372	100.0%	1.4%	0.0%	0.4%	0.2%	1.000	1.000
360	98.6%	0.5%	1.4%	0.2%	0.1%	0.981	0.971
348	98.1%	0.5%	1.9%	0.2%	0.1%	0.953	0.931
336	97.6%	0.5%	2.4%	0.2%	0.1%	0.930	0.897
324	97.2%	0.5%	2.8%	0.2%	0.1%	0.909	0.868
312	96.7%	0.5%	3.3%	0.2%	0.1%	0.889	0.841
300	96.2%	0.5%	3.8%	0.2%	0.1%	0.871	0.816
288	95.7%	0.5%	4.3%	0.2%	0.1%	0.853	0.792
276	95.2%	0.5%	4.8%	0.2%	0.1%	0.837	0.770
264	94.8%	0.6%	5.2%	0.2%	0.2%	0.820	0.749
252	94.2%	0.7%	5.8%	0.3%	0.2%	0.808	0.732
240	93.5%	0.7%	6.5%	0.3%	0.2%	0.800	0.723
228	92.7%	0.7%	7.3%	0.3%	0.2%	0.791	0.712
216	92.0%	1.4%	8.0%	0.7%	0.5%	0.780	0.698
204	90.6%	0.9%	9.4%	0.5%	0.3%	0.785	0.706
192	89.7%	1.6%	10.3%	0.9%	0.6%	0.774	0.692
180	88.1%	1.4%	11.9%	0.8%	0.6%	0.776	0.695
168	86.7%	1.6%	13.3%	1.0%	0.7%	0.770	0.689
156	85.1%	1.4%	14.9%	0.9%	0.7%	0.767	0.685
144	83.7%	1.5%	16.3%	1.0%	0.8%	0.758	0.674
132	82.2%	2.4%	17.8%	1.6%	1.3%	0.750	0.664
120	79.8%	2.4%	20.2%	1.7%	1.4%	0.752	0.667
108	77.3%	2.3%	22.7%	1.7%	1.4%	0.751	0.667
96	75.0%	2.6%	25.0%	2.0%	1.7%	0.746	0.661
84	72.4%	2.8%	27.6%	2.1%	1.9%	0.743	0.656
72	69.7%	2.9%	30.3%	2.3%	2.1%	0.738	0.651
60	66.8%	3.4%	33.2%	2.9%	2.6%	0.733	0.645
48	63.3%	5.1%	36.7%	4.5%	4.2%	0.731	0.643
36	58.2%	12.4%	41.8%	11.3%	10.7%	0.737	0.651
24	45.8%	28.4%	54.2%	26.8%	26.1%	0.771	0.696
12	17.4%	17.4%	82.6%	17.0%	16.9%	0.824	0.765
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, 2012

Section 8
Exhibit 2
Page 10

All Other - Clusters 5-17 & 95

Medical

Outstanding Loss Discounting - 4.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	4.0%	(Low)	(High)
All Prior Yrs	216,487	241,900		189,336	211,562
6/30/82-83	0	17,248	0.981	0	16,913
6/30/83-84	0	23,063	0.953	0	21,975
6/30/84-85	27,419	27,419	0.930	25,487	25,487
6/30/85-86	35,038	54,308	0.909	31,838	49,348
6/30/86-87	56,278	57,278	0.889	50,046	50,935
6/30/87-88	123,157	128,157	0.871	107,264	111,619
6/30/88-89	158,371	162,371	0.853	135,164	138,578
6/30/89-90	189,457	196,457	0.837	158,510	164,366
6/30/90-91	151,558	188,688	0.820	124,343	154,806
6/30/91-92	164,936	165,936	0.808	133,199	134,007
6/30/92-93	168,047	170,047	0.800	134,411	136,011
6/30/93-94	219,916	224,916	0.791	173,914	177,868
6/30/94-95	205,559	209,559	0.780	160,330	163,450
6/30/95-96	211,396	213,396	0.785	165,899	167,469
6/30/96-97	280,662	282,662	0.774	217,266	218,814
6/30/97-98	263,775	265,775	0.776	204,570	206,121
6/30/98-99	375,700	376,700	0.770	289,436	290,206
6/30/99-00	479,676	482,676	0.767	367,828	370,129
6/30/00-01	524,625	524,625	0.758	397,828	397,828
6/30/01-02	540,039	549,039	0.750	405,217	411,970
6/30/02-03	719,969	722,969	0.752	541,540	543,797
6/30/03-04	851,033	855,033	0.751	639,185	642,190
6/30/04-05	498,694	1,365,694	0.746	372,156	1,019,163
6/30/05-06	859,353	1,310,353	0.743	638,071	972,940
6/30/06-07	987,909	2,009,909	0.738	729,188	1,483,539
6/30/07-08	1,334,981	1,916,981	0.733	979,003	1,405,810
6/30/08-09	1,542,775	2,480,775	0.731	1,127,422	1,812,889
6/30/09-10	2,067,421	3,021,421	0.737	1,522,971	2,225,738
6/30/10-11	3,160,682	4,315,682	0.771	2,436,151	3,326,388
6/30/11-12	5,421,537	7,969,537	0.824	4,464,837	6,563,210
Total	21,836,450	30,530,573		16,922,411	23,615,124

(7) Total Discount Factor: 0.775 0.773

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve: 216,487 241,900
(9) Projected Number of Years: 7 7
(10) Projected Paid Loss per Year: 30,927 34,557
(11) Discounted Value at 4%: 189,336 211,562

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, 2012

Section 8
Exhibit 2
Page 11

All Other - Clusters 5-17 & 95

Medical

Outstanding Loss Discounting - 6.0%

(1)	(2)	(3)	(4)	(5)	(6)
Accident	Undiscounted		Discount	Discounted	
Year	Outstanding Losses		Factor at	Outstanding Losses	
	(Low)	(High)	6.0%	(Low)	(High)
All Prior Yrs	216,487	241,900		177,824	198,698
6/30/82-83	0	17,248	0.971	0	16,753
6/30/83-84	0	23,063	0.931	0	21,467
6/30/84-85	27,419	27,419	0.897	24,607	24,607
6/30/85-86	35,038	54,308	0.868	30,414	47,140
6/30/86-87	56,278	57,278	0.841	47,334	48,175
6/30/87-88	123,157	128,157	0.816	100,493	104,573
6/30/88-89	158,371	162,371	0.792	125,481	128,650
6/30/89-90	189,457	196,457	0.770	145,860	151,249
6/30/90-91	151,558	188,688	0.749	113,442	141,234
6/30/91-92	164,936	165,936	0.732	120,734	121,466
6/30/92-93	168,047	170,047	0.723	121,439	122,885
6/30/93-94	219,916	224,916	0.712	156,473	160,031
6/30/94-95	205,559	209,559	0.698	143,460	146,251
6/30/95-96	211,396	213,396	0.706	149,166	150,577
6/30/96-97	280,662	282,662	0.692	194,243	195,627
6/30/97-98	263,775	265,775	0.695	183,313	184,703
6/30/98-99	375,700	376,700	0.689	258,777	259,466
6/30/99-00	479,676	482,676	0.685	328,453	330,507
6/30/00-01	524,625	524,625	0.674	353,615	353,615
6/30/01-02	540,039	549,039	0.664	358,676	364,653
6/30/02-03	719,969	722,969	0.667	480,504	482,506
6/30/03-04	851,033	855,033	0.667	567,269	569,935
6/30/04-05	498,694	1,365,694	0.661	329,509	902,375
6/30/05-06	859,353	1,310,353	0.656	564,029	860,038
6/30/06-07	987,909	2,009,909	0.651	643,232	1,308,661
6/30/07-08	1,334,981	1,916,981	0.645	861,580	1,237,196
6/30/08-09	1,542,775	2,480,775	0.643	991,368	1,594,115
6/30/09-10	2,067,421	3,021,421	0.651	1,345,595	1,966,512
6/30/10-11	3,160,682	4,315,682	0.696	2,199,714	3,003,550
6/30/11-12	5,421,537	7,969,537	0.765	4,146,850	6,095,776
Total	21,836,450	30,530,573		15,263,452	21,292,992

(7) Total Discount Factor: 0.699 0.697

Discount Calculation for
All Prior Years

(Low) (High)

(8) Estimated Total Reserve: 216,487 241,900
(9) Projected Number of Years: 7 7
(10) Projected Paid Loss per Year: 30,927 34,557
(11) Discounted Value at 6%: 177,824 198,698

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, 2011

All Other - Clusters 5-17 & 95
Medical

Allocation of Outstanding Reserve to MDOT Agencies

Section 8
Exhibit 2
Page MDOT - FY2011

(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)				
Accident Year	Paid Loss	Aon		Outstanding		DOT Allocation - Method 1					DOT Allocation - Method 2					DOT Allocation - Method 3					DOT		All Other					
		Selected Ult (Low)	Selected Ult (High)	Losses (Low)	Losses (High)	Paid Counts 7/1/10-11	DOT Counts 7/1/10-11	DOT / Total Paid Counts	DOT OS Loss (Low)	DOT OS Loss (High)	Total Paid 7/1/10-11	DOT Paid 7/1/10-11	DOT / Total Paid	DOT OS Loss (Low)	DOT OS Loss (High)	Total Payroll (\$000)	DOT Payroll (\$000)	DOT / Total Payroll	DOT OS Loss (Low)	DOT OS Loss (High)	Outstanding (Low)	Outstanding (High)	Outstanding (Low)	Outstanding (High)				
All Prior Yrs	2,897,465	3,102,509	3,117,115	205,044	219,650	6					28,691	0	0.0%	0	0				13,206	14,147	13,206	14,147	191,838	205,503				
6/30/82-83	501,473	501,473	522,068	0	20,595	1					3,236								0	1,326	0	1,326	0	19,269				
6/30/83-84	790,813	790,813	833,596	0	42,783	0					0								0	2,755	0	918	0	41,865				
6/30/84-85	1,123,581	1,199,000	1,201,000	75,419	77,419	1					269								4,857	4,986	1,619	1,662	73,799	75,756				
6/30/85-86	1,867,039	1,980,000	2,006,000	112,961	138,961	2					34,550								7,275	8,950	2,425	2,983	110,536	135,978				
6/30/86-87	1,608,659	1,735,000	1,737,000	126,341	128,341	2					18,650								8,137	8,266	2,712	2,755	123,629	125,586				
6/30/87-88	3,111,109	3,376,000	3,376,000	264,891	264,891	5					12,138								17,061	17,061	5,687	5,687	259,204	259,204				
6/30/88-89	3,526,921	3,841,000	3,846,000	314,079	319,079	11					22,843								20,229	20,551	6,743	6,850	307,336	312,229				
6/30/89-90	3,783,930	4,145,000	4,147,000	361,070	363,070	7	1	14.3%	51,581	51,867	11,077	165	1.5%	5,368	5,398				23,255	23,384	26,735	26,883	334,335	336,187				
6/30/90-91	3,405,270	3,714,480	3,754,000	309,210	348,730	7					19,714								19,915	22,460	6,638	7,487	302,572	341,244				
6/30/91-92	2,693,544	2,990,000	2,993,000	296,456	299,456	6					51,188								19,093	19,287	6,364	6,429	290,091	293,027				
6/30/92-93	2,414,691	2,701,000	2,706,000	286,309	291,309	10	2	20.0%	57,262	58,262	23,807	3,476	14.6%	41,799	42,529				18,440	18,762	39,167	39,851	247,142	251,458				
6/30/93-94	2,841,619	3,210,000	3,218,000	368,381	376,381	7	3	42.9%	157,877	161,306	19,172	4,113	21.5%	79,030	80,746				23,726	24,241	86,878	88,764	281,503	287,616				
6/30/94-95	2,313,135	2,636,000	2,642,000	322,865	328,865	11	2	18.2%	58,703	59,794	23,694	1,173	4.9%	15,977	16,274				20,794	21,181	31,825	32,416	291,040	296,449				
6/30/95-96	2,041,150	2,357,000	2,361,000	315,850	319,850	4					17,515								20,343	20,600	6,781	6,867	309,069	312,983				
6/30/96-97	2,367,170	2,766,000	2,769,000	398,830	401,830	7					16,724								25,687	25,880	8,562	8,627	390,268	393,203				
6/30/97-98	1,916,231	2,278,000	2,280,000	361,769	363,769	7	1	14.3%	51,681	51,967	74,127	65	0.1%	316	318	1,917,994	137,500	7.2%	25,935	26,078	25,977	26,121	335,792	337,648				
6/30/98-99	2,390,481	2,888,000	2,890,000	497,519	499,519	11	1	9.1%	45,229	45,411	37,310	1,869	5.0%	24,916	25,017	2,081,524	136,688	6.6%	32,671	32,802	34,272	34,410	463,247	465,109				
6/30/99-00	2,679,121	3,280,000	3,284,000	600,879	604,879	13	2	15.4%	92,443	93,058	34,502	11,178	32.4%	194,670	195,966	2,207,243	137,892	6.2%	37,539	37,788	108,217	108,938	492,662	495,941				
6/30/00-01	2,640,810	3,294,000	3,295,000	653,190	654,190	15	3	20.0%	130,638	130,838	59,776	3,195	5.3%	34,917	34,970	2,201,008	145,149	6.6%	43,076	43,142	69,544	69,650	583,647	584,540				
6/30/01-02	2,337,107	2,979,000	2,991,000	641,893	653,893	25	4	16.0%	102,703	104,623	57,929	2,123	3.7%	23,528	23,968	2,292,592	140,223	6.1%	39,261	39,994	55,164	56,195	586,729	597,698				
6/30/02-03	2,752,202	3,596,000	3,598,000	843,798	845,798	27	1	3.7%	31,252	31,326	74,097	10,175	13.7%	115,868	116,143	2,260,534	140,250	6.2%	52,352	52,476	66,491	66,648	777,308	779,150				
6/30/03-04	2,840,027	3,823,000	3,826,000	982,973	985,973	35	3	8.6%	84,255	84,512	110,436	16,688	15.1%	148,534	148,987	2,255,942	137,408	6.1%	59,872	60,055	72,063	72,283	910,910	913,690				
6/30/04-05	3,593,880	4,700,000	5,557,000	706,120	1,563,120	41	3	7.3%	51,667	114,375	187,566	3,619	1.9%	13,623	30,158	2,309,083	145,033	6.3%	44,351	98,179	36,547	80,904	669,573	1,482,216				
6/30/05-06	3,153,780	4,200,000	4,623,000	1,046,220	1,469,220	54	3	5.6%	58,123	81,623	137,279	11,346	8.3%	86,468	121,428	2,480,693	156,390	6.3%	65,957	92,624	70,183	98,558	976,037	1,370,661				
6/30/06-07	4,465,130	5,600,000	6,763,000	1,134,870	2,297,870	78	12	15.4%	174,595	353,518	238,590	57,223	24.0%	272,183	551,112	2,612,577	157,146	6.0%	68,262	138,216	121,429	245,867	1,013,441	2,052,003				
6/30/07-08	3,540,051	5,100,000	5,722,000	1,559,949	2,181,949	115	6	5.2%	81,389	113,841	249,030	2,768	1.1%	17,336	24,249	2,783,717	168,663	6.1%	94,516	132,202	64,414	90,097	1,495,536	2,091,852				
6/30/08-09	3,440,192	5,400,000	6,330,000	1,959,808	2,889,808	220	23	10.5%	204,889	302,116	656,199	86,339	13.2%	257,860	380,225	2,750,907	180,456	6.6%	128,561	189,567	197,103	290,636	1,762,704	2,599,172				
6/30/09-10	3,068,894	6,000,000	7,234,000	2,931,106	4,165,106	713	49	6.9%	201,436	286,241	1,672,061	93,149	5.6%	163,290	232,035	2,806,048	203,138	7.2%	212,191	301,523	192,306	273,267	2,738,800	3,891,839				
6/30/10-11	1,591,468	6,700,000	9,970,000	5,108,533	8,378,533	1,055	88	8.3%	426,115	698,873	1,591,468	140,379	8.8%	450,609	739,047	2,942,638	197,766	6.7%	343,330	563,098	406,685	667,006	4,701,848	7,711,527				
Total	78,096,943	100,883,276	109,591,780	22,786,333	31,494,837	2,496	207	8.3%	2,061,839	2,823,551	5,483,635	449,040	8.2%	1,946,293	2,768,568						1,765,737	2,434,233	21,020,596	29,060,604				
																	Sel. FY97 & Prior		6.4%									

Sel. FY97 & Prior - 6.4%

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
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Allocation of Outstanding Reserve to MDOT 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)
Accident Year	Paid Loss	Aon Selected Ult (Low)	Aon Selected Ult (High)	Outstanding Losses (Low)	Outstanding Losses (High)	Paid Counts 7/1/11-12	DOT Counts 7/1/11-12	DOT / Total Paid Counts	DOT OS Loss (Low)	DOT OS Loss (High)	Total Paid 7/1/11-12	DOT Paid 7/1/11-12	DOT / Total Paid	DOT OS Loss (Low)	DOT OS Loss (High)	Total Payroll (\$000)	DOT Payroll (\$000)	DOT / Total Payroll	DOT OS Loss (Low)	DOT OS Loss (High)	DOT Outstanding (Low)	DOT Outstanding (High)	All Other Outstanding (Low)	All Other Outstanding (High)
All Prior Yrs	2,920,917	3,137,404	3,162,817	216,487	241,900	3					24,383								14,009	15,654	14,009	15,654	202,478	226,246
6/30/82-83	504,586	504,586	521,834	0	17,248	1					3,113								0	1,116	0	1,116	0	16,132
6/30/83-84	790,813	790,813	813,876	0	23,063	0					0								0	1,492	0	497	0	22,566
6/30/84-85	1,123,581	1,151,000	1,151,000	27,419	27,419	0					0								1,774	1,774	591	591	26,827	26,827
6/30/85-86	1,872,692	1,907,730	1,927,000	35,038	54,308	2					5,653								2,267	3,514	756	1,171	34,282	53,137
6/30/86-87	1,628,722	1,685,000	1,686,000	56,278	57,278	2					20,063								3,642	3,707	1,214	1,236	55,064	56,042
6/30/87-88	3,123,843	3,247,000	3,252,000	123,157	128,157	5					12,734								7,970	8,293	2,657	2,764	120,501	125,393
6/30/88-89	3,535,629	3,694,000	3,698,000	158,371	162,371	8	1	12.5%	19,796	20,296	8,708	450	5.2%	8,184	8,391				10,248	10,507	12,743	13,065	145,628	149,306
6/30/89-90	3,792,543	3,982,000	3,989,000	189,457	196,457	6	1	16.7%	31,576	32,743	8,613	110	1.3%	2,427	2,517				12,260	12,713	15,421	15,991	174,035	180,466
6/30/90-91	3,425,312	3,576,870	3,614,000	151,558	188,688	7					20,043								9,808	12,210	3,269	4,070	148,289	184,618
6/30/91-92	2,703,064	2,868,000	2,869,000	164,936	165,936	4					9,519								10,673	10,738	3,558	3,579	161,378	162,357
6/30/92-93	2,428,953	2,597,000	2,599,000	168,047	170,047	6	1	16.7%	28,008	28,341	14,262	554	3.9%	6,530	6,607				10,875	11,004	15,137	15,318	152,910	154,730
6/30/93-94	2,860,084	3,080,000	3,085,000	219,916	224,916	7	3	42.9%	94,250	96,393	18,465	3,142	17.0%	37,422	38,273				14,231	14,555	14,231	14,555	205,685	210,362
6/30/94-95	2,411,441	2,617,000	2,621,000	205,559	209,559	11	2	18.2%	37,374	38,102	98,306	1,217	1.2%	2,545	2,595				13,302	13,561	17,741	18,086	187,818	191,473
6/30/95-96	2,054,604	2,266,000	2,268,000	211,396	213,396	6					13,454								13,680	13,809	4,560	4,603	206,837	208,793
6/30/96-97	2,457,338	2,738,000	2,740,000	280,662	282,662	9	1	11.1%	31,185	31,407	90,168	1,800	2.0%	5,603	5,643				18,162	18,291	24,673	24,849	255,988	257,812
6/30/97-98	1,958,225	2,222,000	2,224,000	263,775	265,775	8	2	25.0%	65,944	66,444	41,994	457	1.1%	2,867	2,889	1,917,994	137,500	7.2%	18,910	19,053	18,910	19,053	244,865	246,722
6/30/98-99	2,459,300	2,835,000	2,836,000	375,700	376,700	10	1	10.0%	37,570	37,670	68,819	48,801	70.9%	266,418	267,127				24,671	24,737	31,121	31,203	344,579	345,497
6/30/99-00	2,756,324	3,236,000	3,239,000	479,676	482,676	13	2	15.4%	73,796	74,258	77,203	65,874	85.3%	409,290	411,850	2,207,243	137,892	6.2%	29,967	30,154	29,967	30,154	449,710	452,522
6/30/00-01	2,693,375	3,218,000	3,218,000	524,625	524,625	17	3	17.6%	92,581	92,581	52,565	2,475	4.7%	24,701	24,701	2,201,008	145,149	6.6%	34,597	34,597	50,626	50,626	473,999	473,999
6/30/01-02	2,491,961	3,032,000	3,041,000	540,039	549,039	29	4	13.8%	74,488	75,730	154,854	1,875	1.2%	6,540	6,649	2,292,592	140,223	6.1%	33,031	33,581	38,020	38,653	502,019	510,386
6/30/02-03	2,844,031	3,564,000	3,567,000	719,969	722,969	28	2	7.1%	51,426	51,641	91,829	11,629	12.7%	91,176	91,556	2,260,534	140,250	6.2%	44,669	44,855	62,424	62,684	657,545	660,285
6/30/03-04	2,905,967	3,757,000	3,761,000	851,033	855,033	29	4	13.8%	117,384	117,936	65,940	17,898	27.1%	230,991	232,076	2,255,942	137,408	6.1%	51,836	52,079	84,610	85,008	766,424	770,026
6/30/04-05	4,101,306	4,600,000	4,607,000	498,694	1,365,694	31	2	6.5%	32,174	88,109	107,426	3,060	2.8%	14,206	38,905	2,309,083	145,033	6.3%	31,323	85,779	25,901	70,931	472,793	1,294,763
6/30/05-06	3,240,647	4,100,000	4,551,000	859,353	1,310,353	36	2	5.6%	47,742	72,797	86,866	10,680	12.3%	105,656	161,105	2,480,693	156,390	6.3%	54,176	82,609	69,191	105,504	790,162	1,204,850
6/30/06-07	4,612,091	5,600,000	6,622,000	987,909	2,009,909	52	8	15.4%	151,986	309,217	146,962	20,003	13.6%	134,463	273,565	2,612,577	157,146	6.0%	59,422	120,895	59,422	120,895	928,486	1,889,013
6/30/07-08	3,665,019	5,000,000	5,582,000	1,334,981	1,916,981	69	5	7.2%	96,738	138,912	124,969	4,127	3.3%	44,086	63,307	2,783,717	168,663	6.1%	80,885	116,148	73,903	106,122	1,261,077	1,810,859
6/30/08-09	3,757,225	5,300,000	6,238,000	1,542,775	2,480,775	117	12	10.3%	158,233	254,438	317,033	48,582	15.3%	236,416	380,156	2,750,907	180,456	6.6%	101,204	162,735	129,719	208,587	1,413,056	2,272,188
6/30/09-10	3,532,579	5,600,000	6,554,000	2,067,421	3,021,421	180	9	5.0%	103,371	151,071	463,685	16,906	3.6%	75,380	110,164	2,806,048	203,138	7.2%	149,666	218,729	109,473	159,988	1,957,948	2,861,433
6/30/10-11	3,339,318	6,500,000	7,655,000	3,160,682	4,315,682	700	55	7.9%	248,339	339,089	1,747,851	143,352	8.2%	259,227	353,955	2,942,638	197,766	6.7%	212,421	290,045	239,995	327,696	2,920,686	3,987,985
6/30/11-12	1,578,463	7,000,000	9,548,000	5,421,537	7,969,537	990	95	9.6%	520,248	764,754	1,578,463	219,356	13.9%	753,419	1,107,509	3,006,849	207,447	6.9%	374,040	549,831	422,776	621,472	4,998,760	7,348,065
Total	83,569,954	105,406,403	114,100,527	21,836,450	30,530,573	2,386	215	9.0%	2,114,210	2,881,927	5,473,942	622,349	11.4%	2,717,547	3,589,539						1,576,618	2,175,722	20,259,832	28,354,851

Sel. FY97 & Prior 6.5%

NOTES:

(2), (7), (8), (12), (13), (17), (18) Provided by Commonwealth of Massachusetts

(3) From 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)